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Exploring the Acquisition of American Sign Language by Deaf Kindergarten Children: Early Language Access and the Use of Appropriate Resources

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Abstract

This dissertation explores the accounts of educators and parents regarding the accessibility of American Sign Language (ASL) and its acquisition by deaf children in Ontario, Canada. It is generally known that deaf children's ASL acquisition and proficiency is directly affected by their early exposure to the language; the earlier and greater the exposure, the greater the acquisition and proficiency, while later and inadequate exposure results in poorer acquisition and proficiency. In the face of societal and educational systems in Ontario, there have been some attempts to provide opportunities for deaf children and their families to develop and acquire ASL (Snoddon, 2008, 2014, 2016). At the same time, however, ASL-English bilingual programs have had an abundance of English resources while ASL resources remain markedly insufficient. Deaf children may experience difficulty in connecting with their families and educators—intellectually, emotionally, linguistically—due to the lack of access to ASL resources during their infancy and childhood years. Stemming from Cummins' (1996, 2001) linguistic interdependence hypothesis and my own Master's research (Rouse, 2016), this dissertation examines how insufficient training, limited options of resources and an apparent lack of knowledge of existing research on deaf children's language learning negatively impacts their ASL acquisition and proficiency. These factors have significant implications for various educational programs and take root when minority languages, particularly in a bilingual education system, are neither fully acknowledged nor supported by policymakers. Systemic barriers continue to make ASL inaccessible for educators, children and their families which, in turn, results in poorer language outcomes for the children. The paper shares the findings about systemic attitudes, accessibility, preparations, and ASL resources and strategies concerning deaf children's language development. The findings may validate and inspire the need for change in Ontario's societal and educational systems by highlighting the benefits of ASL resources and their use. In addition, the findings reveal deaf children's ways of "doing language," and thereby can inform the ways in which researchers, educators, parents and policymakers think about the quality of ASL-English bilingual education, in community services, educational programs, and particularly within the everyday classroom.

Keywords

American Sign Language, deaf, kindergarten, language acquisition, resources, strategies

Summary for Lay Audience

This thesis looks at deaf children's access to and acquisition of American Sign Language (ASL) through the stories of educators (teachers and educational assistants) and parents. It is commonly known that deaf children's experience of learning and using ASL as their first language base is dependent on how early and how often they are exposed to the language. While looking at resources being available at ASL-English bilingual schools and local communities in Ontario, Canada, I realized there are many English resources and yet so few ASL resources. Something has to be done for a change by exploring inside societal and educational systems in Ontario to understand why ASL is not accessible, not only for deaf children, but also for educators and parents. From interviewing 10 adult participants and observing 3 kindergarten participants, I learned there are some issues that need to be sorted out: systemic attitudes, accessibility, preparations, and ASL resources and strategies concerning deaf children's language development. I hope by gaining an awareness of the need for deaf children to access more ASL resources, the findings will inspire change in Ontario's societal and educational systems. In the end, it is incredible to capture deaf children's ways of "doing language," because it can let us know the ways we are obligated to think about the quality of ASL-English bilingual education, in community services, educational programs, and particularly within the everyday classroom.

Dedication

This is dedicated to deaf children of all ages: Be free to be you. Take joy in being bilingual or multilingual by playing with, using and studying sign languages. There is more you can do with them. Go ahead and thrive.

Acknowledgments

 As I draw close in completion of this work, I must extend my gratitude to my supervisor, Dr. Julie Byrd Clark. You are the one who watered a germinated seed in my mind that I could one day grow into a Doctor of Philosophy. Years since I first took your course, you filled my journey with your kindness, understanding and encouragement, along with many priceless pieces of advice. I will always treasure our time together. I would also like to thank the examiners of my dissertation committee, Drs. Pam Bishop, Dr. Charlotte Enns, Dr. Lori Kirkpatrick and Dr. Suzanne Majhanovich, for their support and unending intellectual conversations. Although I am independent in my daring expedition, I hope all of you will continue watering my now full-grown plant with your forward-thinking advice. I look forward to continue growing as a black deaf Canadian scholar. Thank you!

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Terminology

For the reader, an increasing openness and knowledge of six often-used terms throughout this research are required. The listed terminology is in alphabetical order: American Sign Language; bilingual education; deaf; deaf children; language acquisition; and linguistic interdependence hypothesis. They each reflect a strong relevance to a transformative, mixed-methods approach toward the study of language acquisition, particularly the role of ASL resources in reinforcing language development.

American Sign Language

American Sign Language (ASL) is a three-dimensional, visual language that encompasses "far more complex ASL words (primarily from French sign language and Martha's Vineyard sign language roots, and regional sign language dialects), complex syntax (e.g., complex classifier [construction])" (Wall, 2014, p. 14). In 1993, the Ontario Education Act recognized ASL (as well as Langue des signes québécoise (LSQ) as a language of instruction within schooling systems (O. Reg. 298 section 32).

Bilingual education

Bilingual education, as García (2009) suggests, "is a way of providing *meaningful and equitable education*," whereas it also "provide[s] a general education, teach[es] in two or more languages, develop[s] multiple understanding about languages and cultures, and foster[s] appreciation for human diversity" (emphasis has been added, p.6). Bilingual education is of utmost importance for educators and researchers to increase "recognition of children's diverse language and cultural backgrounds in education and a growing recognition that bilingualism was a strength and not a hindrance in the learning context" (Swanwick, 2010, p. 148). Bilingual education is considered the best example to depict systemic attitude society and education have towards the minority languages, especially ASL (see Chapter 3 for further discussion).

Deaf

Many researchers who study languages, cultures, or society of deaf people usually separate the word between a lower-case "d" and upper-case "D" in their research. They commonly state the former term as a medical label and the latter as a sociological identifier representing a group of culturally and linguistically sign-using people (e.g., Lane, Hoffmeister & Bahan, 1996; Roots, 1999; Stokoe, 1960). However, since the beginning of the 21st century, a body of researchers and advocators examine the meaning of the term in a non-audiological perspective, where they opt to use "deaf" for different reasons (Bauman & Murray, 2014; Cripps, 2000; Kusters, De Meulder, & O'Brien, 2017; Snoddon, 2009). Various reasons may refer to a variety of experiences of being deaf, a political practice, or incorporation of all people, including those who do not identify themselves as culturally deaf nor use a language (for example, ASL; Bauman & Murray, 2014; Kusters, De Meulder, & O'Brien, 2017). I am inclined to use the term "deaf" for this paper, because it is perceived to be a neutral term viewed through an asset-lens when discussing children.

Deaf children

Many deaf children are born into families whose languages are auditory-based (e.g., English, Jamaican Patois, Barbadian Creole [Bajan], and other spoken languages). Deaf children may or may not be exposed to a language (ASL, in particular) until later. Delayed language exposure is tied to the reality that most deaf babies are born into hearing families within a majority (hearing) society that values a medical perspective which typically focuses on "restoring listening ability, particularly the ability to hear speech" (Humphries, et al., 2014, p. 410). Emmorey (2002) explains that many deaf children "are exposed only to oral language from birth, and if they are exposed to sign language at all, it typically happens when they first attend school or a program for [the] deaf" (p. 226). Although a small number of deaf children are typically born to either deaf parents or into multi-generational deaf families, there are also a number of hearing families who either have sign language readily available for deaf children or start

learning sign languages at the onset of their children's births. While the degree of deaf children's language input may be variable, these children have often have acquired ASL prior to entering their ASL-English bilingual programs (Brown-Levy, 2004; Corina & Singleton, 2009; Emmorey, 2002; Humphries, et al., 2014; Mitchell & Karchmer, 2004; Pust, 2005; Ross, 2001; Strong, 1988).

Language acquisition

Although the term language acquisition will be further explored in literature review, it is to be mentioned in this paper immediately for the reader to acknowledge its descriptive value. Language acquisition is part of "the psychological, linguistic, and neural mechanisms" that have nothing to do with "speech or audition" (Emmorey, 2002, p. 169). In term of how a brain works, language acquisition is "an unconscious process that takes place in the context of communication" (Kuntze, Golos & Enns, 2014, p. 211). The process of language acquisition usually starts with a newborn. This acquisition occurs when the brain of a baby naturally absorbs patterns of information without any training (Emmorey, 2002; Humphries et al., 2012). As noted, with or without cochlear implants (CIs, or artificial hearing devices), sign languages are most likely to be acquired more readily and easily for deaf children than spoken languages due to the lack of access to information via the auditory channel. Ultimately, deaf children's normal cognitive and linguistic development is biologically possible via a natural sign language (e.g., for a greater depth of information regarding how a deaf child acquires a language, see the neuro-scientific work of Petitto et al., 2001).

Linguistic interdependence hypothesis

Like language acquisition, the reader is strongly encouraged to take notice that the conceptualization of interdependence across languages highlights the utmost meaningful use of bilingual education for deaf children. Cummins' (1996; 2001) model implies that if children have rich experiences in their first languages in school and/or social settings, their skills in both languages will benefit. In other words, Cummins' theory of linguistic interdependence describes children's bilingual language learning as proficiency in a first language strengthens and supports the acquisition of other languages and knowledge.

Furthermore, Cummins (2001) proposes that children's usage of "certain functions of language and the development of first-language (L1) vocabulary [in this case, ASL] and concepts [would strengthen their] linguistic environment outside of school" (p. 75). For the purposes of my research, this first language is ASL. If we accept that Cummins' theory is accurate, then we can posit that acquiring ASL as a L1 base is essential to young deaf children's cognitive, social and personal development. Overall, with equitable access to language, every child can begin their schooling in a manner that is shaped by "their particular cultural and social background, socio-economic status, personal capabilities, and day-to-day experiences, and at different stages of development. All of these factors influence their ability to reach their full potential" (*The Kindergarten Program,* 2016, p. 9).

Chapter 1

1 Introduction

"I do not regret getting CIs for the kids, but I do regret not learning and teaching them ASL right away, because I knew better. [L]earning ASL right from the beginning would definitely have helped keep kids' learning in general on track" (Parent, personal communication, November 2019).

Language acquisition cannot occur in isolation and it also cannot solely rely on an auditory channel; it has to be achieved through human social interactions that are made visible. In spite of circumstances, access to language is one of many preconditions required for children's language acquisition and development to occur. Language learning enables them to develop optimally in personal, social and cognitive areas. That is, children have a natural sense of wonder and craving for knowledge to make sense of what is happening in their world. In other words, "a natural curiosity and a desire to explore, play, and inquire are the primary drivers of learning among young children" (*The Kindergarten Program,* 2016, p. 12). Children acquire vocabulary, grammatical structures and other aspect features of language and culture through everyday interactions. Children do so with known circles of families and/or peers, including ample conversations that comprise topics such as routines, games, or activities (Emmorey, 2002). According to Cummins (2009), minority children naturally use strategies to figure out new vocabulary on their own or, for instance, share them with their relatives. From there, they build upon dominant-language (e.g., English) vocabulary, thanks to their minority first language(s).

However, over the past twenty years, research has demonstrated that appropriately 90% of deaf children in North America often do not have access to, and therefore do not acquire ASL (Brown-Levy, 2004; Corina & Singleton, 2009; Humphries et al., 2014; Mitchell & Karchmer, 2004; Pust, 2005; Ross, 2001; Strong, 1988). Hall, Levin and

Anderson (2017) state that although parents have the primary responsibility for their deaf child's development, whether or not they are fitted with cochlear implants or artificial hearing devices, most are usually persuaded by medical professionals and societal norms to consider sign language as an option of "last resort" only when a deaf child has "not developed speech abilities as expected" (p. 762; Figure 1.1). Clearly, the discouragement of providing deaf children with opportunities to access ASL resources in order to acquire a strong first language leads to a possibility of deaf children experiencing *language deprivation*. (For an ASL translation of language deprivation, see Figure 1.2; see also Dr. Sanjay Gulati, 2018, for his informative work about language deprivation syndromes).

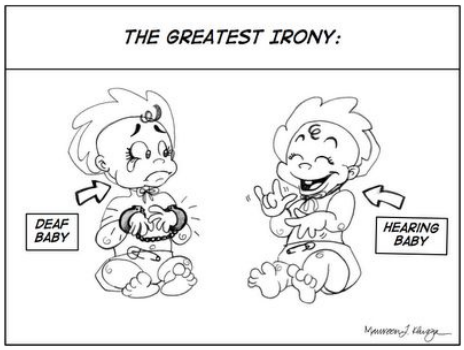


Figure 1.1. "The Greatest Irony" cartoon by Maureen Klusza. Copyright 2020 with permission.

According to Hall et al. (2017), the absence of exposure to everyday opportunities using ASL as the first-language (L1) foundation results in deaf children's experience of an "overall loss of understanding of how many aspects of society function, such as school interactions, government functions, healthy personal [behaviour], and many others" (p. 767). While general society slowly starts to understand the meaning of language deprivation, many professionals who employ a medical lens continue to resist acknowledging how harmful the action of depriving deaf children of ASL exposure is to their overall development. In short, this type of societal resistance is considered as a prejudice against both sign languages and the state of being deaf. It is the issue that also ties with culture, identity, linguistic rights, and the marginalization of any sign languages (Skutnabb-Kangas, 2008).

Figure 1.2. ASL words to depict language deprivation. Copyright 2016, www.handspeak.com, adapted with permission.

Hall et al. (2017) imply that there are approximately "two to three out of 1,000 children [who are deaf] at birth…impacting their first language development" (p. 761). Although current statistics do not exist for children ranging from 3 to 5 years of age, audiometry results from the 2012 to 2015 Canadian Health Measures Survey (CHMS) indicate that "8% of children and youth aged 6 to 19" were identified as deaf (Statistics Canada, 2016). In Ontario's educational system, there were a total of 4,300 deaf children existing in public school boards and another 425 in ASL-English (and LSQ-French) bilingual schools (n.p.; Snoddon, 2016). In 1993, the Education Act recognized ASL and LSQ as languages of instruction for teaching deaf children. In 2007, the Education Act was amended by Regulation 298 (Regulation 258/07), wherein ASL and LSQ are permitted to be used as languages of instruction across school boards. The Legislative Assembly of Ontario (LAO, 2007) brought Bill 213 into its first reading as stated:

> It is appropriate for Ontario to recognize the importance of sign language and, therefore, to extend official language status to sign language… in education…The respect that Ontario affords to sign language demonstrates Ontario's commitment to the recognition of the fundamental human rights of the members of Ontario's deaf community and to the recognition of the deaf community as a distinct cultural-linguistic society.

The Ontario legislature, however, has not moved the first reading onto the next level nor has the bill been passed into law. Over a decade later, Bill C-81, the *Accessible Canada Act* (ACA; 2018b), was introduced in the federal, House of Commons. The ACA enables the government of Canada to develop accessibility standards and add new accessibility-

related regulations while working with policymakers, deaf individuals and individuals with disabilities.

On the 21st of June 2019, the ACA received royal assent to become law. Although the ACA recognizes ASL, LSQ, and Indigenous Sign Languages as "primary languages for communication by deaf persons in Canada" for specific contexts and purposes (e.g., federal government services such as hospitals, banking, public transportation), broadcasting and telecommunications are not included (*Accessible Canada Act,* 2019). With that in note, ASL, including LSQ and Indigenous Sign Languages, is viewed as a communication-related, "disability accommodation," rather than "linguistic and cultural sign language rights" (Snoddon & Wilkinson, 2019, p. 129). To promote a paradigmatic shift within societal and educational systems from viewing deaf people as *disabled* to *human beings belonging to a distinct linguistic and cultural group* will take time.

Despite changes to the Education Act, and the enactment of the ACA, the values societal and educational systems have toward ASL have not evolved much. For example, prior to the legislation, pre- and in-service teacher programs at various Canadian universities and colleges did not require teacher candidates of the deaf to be fluent or almost fluent in ASL (or LSQ) as a condition for graduation (Carbin, 1996). After the legislation of ASL and LSQ as languages of instruction passed, York University located in Toronto Ontario adopted the deaf education program (est. 1989) where teacher candidates of the deaf were required to take one or two "Sign Language Studies" (not ASL) courses. At the time of this paper's submission, teacher candidates of the deaf are expected to choose either ASL, LSQ or "Aural and Oral Communication" and "complete at least two courses acceptable to the College in" either ASL or LSQ (*Teachers' Qualifications Regulation,* O. Reg. 176/10, ss. 26 (1), 49 (1); O. Reg. 239/14, s. 5). Although terminology has changed, a binary of either-or attitude remains the same when candidates are presented with social (natural acquisition of sign languages) and medical (practicing aural and oral communication) choices. It is the example where not many teachers of the deaf are trained to assess deaf children on their ASL acquisition and development (this will be further explored in Chapter 5).

ASL users and the deaf community have "less power and prestige, lower recognition and leverage than majority groups in society" (Baker, 2011, p. 370); being deaf and using sign languages have historically been regarded as 'problematic' within the educational and social welfare systems and among doctors and psychologists. In contrast to the plethora of resources available in the province's majority spoken languages (in particular, English and French), deaf children encounter significantly fewer options in terms of sign languages (in this case, ASL) materials, ASL classes/workshops, deaf/ASL-modelling volunteers and professionals, and ASL-using/immersive daycares (Hall et al., 2017; Petitto et al., 2001; Snoddon, 2008, 2014, 2016; Figure 1.3). The acquisition and proficiency of ASL by deaf children has keenly been affected by their early exposure to ASL or lack thereof.

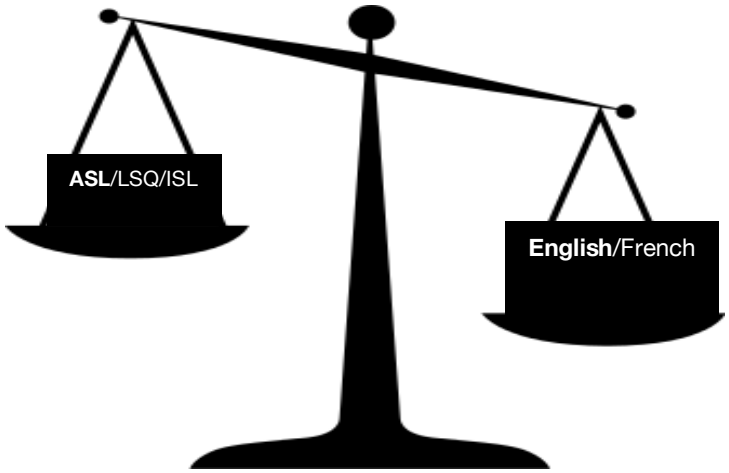


Figure 1.3. Imbalanced Access to Resources

The Ontario Ministry of Children, Community & Social Services (MCCSS) has reported that, through the universal neonatal hearing screening offered by the Ontario Infant Hearing Program (IHP), there were 597 infants identified as deaf between 2016 and 2019 (personal communication, January 9, 2020). Other than confirming newborns are deaf, family support workers trained under the IHP provide families of deaf children "unbiased information about communication development options" in order to support them "to make informed choices among options such as amplification, auditory-verbal therapy, sign language training, or a combined approach" (Hyde, Friedberg, Price &

Webser, 2004, p. 29). While MCCSS has claimed that 163 deaf children were in receipt of ASL services in 2018, yet the number of deaf children receiving ASL services in 2019 has declined to 121 children (personal communication, January 9, 2020). The decline of ASL services is in conflict with the notion that all services are made to be more accessible. Although the latter may be true more than 15 years ago (Hyde, Friedberg, Price & Webser, 2004), the present reality said differently (see Chapter 5 where the parents of deaf children from my study mentioned their varied experiences from interacting with IHP when receiving *biased* information).

In terms of the educational system, a finding from my Masters research (Rouse, 2016) indicates that teachers are in need of ASL resources which are appropriate and available for children's development of language. Although there was a limited number of teacher participants in my Masters research, most teachers in my study almost never used specific resources to help identify their students' ASL acquisition, as they generally require "more time to think about, find, or develop resources" which affect their teaching practice (Rouse, 2016, p. 36). Overall, more than a decade since the implementation of the Ontario's Regulation 298 and the amendment of 258 in 2007, English resources continue to be readily more available within education systems than ASL resources, even though English is less accessible than ASL due to its auditory-vocal centricity.

Ambiguous commitments and resources from institutional structures (policymakers, systems) reveal an apparent lack of knowledge of existing research on children's language learning in an environment in which many minority languages are not fully recognized; this has led to significant implications. Barriers to ASL within societal and educational systems for teachers, children, and families remain a problematic issue: without access to ASL resources during infancy and childhood years, deaf children may experience difficulty in finding intellectual, emotional, and linguistic common ground with their families and educators.

1.1 Researcher's Positionality + Critical (Transformative) Theory

Motivation in undertaking research often comes from lived human experience. My own experiences enable me to think about my motivations and perspectives. My positionality in this study has also been shaped and reframed by the way I view the world (Denzin & Lincoln, 2011). Haraway (1988) stresses that one's position is "the key practice in grounding knowledge organized around the imagery of vision" (p.587). In terms of providing the reader with a vision of my worldview, I offer a unique position in this research as a bilingual deaf educator; I am connected to and interact with two worlds (deaf and hearing), two languages (ASL and English) and two cultures on a daily basis. Specifically, my own position is one of intersectionality as I am a visible minority (black woman) with an invisible deaf identity and presence within two broader systems (education and society).

In greater detail, even though I was born to and raised by a hearing family, I self-identify as a culturally deaf life-long learner with bilingual, biliterate, and bicultural perspectives. In spite of the fact that every member of my family is hearing and not all of them are fluent in ASL, I always consider myself blessed for having such a well-rounded bond with my family. My parents instilled an open and positive attitude in my life growing up. Not once have I had a negative outlook on being a deaf person. Not once have my parents told me that I "cannot"; they have always supported me to persist in achieving many language, education, social and life milestones. My reassurance as an independent, educated black deaf woman comes from my parents' commitment and trust in educational and societal systems and in the deaf community. My parents made sure I had full access to both languages. I have personal first-hand experience growing up in a variety of educational settings (e.g., ASL-English bilingual schools, mainstream schools, and self-contained deaf programs in public schools). I was introduced to different *artificial sign systems* before being exposed to the natural language (ASL).

Artificial sign systems during my childhood years were Total Communication (TC), Signed Exact English (SEE) and English Sign Language (ESL). As defined by Schwartz (1996), TC is "a manual sign system [produced] simultaneously […] with

speech" (p. 91); SEE and ESL are "attempts to represent English visually with signs" (p. 91). In other words, "artificial sign systems (Manually Coded English)," as Roots (1999) terms them, are considered by deaf learners to be "slow, confusing and almost impossible to master" (pp. 3, 33). TC, SEE and ESL break many rules of ASL grammatical structures and degenerate their meaning to the point of making them inept for social language use. This example reveals my early struggle in comprehending English. Norton's (2000) argument supports a notion in regards to my own childhood efforts in wanting to be perceived as a good student by using English grammatical structure through a manual, artificial sign system. She argues that in doing so, I "[organize] and [reorganize] a sense of who [I am] and how [I] relate to the world" (Norton, 2000, p. 11).

Without a natural language, I experienced a disassociated feeling as a young child when I tried to tell a story during a conversation using muddled artificial systems. For example, I was expected to assimilate English into manual phrases when producing a story: "I is runn-ing. My friend-s and me is have fun there the house is fun." This example shows that neglecting the importance of including or recognizing an underlying natural language, ASL, is problematic. My experience of dissociation is mirrored in Hull & Schultz's (2002) speculation that children modify who they are and monitor the way they use their languages (or artificial sign systems as in my example of childhood experience), depending on the milieus in which they find themselves. They modify and self-monitor because, "these environments live for whom the idea of sharp divisions between learning sites contradicts the fluid discursive practices essential to their identities, community affiliations, and intellectual development" (Hull & Schultz, 2002, p. 211). Once I was given an accessible opportunity to learn, study and use ASL, my fluency in English thrived. I have a rich experience of life and language(s) because of my parents' (as well as family, school and community) involvement. Road trips, math-related games, stories, and conversations about general topics are just a few of many instances and contexts where I found myself, using ASL.

As an insider with two languages (ASL and English), I can understand and empathize with deaf children, though I am also aware that my positionality reveals my bias and hidden spots in my interpretations. In my data analysis section, I explain how I

"come clean" as a researcher and the ways in which I have attempted to manage my partiality. While many studies in deaf education are from "outsiders'" perspectives, there is a scarcity of information and knowledge through a critical educator lens. As an experienced teacher, I have been actively involved in: a) the evolution of quality ASL-English bilingual education for deaf students; b) professional development to sharpen my pedagogical teaching skills; c) ASL curriculum meetings to gather, develop and implement ASL-related resources to fill the gaps in children's social and academic learning as well as language; and d) an additional path in my career—to conduct this academic research and complete a doctorate. My motivation stems from my lived experiences and my role in this study as a researcher, in turn, influences my interpretations and conclusions.

I am drawn to a well-known theorist named James (Jim) Cummins' (1996, 2001) work. His paradigm is quite unique. In regards to L1 acquisition, Cummins has investigated various strategies of bi-/multilingual children's language learning as well as acquisition within formal settings. His linguistic interdependence theoretical framework dovetails with my own interest. More than four decades of his research brought gradual but radical changes to bilingual education in Ontario and elsewhere, which in turn, currently benefit many local and immigrant bi-/multilingual students. As Cohen, Manion, and Morrison (2011) imply, "knowledge is not neutral" (p. 36); it has such power that can transform lives of a particular group, society or community. Cohen et al. (2011) further emphasize that using knowledge with the intention of "improving lives rather than for the interests and under control of the academic or the researcher" would prove to be useful for and benefit to a community (pp. 37 – 39). Ultimately, Cummins' (1996, 2001) research has inspired me to think about how to make the idea (e.g., abstract, theory, hypothesis) of linguistic interdependence or L1 acquisition visible and concrete. The thought brought me to a position of *critical perspective* through praxis.

A critical perspective is joined with the concept of a *transformative* model. The transformative model "contains an action agenda for reform that may change lives of the participants, the institutions in which individuals work…and the researcher's life" (Creswell, 2014, p. 9). Creswell (2007) claims that critical theory comes from

researchers' "desire to comprehend and, in some cases, transform the underlying orders of social life--those social and systemic relations that constitute society" through praxis (p. 27).

The transformative model does not solely reflect post-positivist or constructivist assumptions (Creswell, 2014), but can go back to the basis of a critical theory. Creswell (2007) adds an example, "the researcher might design [a] study to include changes in how people think; encourage people to interact, form networks, become activists, and action-oriented groups; and help individuals examine the conditions of their existence" (p. 27). The model echoes Darder, Baltodano and Torres' (2009) reference to Myles Horton's statement: "In order for education or institutional change to be effective, it has to begin with the people themselves—a particularly significant tenet of critical pedagogical thought" (pp. 3 – 4).

Whilst Cummins' theory has contributed to my critical understanding of the accessibility of ASL resources, my intention is to go beyond the scope of his research and offer an exclusively, but critical, empirical research study to deliberately change societal and educational systems for the well-being of deaf children. I feel it is important to acknowledge that "working with communities that are oppressed and marginalized by systems of inequality" through observations and conversations (Paris, 2011, p. 9) is central to my research. In short, I am both personally and professionally driven to bring the reader's attention to these issues: access to ASL is crucial in the development of deaf children; the acquisition of ASL as an L1 is paramount; and the demands for bilingual educators and families to have access to ASL resources in Ontario is of prime importance.

Although I am cautious with how strongly my partiality may influence my interest in conducting this research, the transformative model is acceptably aligned with an approach that is not only quantitative, but also qualitative. The model offers a multiple participant perspective approach (educators, children and parents) in regards to the participants' lived experiences. While the transformative model focuses on dimensions of diversity associated with differential access to languages and resources for example

(Denzin & Lincoln, 2011), I pursued a mixed-methods design that allows me to investigate educators' effective and/or ineffective application of ASL resources.

Many resources available often focus on tools and strategies of second language acquisition (English, in this case) and literacy skills (e.g., reading and writing). To be clear, I am not interested in pursuing such resources. My interest is in the resources of ASL acquisition as an L1. Resources in terms of ASL are, for example, video texts, inquiry/play-based learning areas, field trips, social gatherings, use of ASL for conversations and dialogue, and language models which are found in Chapter 5 and Appendix K. I observe children's innovative strategies when responding to the presence or absence of ASL resources, including parent accounts of their child's progress of language development. Finally, qualitative research carries more weight than quantitative research in both the data collection and analysis of my study.

This paper comprises the following twelve sections: (a) rationale, (b) research questions, (c) significance of the study, (d) literature review, (e) theoretical framework, (f) methodology, (g) findings I, (h) findings II and (i) implications, limitations, conclusion, and further research.

1.2 Rationale

Although all children would be considered bilingual learners once they enter bilingual education, a majority of deaf children are not usually considered as traditional bilingual learners (Strong, 1988, p. 121). This is due to the lack of a strong first language due to the delayed onset of sign language exposure. Standley (2005) explains, "it is possible for [deaf children] to be significantly delayed in language acquisition," which causes a series of disruptions "due to inadequate linguistic input or due to delays in linguistic exposure" (p. 2181). As a result, deaf children initially enter ASL-English bilingual schools with different strategies to demonstrate their thoughts, feelings or experiences. Strategies such as gesturing, index-pointing, uttering or mouthing one or two simple words are some such examples (Rouse, 2016).

Instruments of ASL assessment that trained/ in-training assessors typically use to assess deaf children in Ontario include the following: the American Sign Language Acquisition Checklist (a checklist to identify how much ASL production a child constructs); the American Sign Language Proficiency Assessment (ASL-PA is an assessment designed for ages 6 years and older to determine a non-native ASL-using child's level of ASL skills); the ASL Test Battery (ASL-TB is a test to verify language competence of deaf children); and the ASL Development Checklist (an observational checklist to determine a child's scale of ASL development using 4 stages).

Unfortunately, most educators are not trained to use any of these research-based, ASL-related assessment tools to assess and/or monitor their students' progress in language development (Enns & Herman, 2011; Gibson, Small & Mason, 1997; Herman et al. 1999; Rouse, 2016). The reasons may vary, including degree of linguistic knowledge and/or culture, time, and attitude (Mann & Prinz, 2006). Many educators are typically hearing and as such, more often undergo "training geared towards monolingual education" (Gibson, Small & Mason, 1997, p. 237) that emphasizes English over ASL in instruction. To be more precise, there is abundant access to majority language resources (English, for example, has a multitude of tools and strategies for second-language acquisition and literacy skills) while there are insufficient resources available for the minority language (ASL) across ASL-English bilingual schools (Enns & Herman, 2011). This notion has been revealed in my current study, where educators expressed a common concern that ASL-English bilingual schools in Ontario do not have enough resources:

> *The lack of ASL resources [is alarming]. We do not have ASL curriculum meetings on a regular basis anymore…not lately. Not since [recent funding] cuts. I feel so alone as an ASL curriculum teacher with no support system from ASL curriculum teachers from other schools because of—again, [funding] cuts and… ASL coordinator [position] being removed. Where is [our] team's support system? Where? Right now, we each have a weak system [and we] try to regard ASL as a strong status quo. It is pretty weak now. I am waiting for our Ontario ASL curriculum document to be approved and shared across Ontario by our Ministry of Education for over two years now. I want the curriculum to be recognized by the public and show parents that ASL is a real language, a human language. It has not happened yet. Without the Ministry's approval stamp, educational systems and [society] do not take the Ontario ASL curriculum seriously* (Educator, personal communication, October 2019).

Moreover, most pre- and in-service deaf education programs in North America provide educators limited ASL instructional time to improve their proficiency (Simms & Thumann, 2007), because there is a small quantity of ASL-English bilingual schools across the countries (USA and Canada). Considerably, the problem is not placed squarely on the shoulders of individual practitioners, but on the education system itself since pre- and in-service deaf education programs often focus on the auditory/oral approach (sometimes artificial sign systems) rather than supporting candidates/educators to take courses in ASL (as discussed earlier in this chapter).

Herman, Holmes and Woll (1999) confirm that since "many assessors…are typically hearing professionals who lack skills in and knowledge of sign language ... Deaf children…will adapt their own signing accordingly" (pp. 1 – 2). The approaches educators use in the study to experiment, observe and/or measure deaf children's acquired stages of ASL is something to ponder when the acquisition of language comes into consideration. Mann and Prinz (2006), along with educators of the deaf, stress the need for appropriate assessments and resources designed "specifically for children who acquire a natural sign language as a first language" (p. 357). What became evident through my current research, along with that of Mann and Prinz (2006), is that most of "the instruments that are used with this target group, most were originally developed for hearing students" (p. 356). Furthermore, Singleton and Supalla (2011), as cited in Enns and Herman (2011), emphasize that in the area of language acquisition for young deaf children, "very few commercially available assessment measures exist" at this time (p. 363). Alternatively, educators explore different ways to provide their students with full access and open conversation in a natural way for the students to be directly and indirectly involved in understanding what is going on in their world (Rouse, 2016). Going on field trips and sharing news and stories are a few of many examples of how this can be done.

In terms of providing resources and assessments in formal bilingual settings, Enns and Herman (2011) have noted, "the primary objective of bilingual deaf education programs is to facilitate the normal acquisition of language, cognition, and social

structures through an accessible first language and then build the skills of academic learning and literacy upon this foundation" (p. 362). While having ASL-related assessments and resources available to monitor and critically analyze deaf children's progress in language acquisition is a necessity, this mixed-methods research explores how educators interconnect language learning and human interactions among children. Specifically, it focuses on deaf children's strategic responses with the incorporation or exclusion of ASL resources within an educational setting. If applied, the findings from this study can positively affect the lives of educators, children and families. The findings can also affect policymakers' commitment to support greater development of ASL resources within societal and educational systems in Ontario and elsewhere.

1.3 Research Questions

While I seek to address the limited access to ASL resources within the societal and educational systems, I use the following mixed-methods questions:

Quantitative Questions

1. What formal ASL assessments do educators use to identify the language acquisition of deaf children? What is the frequency of these assessments in an academic year?
2. What informal ASL assessments do educators use to identify the language acquisition of deaf children? What is the frequency of these assessments in an academic year?
3. What ASL resources do educators use to promote deaf children's ASL development and acquisition?
4. In regards to the application or development of language (ASL) over time, what strategies do deaf children use in response to ASL resources and how often do they use them?

Qualitative Questions

5. Why do educators use these ASL strategies/resources and how or in what ways are they used? If used, how often?
6. Which of these strategies and/or resources positively or negatively impact educators' professional opinions of children's ASL development?
7. How do educators' beliefs and/or practices challenge or reflect larger discourses of how ASL has been historically viewed by society at large?
8. How do parents' practices both challenge and reflect discourses of ASL in society at large?
9. How do deaf children respond when they interact with peers and/or adults?

As per the mixed-methods questions, I feel studying language use in association with language acquisition will help me to attain a critical understanding of what educators are doing in the classroom. Not only that, I also consider which resources and practices educators are employing in classrooms; what parents say when talking about their children's language development; as well as taking a more critical look at children's ways of responding and interacting with various ASL strategies/resources.

1.4 Significance of the Study

My research is a necessary step to educate policymakers, administrators, superintendents, educators, medical professionals and parents about the benefits of having ASL resources readily available for deaf children. Additionally, my aim is for these individuals to see languages, in particular ASL, LSQ or Indigenous Sign Languages, as a means of equal access for children. It is important for deaf children to have a strong L1 foundation if they are to be successful early bilinguals using ASL and English. It is of utmost importance to have deaf children not seen as lacking, or having a "deficit." In the end, it is not the children who have problems for being deaf or who ought to be labelled or stigmatized. Rather, it is the conditions stemming from how systems have positioned children, their parents and their educators in difficult situations. Factors such as insufficient ASL-related activities for parents to interact with their

children and a lack of quality ASL-using early childhood programs operated by qualified educators are two such examples of barriers to early ASL exposure and acquisition.

Building a strong language base expands the breadth and depth of possible learning and increases the overall academic performance of deaf children at school. All deaf children have a right to grow up using ASL and English, both in spoken and written forms, as well as any other languages used in the family home. My research takes into account the current societal and educational systems that appear to offer limited local options for ASL-related programs and materials. Further exploration in the next section regarding the means of language acquisition will reveal a summative understanding of why ASL should be embraced rather than shunned. Thus, arguments from researchers in the field of language acquisition and access to ASL education support the premise that ASL-related resources are needed for deaf children.

Chapter 2

2 Literature Review

The following literature review explores two types of accessibility that may reflect deaf children' experiences: Language acquisition and education in ASL. The review will offer an overall cognizance of the proposition of my interest in conducting this formidably unique project.

2.1 Accessibility

"If one day my child's hearing aids suddenly do not work or maybe my child suddenly gets tired from a series of intensive speech therapy, or anything.…at the end, my child needs a language [to] easily fall on. ASL is the language my child can use" (Parent, personal communication, November, 2019).

2.1.1 Language Acquisition

The body of research into deaf children's language acquisition provides multiple perspectives but shares a similar argument that like other languages, it has developmental stages (Baker, 2011; Emmorey, 2002; Humphries et al., 2012; Stokoe, 1960). Development and acquisition of language is time dependent. This type of acquisition is considered to be L1 acquisition. To become naturally fluent in language(s), children need to be surrounded by and exposed to language models on a consistent basis during their early years. A child's first 3 years of life is a period of rapid language development. Deaf children exposed to ASL usually start with nouns, as is common in many languages (Mayberry & Kluender, 2018). For children, acquiring and using new vocabulary from natural social interactions with peers, family and other people is an appropriate and practical part of effective L1 acquisition and development. Contrary to the advice given by many medical practitioners, pathologists and therapists, Cummins (2006) points out, "there is no empirical evidence to support the concern that the acquisition of ASL will

inhibit English speech or literacy development among children" (p. 11).

In addition, Skotara, Salden, Kugow, Hänel-Faulhaber and Röder (2012) suggest that "by learning a first language from birth, basic abstract principles of form and structure are acquired that are independent of the sensory motor modality through which a language is expressed" (p. 2). That may be an early advantage of gestural communication for deaf children at the beginning stage of language acquisition. Evidence which Goldin-Meadow (2009) observed in classrooms shows that deaf children at the early stages of language learning typically use gestures that "often reflect knowledge they have, but cannot yet express, thus providing insight into their unspoken thought" (p. 106). Further studies show that most deaf children initially use *home sign* gesture systems in classrooms prior to acquiring vocabulary and other complicated features of ASL.

Home signs often develop in families where a deaf child typically is born to hearing parents, "who naturally expose their [deaf] children to their native spoken language" to which the child has restricted access (Hunsicker & Goldin-Meadow, 2012, p. 732). Parents, by circumstance or by choice, often do not expose their child to ASL and thus children usually have no conventional language models and are exposed only to the spontaneous gestures that their parents produce when speaking to them (Emmorey, 2002; Hunsicker & Goldin-Meadow, 2012). Furthermore, if parents learn ASL as an additional language, they "tend to sign only when directly addressing their deaf child[ren] and not while in conversation with other hearing family members" (Emmorey, 2002, p. 227). This means that deaf children are frequently deprived of incidental language learning opportunities, which are crucial to child language development and acquisition of world knowledge. In the end, children themselves may create their own gestures that they think their immediate families can understand. According to Bates, Benigni, Bretherton, Camaioni, and Volterra (1979), "children often use gesture to communicate before they are able to use words" (as cited in Goldin-Meadow, 2009, p. 107). Goldin-Meadow (2009) clarifies that gestures "do not…precede language development; they are fundamentally tied to it. For example, the gestures that children produced when in transition from single words to two-word combinations have a tight relationship to the

children's development of vocabulary and syntax" (p. 107; see Chapter 6). Home signs alone are not adequate for full language acquisition.

Full language acquisition occurs through the stages of language development that cultivate children's ability to naturally and independently acquire two or more languages. It reinforces the linguistic interdependence theory. Cummins (2005) outlines five main types of prospective transfer between the first to the second language depending on the sociolinguistic situation: "1) transfer of conceptual elements; 2) transfer of metacognitive and metalinguistic strategies; 3) transfer of pragmatic aspects of language use; 4) transfer of specific linguistic elements; [and] 5) transfer of phonological awareness" (p. 3). He proposes that the stronger the language skills children demonstrate in their active learning, the clearer and deeper their conceptual and linguistic proficiency will become in regards to their development of literacy in the majority language (e.g., English). This is possible because children are *social agents*.

As social agents, children's ASL acquisition occurs best when, as Gillen and Hall (2013) suggest, they are "engaged in authentic experiences that are meaningful for them" (p.9). Children practice language through play, where they act, manipulate, experiment and/or explore that which they find appealing in order to make sense of their present world. The world could be at any space such as home, playground or school. Meaning-making is only one factor involved in the acquisition process. Cummins (2006) indicates that for "deaf children who are not provided with access to a signing community, the effort to acquire oral language in the early years may limit the extent to which they are enabled to use that language for communication, conceptual development, and engagement with their worlds" (p. 7). This is because the existences of medical, social, and educational structures "still systematically deny deaf children early and appropriate access to a natural sign language" (Cummins, 2011, p. 6). On this note, Cummins (2006) correctly argues that "acquiring a first language entails not just acquisition of surface-level linguistic features but, more fundamentally, acquiring the vocabulary/concept knowledge that develops as a result of linguistic interaction within a community of language users" (p. 13). Although acquiring a language is a complex framework requiring several years of experience to fully develop, Wilbur (2000) implies that there is

"a linguistic advantage reflected in a fully developed language base that [will allow] for normal cognitive development during" the language acquisition period (p. 157). This applies to ASL as the L1.

That is, if "deaf children are to have full mastery and native competence in ASL, exposure must begin as early as possible" (Easterbrooks & Baker, 2002, p. 56). To achieve this aim, children must be included in conversations where they are exposed to and use ASL on a daily basis. Yee (2011) proposes that in order to prompt deaf children to acquire the language, they need to "interact with other children as well as adults. This will enable the children to receive effective language experiences" (p. 20). There are a few resources available in Ontario to support the types of interactions. For example, short-lived or limited sought-after ASL-environment daycares in Ontario are typically discovered through "word of mouth" recommendations (Happy Hands Preschool in Toronto, which has now been discontinued for more than five years, daycare centres near the surrounding of ASL-English bilingual schools); ASL video texts made by deaf for the deaf (American Sign Language for Babies and Toddlers, Once Upon a Sign, D-Pan, etc.); the ASL Parent-Child Mother Goose program (trained instructors of the program provide ASL rhymes, rhythms and stories for parents and their children); ASL classes in the general public (SkyHands ASL services, Canadian Hearing Services that was previously known as the Canadian Hearing Society or CHS, local colleges/universities); and private ASL consultants who work with families (qualified staff from the home-visiting resource associated with Ontario ASL-English bilingual schools or from Silent Voice Canada's Infant Hearing Program (IHP) ASL Services which are free-of-charge for families with pre-school deaf children who meet the criteria for receiving these services and who are not simultaneously enrolled in spoken language services).

Snoddon (2014) observed that, in recent decades, "the notion of teaching [ASL] to young hearing children has become a widespread and enduring business phenomenon [by] hearing parents and [hearing] entrepreneurs. [They] are quick to capitalize on the gain that is conveyed by the deaf community's most treasured resource" (p. 146). Conversely, societal and educational systems do not offer similar support programs for deaf children and their families to access ASL learning resources. Snoddon (2014) also

claims that by neglecting support from many ASL-using/deaf professionals and educators, “the general public will potentially be less able to benefit from the linguistic and cognitive gain provided by [ASL]” (p. 146). Various desirable resources are not always sufficient or immediately available to deaf children in infancy and early childhood prior to starting ASL-English bilingual education.

Research such as Petitto (2000), Hall (2017) and Humphries et al. (2012) show that if deaf children miss the opportunity of experiencing full exposure to a natural language (from birth to around five years of age), their stages of cognitive, social, personal and language development may be underdeveloped because of a weaker L1 foundation. Humphries et al. (2012) further observes, “not having a solid foundation in any language—not being able to converse with native fluency and with complete ease…diminishes one’s educational and career possibilities” (p. 3). Few professionals, or those who do not live as a deaf individual, grasp how serious and dangerous the absence of ASL is for deaf children’s welfare.

2.1.2 Education in ASL

Recent research reveals that even though spoken language is not fully accessible for the majority of deaf children, approximately 8% of deaf children receive full access to sign language at home prior to entering a kindergarten program (Hall et al., 2017). The remaining 82% of deaf children are raised in families who follow recommendations by oral language “advocates, professionals, and educators” who hold a flawed belief that “sign language acquisition will interfere with deaf children’s development of speech skills” (Hall et al., 2017, p. 762). Although the statistics are specific to the U.S., this is an implied indication that the notion may be true in Ontario (Canada). With this in mind, insufficient ASL resources within society, and limited or no use within communications between family members and deaf children, often result in dismay, frustration and misunderstanding. Lack of meaningful language access creates circumstances that lead to children experiencing isolation. While the children experience isolation, they may not be given interactional opportunity to develop their social and cognition skills in preparation for their positions in education and society (Humphries et al., 2016).

The consistent lack of exposure to everyday ASL-rich opportunities likely results in deaf children experiencing an "overall loss of understanding of how many aspects of society function, such as school interactions, government functions, healthy personal [behaviours], and many others" (Hall et al., 2017, p. 767). Akamatsu, Musselman and Zweibel (2000) reveal the finding that although 93% of deaf children in Ontario had initially been enrolled in auditory-oral intervention programs and 67% of deaf preschool children had been educated orally, the figures dropped to 58% for children in elementary school and 31% for students in high school. In short, 62% of deaf children shifted from oral programs to programs with artificial sign systems or ASL (Akamatsu, Musselman and Zweibel, 2000). Their finding indicates that the majority of deaf children are experiencing a type of language deprivation.

In recent research, Cripps, Copper, Supalla and Evitts (2016) note that society has started "to accept ASL and its value in the lives of deaf children…by the increase in ASL classes and changes in [public's] attitudes" (p. 114). While this is a hopeful development, research overall suggests that deaf children's ASL acquisition will come naturally through social interactions, conversation and play as previously mentioned. Deaf children who already acquired languages from an early age often are able to maintain attention and stay on age-appropriate topics when in conversations with peers and/or adults. The linkage between children's brain and social communication is so strong that they usually are doing academically better than those who languages have not yet been acquired (Humphries et al., 2016; see Chapter 6).

Either acceptance or acknowledgement of a sign language (ASL) is important while recognizing the role early language input has on overall language acquisition. In this instance, many deaf individuals start their schooling shaped by "their particular cultural and social background, socio-economic status, personal capabilities, and day-to-day experiences, and at different stages of development. All of these factors influence their ability to reach their full potential" (*The Kindergarten 2016*, p. 9). Deaf children who experience language exposure at a later age may require more time than hearing children to acquire a given amount of information (Spencer, 1996). That is, if children have rich academic and conversational experiences in ASL at school and in social

settings, their skills in both ASL and English will benefit.

Enns and Herman (2011) have identified a commonly known problem in ASL-English bilingual education throughout North America: “If students enter school without an established language base, developing their [sign] language skills must be the focus of education before proceeding with other curricular areas” (p. 363). Educators may fail to obtain information pertaining to the communicative/linguistic abilities of deaf students to sufficiently evaluate the academic progress of their students, which also means the success of educators’ own instruction may be diminished (Schembri et al., 2002). Mayer and Leigh (2010) presuppose that “the language learning process involves more active teaching and learning to achieve levels that may, even then, still not be like the L1 abilities of learners in other bilingual language learning situations” (p. 179). I must contend, Cummins (2011) stresses the importance of having a strong language and conceptual ability because if language stimulation is not involved in their early years, children may experience “an uphill battle” (p. 7) at school. Children need ASL models for their sense of self-image and identity when they go through ASL acquisition which in turn enables them to share their thoughts, feelings, and curiosity in a decipherable manner. In addition to providing language models, deaf culture plays a critical role in deaf children’s ASL acquisition. Although there are not many ASL resources to use nor practice opportunities for the children to learn, educators and parents must ensure that language is actively used in order for it to be acquired by deaf children. That is, educators and parents need to identify specific linguistic areas that entail deaf children to be placed in an environment with opportunities to experience, explore, experiment and practice ASL naturally (Yee, 2013). Furthermore, Luetke-Stahlman (1993) stresses, “it is important that adults see the child as a communicator and allow for turn-taking, expect replies to questions, and not control all topics” (p. 405).

The advantages of bilingualism for deaf children is made evident by Cummins (2016) who has observed an interesting correlation between language development and acquisition with academic performance from North America research studies dating from the 1990s: “Deaf children…who develop strong ASL skills perform better on measures of English literacy than those who fail to develop strong ASL skills” (p. 1). Based on his

observation, he proposes that “all deaf children should be given opportunities to acquire ASL. All of the evidence suggests that acquiring a high level of ASL expertise will contribute to, rather than detract from, children’s literacy development” (Cummins, 2016, p. 3). Other research studies outside of North America depict the similar findings.

Researchers and educators need to realize that, in general, “families with a deaf child have difficulty communicating about everyday routines, they have extreme difficulty talking about thoughts, beliefs, and intentions” (Schnick de Villiers, de Villier & Hoffmeister, 2007, p. 380). Due to limited or no access to ASL, a frail language base may impede children from achieving various skills of academic learning. This is the reality for many deaf children. Every deaf child should have increased and open access to ASL materials. While realizing these factors exist in societal and educational systems, what can educators of the deaf do for/with their students in class?

Spencer (1996) states that, in addition to ensuring deaf children increase their vocabulary, deaf children can also “profit from adults’ verbal suggestions and instructions” (p. 868) during intentional inquiry and play-based learning. Because in linguistic terms ASL has equivalent status to spoken and written English (Petitto et al., 2001), it is biologically possible for deaf children who have ASL as a first language to have normal linguistic development. Deaf children can develop and achieve academic language skills in educational environments through, for example, social practices as long as they experience the meaning-making process such as experimenting and doing. García (2009) explains that *meaningful instruction* enables children to form a quality understanding of a language when an educator makes sure the conversation itself is involved within teaching. Meaningful instruction occurs when “the dialogue is not scripted, not dominated by the teacher, and there is sharing of ideas to promote understanding of concept” (García, 2009, p. 323; meaningful instruction has been noted in my data collection of interviews and observation). In short, deaf children naturally acquire ASL in formal and informal settings through play and socialization with strong language models including peers, adults, community members.

Natural ASL exposure and input are an essential part of deaf children's biological, cognitive and emotional development. This unorthodox review of literature on access to language and education in ASL make plain my rationale to conduct my mixed-method research. It is my position to inspire changes in relevant policies and institutional structures by ensuring that they acknowledge the need of having ASL resources readily available within Ontario's societal and educational systems. The next chapter examines the meaning of bilingualism through a bilingual-/multilingual lens researchers use as my study intends to focus on ASL-English bilingual education settings in Ontario.

Chapter 3

3 Bilingualism

"*Holistic bilingualism considers the totality of the bilingual experience as a unique and unified whole rather than as a fractional representation that perpetuates the idea that the bilingual resembles two monolinguals in one person*" (Escamilla, 2009, p.10).

Previous research concerning language acquisition and resources within societal and educational systems provides a critical examination of bilingualism and bilingual education in particular. In this short chapter, I will demonstrate how researchers present bilingualism by using quantitative, qualitative and mixed-methods lens similar to that which I have employed. These researchers draw from various works stemming from theorists such as Bourdieu, García, Gay, Goffman, and Stokoe to understand why minority language resources are not as accessible as English in their European and North American communities (Ausbrooks-Rusher, Schimmel & Edwards, 2012; Baker, 2011; Byrd Clark, 2012; Cummins, 2014; Escamilla, 2009; Galiev, 2013; Hrastinski & Wilbur, 2016; Mady, 2012; Skutnabb-Kangas & Heugh, 2012). Once bilingualism is defined, this section presents several parallel examples of bilingual education systems across hearing and deaf society, such as a Spanish-English bilingual school in Colorado, French-English bilingual core and immersion programs in schools across Canada, and a history of bilingual-bicultural (deaf) schools before considering ASL-English bilingual schools. Reflecting on these examples and the availability or lack of ASL resources will strengthen my justification of choosing a mixed-methods study.

3.1 Definition of Bilingualism

Bilingualism was historically considered a disadvantage to children's personal, social, cognitive and educational development (Skutnabb-Kangas & Heugh, 2012). This attitude has evolved over time. Although bilingual schools receive somewhat positive acceptance and represent an opportunity for children to develop skills in minority and

majority languages, a dismissive and restrictive climate still is experienced by educators and children and their families across North America. Bilingual education undergoes constant changes in response to the perspectives of policymakers, researchers, educators in bilingual education and the broader community. Changes take place through shifts in ideology, preferences and practices (Ausbrooks-Rusher, Schimmel & Edwards, 2012; Baker, 2011; Byrd Clark, 2012; Cummins, 2014; Escamilla, 2009; Galiev, 2013; Hrastinski & Wilbur, 2016). A body of research shows that attitudes about bilingualism are dependent upon language acquisition history when two languages are learned simultaneously or consecutively with the conceptual and experiential background of the bilingual individuals. Although there has been a growing trend in research on ASL-English bilingual education for the deaf locally and globally, the bulk of research on bilingual education has taken place in the general hearing population. Two brief instances of bilingual education systems with hearing individuals and another instance with a bit of history in regards to bilingual-bicultural deaf education are depicted below.

3.2 Spanish-English bilingual schools in Colorado

Escamilla (1999, 2009) discusses how bilingual teachers trained in monolingual pre-service programs were encouraged to utilize a variety of monolingual English "best-practice" strategies in their Spanish-use classrooms. She argues that it is "unreasonable to expect that bilingual teachers have extensive knowledge of academic Spanish or knowledge about how to best deliver literacy instruction in Spanish…the solution to this situation is not to blame the teachers for opportunities that they have not had" (p. 127). Escamilla claims that the policy of parallel monolingualism places "a great deal of pressure on teachers to focus their literacy instruction…on English Literacy" (p. 12). This is because most states, including Colorado where Escamilla's (2009) case study of a Spanish-using student in Colorado, continue to test bilingual children in English. Although "a few states allow children to take [standardized] tests in Spanish for a limited amount of time (usually 1-3 years), no state uses the [standardized] testing system to demonstrate bilingual/biliterate development in its students" (Escamilla, 2009, p. 7). Monolingual assessors who assess the works of bilingual children typically presume the children as underachievers. To make matters worse, the children also are placed in

special education classes with disregard to their first language and/or cognitive, personal, and social skills (Escamilla, 2009).

3.3 French-English bilingual (core/immersion) schools in Canada

While Canada apparently values the learning of both official languages: English and French, it undervalues the learning of minority languages (Mady, 2012). In this vein, Canada has limited resources and support for any minority languages of linguistically and culturally diverse communities within the country, despite the fact that the two-thirds of its population comes from immigration (Byrd Clark, 2012; Galiev, 2013)! Mady (2012) implies that government-funded support is limited to English and French in Canada. Byrd Clark (2012) observes that Canada's "current policy and pedagogical practice do not reflect nor recognize the different linguistic varieties of languages" (p. 144). On a similar note, Mady (2012) explains, there are "unequal positions of power that highlight Canada's emphasis on official language bilingualism to the practical exclusion of multilingualism" (p. 74), such that the Canadian federal government has done so little to preserve and enhance the use of other languages. Latest research, drawn from different methodologies (e.g., qualitative study, ethnography, critical reflexivity, mixed-methods), indicates that immigrants and Canadian-born bi/multilingual students' access to learning French within an English-dominant society have been discouraged or wasted (Byrd Clark, 2012; Cummins, 2014; Galiev, 2013). Many children, who speak a language other than English or French at home have had their multilingual language repertoires treated as a deficit rather than a resource (Byrd Clark & Roy, 2017). Families are often discouraged from enrolling their child in a French program due to a mistaken concern that "learning English and French simultaneously would be too much of a burden" (Gailev, 2013, p. 13). Meanwhile, parents of French-speaking children express concerns regarding the funding of poorly performing Core French programs. According to Cummins' (2014) latest report on French-English bilingual schools, the outcomes of short 30 or 40 minute-sessions of French instruction per school day (150-200 minutes per week) commonly found in Canada's Core French programs have been utterly disappointing.

3.4 Brief History of Bilingual-Bicultural Deaf Education

Before shifting the focus to ASL-English bilingual schools in Ontario, I wish to bring the reader's attention to a history synopsis of how bilingual-bicultural deaf education has come to be in North America, including European countries, such as Sweden, Demark, United Kingdom. The following history in these countries is also true in Ontario. Prior to 1860, sign language was publicly recognized and taught in schools for the deaf across some regions of the world. However, the sign language was suppressed as a result of the Congress of Milan in 1880 and replaced with oral approaches (Carbin, 1996; Pribanikj & Milkovikj, 2009). The oral approaches were dominant by the medical philosophy, where once again being deaf and the use sign language were misjudged as having negative effects on cognitive, emotional and social development including speech, linguistic and literacy acquisition (Pribanikj & Milkovikj, 2009). Members of deaf communities and deaf organizations fought tirelessly through rallies and movements to bring sign languages back in the deaf education systems. Sign languages were, however, not yet accepted until after the 1960s. The movements continued well into the early 1990s that brought the use of sign language as the primary language of instruction, with a spoken language taught through its written form into picture mainly in the North America. The establishment of bilingual-bicultural deaf education has, however, existed since the 1980s, and 1990s to some regions (Ausbrooks-Rusher, Schimmel & Edwards, 2012; Carbin, 1996; Hrastinski & Wilbur, 2016).

Since then, educators, linguists and researchers conducted various studies on the deaf population and bilingual-bicultural deaf education, primarily on ASL proficiency and acquisition and its correlation with English literacy competencies. With the incorporation of teaching strategies influenced by ASL pedagogy while seeking ways to support English literacy (e.g., signacy, literacy, and oracy), the body of research led to the development of training programs for the deaf (Hrastinski & Wilbur, 2016; LaSasso & Lollis, 2003; Nover, Andrews, Baker, Everhart, & Bradford, 2002). Although I am not going to discuss how outcomes of English literacy tests were superior when high-level of ASL proficiency and development is involved, I take note that researchers of shared interests have a common ground. That is, they choose to start with quantitative methods

by using ASL-related assessments to measure the deaf population's ASL linguistic proficiency and development. In this instance, researchers almost always started with deaf participants' ASL competency, stages of ASL acquisition and comprehension before they proceeded with other literacy-related tests or experiments (Enns & Herman, 2011; Maller, Singleton, Supalla & Wix, 1999; Petitto et al., 2001; Pribanikj, L. & Milkovikj, 2009; Supalla, McKee & Cripps, 2014).

3.5 In consideration of ASL-English bilingual schools

While research work of bilingual deaf education is at the early stages for educators, sign linguists and researchers, philosophies of teaching methods and language use continue to be in question. Unlike pre- and in-service education programs in Ontario, the number of ASL-English bilingual teacher candidates of the deaf (specializing in ASL) is growing in the USA while the number of enrolments in Ontario is shrinking. If comparing the challenges in bilingual education within the USA and Ontario in regards to resources and assessments, there is a strong resemblance showing that lack of accessibility and inequity do exist in ASL-English bilingual education with deaf children because ASL is not generally recognized nor used by the majority culture. Hearing children have optimal access to the language(s) spoken in their homes, both incidentally and indirect conversations with their family members. In contrast, deaf children do not often have similar access to any language at home.

Cripps and Supalla (2012) commend many educators for accepting the concept that ASL is a human language in its own right, but they also note that ASL's "relationship with English is not fully understood or appreciated" (p. 90). They further argue that educators and policymakers "must understand that a child undergoing traditional bilingual education is assumed to have heard or can hear the two languages in question and proceed with learning to read…this model cannot be applied to deaf students" (p. 90). On that note, ASL-English bilingual schools typically encourage children to primarily focus on developing/strengthening their minority language (ASL) prior to bilingualism, rather than focusing on learning to speak the majority language, English (Baker, 2011). While ASL-English bilingual schools in Ontario practice

bilingualism (e.g., ASL curriculum and Ontario curricula), they also provide the oral language support. At these schools, most educators provide deaf children full access to conversations as naturally as possible (Rouse, 2016; see Chapter 6 for examples of adult-child interactions). In accordance with Hall et al. (2017), "immersing deaf children in a rich signing environment would likely reduce the risk of harm associated with language deprivation" (p. 767). There are also other benefits of ASL learning for children of all backgrounds; their ASL-English bilingualism enables them to have not only non-linguistic and linguistic advantages but also an additional contribution to their visual and spatial cognitive abilities (Snoddon, 2014).

In its simplest description, ASL as a language is a social construction for deaf children where they make sense of information being presented in front of them; they employ the language to access such information and education in order to be a part of society when interacting with peers and adults. Swanwick (2010) claims, "placing sign languages on a par with spoken languages heralded the recognition of the potential bilingualism and language diversity of deaf children and the need for this to be addressed in the educational context" (p. 149). Although ASL may be the instructional language for subject-related curriculum, working with language (*translanguaging*) exists in the ASL-English educational system.

Translanguaging in deaf education in general would be described as a pedagogical use of, for example, ASL in classrooms with the inclusion of English (both in speech and written forms; Swanwick, 2017). This teaching strategy concerns the access to both languages for deaf children, a skill to combine ASL features and registry of references to the written form of English, which is particularly different from artificial sign systems (see the recent work of Maartje De Meulder, Annelies Kusters, Erin Moriarty & Joseph J. Murray, 2019 to gain a better understanding of translanguaging in application of deaf, sign language minority and education contexts). Additionally, deaf children are being explicitly taught by teachers to chain by linking, constructing, gesturing, fingerspelling, or writing words to English (Creese & Blackledge, 2010; Swanwick, 2010). The form of chaining is a teaching strategy where teachers attempt to introduce new concepts or vocabulary by making connections between ASL and English through various approaches

such as visual media, comparison, initialized ASL-English words, or print (Humphries & MacDougall, 2000).

An ever present and constant pressure to focus on the teaching of English, even though the program is labeled as bilingual, is all too familiar to educators of the deaf and the ASL-using community. Educators are required to comply with the Ontario Ministry of Education's standard and expectations to ensure that deaf students achieve English literacy competences in line with their hearing peers. The education system is held accountable to improve students' literacy skills in English by monitoring and "measuring" their "knowledge and skills" (Phillipson, 2009, p. 337) through the use of monolingual assessments using English. This is especially true for those teaching and learning within ASL-English bilingual programs.

Fountas & Pinnell (F&P), Education Quality and Accountability Office (EQAO) and Ontario Secondary School Literacy Test (OSSLT), are examples of the monolingual assessments used in the province. The emphasis on English language acquisition and assessment is juxtaposed against the realities of ASL acquisition and assessment in ASL-English bilingual education. While limited ASL resources are available, they pale in comparison to the wealth of English resources that exist (Rouse, 2016). The absence of ASL resources, including assessment tools, is clearly demonstrated by the lack of an ASL testing system in Ontario. ASL is not always acknowledged by policymakers as a complex language on equal footing with English, therefore "bilingual education for the deaf has received less attention by government than bilingual education for other minoritized populations" (García, 2009, p. 62).

In short, the Ministry of Education's policymakers' lack of commitment to ASL-English bilingual schools is made evident by low student enrolment; insufficient knowledge of deaf children's learning needs, language acquisition and bilingual education; and not sharing sufficient educational resources in ASL and deaf culture from which deaf children could have benefitted. Research has revealed that in spite of limited resources, educators are able to sustain models of bilingual education in their attempt to meet the needs of various minority language individuals (Byrd Clark, 2012; Cummins,

2014; Escamilla, 1999, 2009; Galiev, 2013; Skutnabb-Kangas & Heugh, 2012). Any language could be developed for official use as long as the necessary resources are accessible within the educational system (and within society; Skutnabb-Kangas & Heugh, 2012).

The previous instances of bilingual education researched by and with hearing individuals have employed either a qualitative alone or a mixed-methods approach to focus on bilingualism and biliteracy, primarily with majority and minority languages (English and Spanish, French, or other). I approach the bilingual education setting differently. I employ a mixed-methods approach to research the accessibility of ASL resources that may promote ASL acquisition by deaf children. In terms of the mixed-methods practice, I incorporate three groups in my study: ASL-English educators; deaf children; and their parents. With some likeness to existing bilingual education research which uses English and minority spoken languages, I will apply ASL gloss sentences related to ASL (deaf) culture in my study. An example of how ASL gloss and ASL graphemes are formed will be provided in the following chapters.

Chapter 4

In this chapter, I briefly describe the scope of mixed-methods methodology that leads to my rationale for choosing to employ a convergent parallel design. That is, I used quantitative methodology to identify and count participant educators' frequent use of available ASL resources, including pedagogical documentations (e.g., pictures, videotapes, anecdotal notes, etc.). I used pre- and post-online surveys to collect the quantitative data from participants. Throughout the chapter, I offer detailed insight into the design of approaches to justify my examination of data. To be clear, I rely heavily on qualitative methodology, which involves interviews with educators and parents in addition to my own recorded observations and written record of well-defined occasions of children interacting with classroom educators and/or resources. Through analysis of these interviews, recordings and written records, I discover what resources and/or strategies educators use to ensure that children are acquiring/strengthening their ASL skills.

4 Mixed-Methods Methodology

Mixed-methods has been used as an approach to research for more than 40 years (Creswell, 2014). Although mixed-methods methodology is relatively new, it has emerged and been employed by researchers from various fields such as education, sociology, management and health science. Before using its current term, mixed-methods has been referred to by many researchers in the past as: integrating; synthesis; quantitative and qualitative methods; multimethod; and mixed methodology (Bryman, 2006; Tashakkori & Teddlie, 2010). This methodology is being used in my study because it draws on both quantitative (close-ended surveys, sums of a tally system for observed language use) and qualitative (open-ended observations, interviews) research with minimal limitations (Creswell, 2014). Throughout my data collection, I ended up with 13 current participants (previously 14), not 30. This number is below 45% of the number of potential participants I initially expected to have for my study, because not many participants were interested nor consented to participate. Cohen et al. (2011) note that "there is no single or correct way to analyze and present qualitative data" as long as I

organize and explain the data clearly (p. 461). I am relieved with this statement, because if there is no exemplary way, other than a case study research, to analyze and present qualitative data with a small number of participants, it must also be true for quantitative data. While my research topic focuses on societal and educational systems when discussing children's language acquisition in relation to the application of ASL resources (and strategies), employing mixed-methods methodology for my study is the right choice.

While not all quantitative research is positivist (traditionally objective) and not all qualitative research is hermeneutic (purely subjective), Onwuegbuzie and Leech (2005) suggest that the terms, quantitative and qualitative would be better replaced with "confirmatory and exploratory research" (p. 382). In order to thoroughly understand the issues and understand different explanations of outcomes, the concept of *confirmatory* and *exploratory* research perfectly addresses my research questions. Mixed-methods methodology typically involves "the politics of evidence other than just an empirical question" (Denzin & Lincoln, 2011, p. 2); its approach provides more meaningful and authentic accounts of the complexities of participants under investigation within certain systems (e.g., society and education) (Cohen et al., 2011). Mixed-methods approaches further compare different perspectives drawn from quantitative and qualitative data. In this study, it also provides a more complete understanding of changes needed for the societal and educational systems in references to ASL resources.

Although most studies of deaf children's language development, acquisition and assessments—all in relation to my interests—typically use quantitative methods, a small body of researchers in similar fields of applied linguistics, deaf education, and bilingualism also use mixed-methods in their studies (e.g., Enns & Herman, 2011; Luetke-Stahlman,1993; Mann & Prinz, 2006). I wish to contribute my mixed-methods study to the discussions of applied linguistics, bilingual education and other fields where my insight, experiences and findings may prove useful. As a novice researcher, I chose to use a convergent parallel mixed-methods design in my study.

4.1 Convergent Parallel Mixed-Methods Design

The purpose of the convergent design is to collect both quantitative and qualitative data which I have done primarily through video recording. My data collection included surveys, interviews and photos of resources found in classrooms and learning environments. I then analyzed the mixed databases (video, survey and interviews) separately. Finally, I compared results to see whether the findings confirm or disconfirm those gleaned by each source of data (Creswell, 2014; Figure 4.1). To this extent, the procedure of my design was to first collect both quantitative data (surveys) and qualitative data (interviews and observations) before making a comparison between the two databases while ensuring they are addressing my two sets of nine research questions. In regards to video analysis, it was suggested that I use a software program, *ELAN* (EUDICO Linguistic Annotator, 2019) which I intended to employ.

ELAN is an annotation tool that enables researchers to create, edit, visualize and search annotations for video and audio data. It is also a tool that is specifically designed for the analysis of languages, including different dialect/regional sign languages and gestures for purposes of annotation, analysis and documentation (ELAN, 2019). ELAN, however, was not useful as a tool for analyzing the video data in my study. ELAN apparently focuses on specific ASL parameters such as hand movements and sounds while I was looking for the nature of participants' use of complex features of ASL such as body shift, eye-gaze, and non-manual grammatical structures. Although ELAN uses gloss in a simple English version, I used complicated ASL gloss and grapheme structures. The latter was inspired by the works of Dr. Samuel Supalla (see Supalla, McKee & Cripps, 2014, for a discussion of how ASL-phabet grapheme and ASL gloss are being used in sentences; see Valli, Lucas, Mulrooney & Rankin, 2011, for a detailed introductory concept of linguistics of ASL; and see two brief examples of a transcription in the observation section of this paper). I have discussed my proposed reason of declining ELAN from being employed in my study with an experiential sign linguist who regularly uses ELAN in their research. They concurred with my rationale when I shared my intent of incorporating ASL graphemes; ELAN will not recognize the character of ASL graphemes. This would pose a foreseeable challenge.

Instead of using ELAN, I chose a novel and far more in-depth manner of interpreting and analyzing video data of observation sessions. When deciphering-deconstructing my video recorded data of observation sessions, I documented kindergarten participants' use of language and actions, including specific ASL cultural references and features that represent their interactions with the resources and strategies used. In consideration of my multiple roles as an educator and PhD candidate, I used some of Hycner's (1985) coding methods found in qualitative research to which I will refer later. In addition, I also used a side-by-side comparison by going back and forth between qualitative data and quantitative data in response to research questions. I used a narrative approach when sharing qualitative data that supports the general findings from the quantitative data. To further clarify, I discuss qualitative findings through the use of a content analysis approach of recurring themes with an application of conversational analysis for my observations in order to either confirm or disconfirm the quantitative results. I present my interpretations of results and findings in their own sections after the analysis. This is done in a descriptive, narrative-like approach which includes the use of visual aids such as images, diagrams and figures.

In summary, I used the convergent parallel mixed-method approach to discover and address the mixed-method questions. The convergent parallel mixed-method design allowed me to conduct my research by collecting data using qualitative and quantitative methodologies that lead to fruitful descriptions and in-depth examination of observations, interviews and surveys.

4.2 Central Background of Participants

The following section begins with a rationale and description for the selection of participants, including detailed descriptions of their profile information. In addition to data collection procedures, I then offer the description of a unique analysis in respect of the convergent parallel mixed-method design. The rationale of using the combination of ASL gloss, ASL graphemes, and English for the description of observations will be explored. In the end, the qualitative data precedes the quantitative data. To be clear, the selection and analysis phase of this study was conducted simultaneously.

4.2.1 Participants

While I have chosen to study participants from three Ontario ASL-English bilingual schools located in London, Milton and Belleville, I had to wait for almost a year to receive approvals from two different ethical review boards concerning my research with children who are considered a vulnerable population. The university granted approval in late March 2019 and a research team from the ASL-English bilingual schools approved my request in early September 2019. Once approval was granted, I immediately proceeded to email the schools' principals in September 2019. Upon receiving their support, they forwarded my letter of information to potential educator participants on my behalf. During the recruitment process, I received replies from two kindergarten teachers, two ASL curriculum teachers, one language teacher, one health & physical education teacher and two educational assistants (EAs) from three schools. Most educators have at least two-year experience working directly with kindergarten students. All have expressed an interest in my research and committed to participate in my research between October 2019 and March 2020. One participant decided to withdraw from my study before research was initiated. All three schools are considered close-knitted community-like ASL-English bilingual schools located in their not-so-busy urban areas. These schools are the only ones in Ontario that have a majority of school staff working with deaf students converse in ASL and English, televised announcements available in ASL and written English, lessons and activities being provided/instructed in ASL. Even the principals of the schools know ASL whereas they could have regular conversations with students independent of interpreters.

The recruitment of sample size from three schools was supposed to be at least 30 in total (10 participants from each category; meaning 10 educators, 10 parents, 10 kindergarten students). Finding a sufficient number of participants for my study was more challenging than I anticipated. Golos (2010) suggests that, regardless of how small the sample size, it would be "ideal to repeat this study [with a larger sample group from other regions,] as this would allow for an in-depth statistical analysis. Doing so would determine whether significant differences exist in regards to the use of resources and exposure to ASL" (pp. 92 – 93). Many researchers studying deaf children have shared

similar issues concerning the deaf population, whereas researchers reveal that there are either too small, unique populations (e.g. deaf children exposed to ASL alone, English or both prior to arriving at ASL-English bilingual schools in North America), no normative population to measure against or deaf children being scattered all over the countries (Enns & Herman, 2011; Mitchiner, 2015; Petitto et al., 2001). Fortunately, I do not seek to offer a generalization. I opted to use a more appropriate sampling type: non-probability (*purposeful sampling*). The purposeful sampling "deliberately avoids representing the wider population; it seeks only to represent a particular group, [for example,] a class of students, a group of students who are taking a particular examination, a group of teachers" (Cohen et al., 2011, p. 153; Patton, 2002).

Two teachers voluntarily reached out to the parents of about 30 kindergarten students through the use of either email or by delivery of a hard copy cover letter and letter of consent form detailing my interest in having parents and their children participate in my study. In the letters, I clarified that I intended to have them videotaped, photographed, and documented for lectures, conferences, research, professional, and educational purposes. The outcome was three interested parents and three consenting children—2 junior kindergarten students (Year 1) and 1 senior kindergarten student (Year 2). Throughout the recruitment process, I had 14 participants in my current study. Specifically, I have 3 kindergarten participants and 11 adult participants. There are no known risks anticipated or associated with participation in this study.

At the inception of my research, I had only one kindergarten student to observe, but I gained two more kindergarten students by my second visit. By the third (and last) visit, the number of kindergarten participants in my study reminded the same. In addition to the total of 3 kindergarten participants for observations, I had 10 adult participants (3 parents and 7 educators) for online surveys and one additional adult participant (parent) in the interviews. Ultimately, I have a rich qualitative collection stemming from my observation visits, interviews and sufficient quantitative collection of surveys despite the small number of participants.

4.2.1.1 Profile Information

During the data collection, I developed each participant's profile information to keep track of the process. I determined the kindergarten participants' profile information such as age, gender and recorded stages of language acquisition under an ID code (gender is excluded, see Table 4.1). Profiling allowed me to take notice of any progressive changes in kindergarten participants' language acquisition during the course of my study. It also helped prepare the reader to understand participants' use of language when reading the transcriptions in Chapter 6 of their observed interactions with educators and/or peers.

Table 4.1.

Kindergarten Participant Profile Information

Student	Kindergarten Year 1 or Year 2	Language(s) used at home	Pre-ASL Development Stages	Post-ASL Development Stages
K1	Y1	ASL and English	4	4
K2	Y1	ASL, English and Jamaican	1	2
K3	Y2	ASL and English	1	1

Kindergarten participants' ASL skills were assessed twice by an ASL curriculum teacher, once before my study commenced and again soon before my study concluded. The ASL curriculum teacher used the ASL Developmental Checklist (a sample of the assessment is in Appendix I). Kindergarten participants' ASL skills were identified in regards to their ages, and their language development, acquisition and performance were measured against expected age-stage norms for L1 native users of ASL.

In addition to an ID code for each adult participant, I determined parents' profile information by looking at the languages they use at home, the total number of children in the household, and ASL-related resources with which they are familiar (see Table 4.2).

Table 4.2.

Parent Participant Profile Information

Parent	# of deaf children/language(s) use at home	Familiar with ASL resources	Other
1	1/ASL, English	ASL Development Checklist, ASL-TB, ASL Parent-Child Mother Goose Program, ASL Consultants from IHP	ASL-PA
2	1/ASL, English, Jamaican	ASL Parent-Child Mother Goose Program, ASL Consultants from IHP	
3	2/ASL, English	ASL Parent-Child Mother Goose Program, ASL Consultants from IHP	

When I compared Table 4.1 and Table 4.2, correlations between the consistent input of ASL from birth at both school and home/community became evident. I hypothesized that the relationships have some significant impact on the report of participants' language acquisition. Based on the report, a kindergarten participant (K1) is fully exposed to ASL from birth prior to the kindergarten program while two other kindergarten participants (K2 & K3) are partially exposed to ASL with an unspecified amount of consistency. Their ways of using ASL vary, depending on their age of acquisition. That is a fair notion as research has already demonstrated that deaf children, who are exposed to and are learning ASL beginning of birth, typically acquire the language in a similar manner to hearing children exposed to and learning spoken English (Petitto, 2000; Spencer, 1996). My observations confirmed this to be true.

I determined educators' profile by focusing on the years of experience in working directly with kindergarten students and ASL-related assessments, resources and/or strategies they use to identify their students' ASL acquisition (see Table 4.3). There is an exceptionality in this study, where I have one teacher who has 25-year experience working with kindergarten students, not only as an ASL curriculum teacher in the present sense, but also as a kindergarten teacher in the past. During interviews, the teacher offered me extensive information and resources that have been employed and/or emerged

over the years which I will share in the next chapter. The rest of the educators participating in this study have a range of 2 to 5 years working directly with kindergarten students.

Table 4.3.

Educator Participant Profile Information

Educator	Years of working with kindergarten students	ASL-related assessments	ASL resources	Other (pedagogical documentations)
Teacher	1 - 5	None	ASL Materials (DVDs, Games, Pictures), ASL Gloss Activities, Off-campus field trips	Currently working on assessment
ASL Curriculum Teacher	1 - 5	ASL Development Checklist, ASL-PA	ASL Materials (DVDs, Games, Pictures), ASL-using Community Guests	Play-based approach (toys, educational stuff, flashcards, iMovie)
Language Teacher	1 - 5	None	ASL Materials (DVDs, Games, Pictures), ASL Gloss Activities	Anecdotal; literacy websites (1 of which has ASL connected with text); Youtube videos
Health & PE Teacher	1 - 5	None	ASL Materials (DVDs, Games, Pictures), ASL-using Community Guests	Inquiry and play-based activities
ASL Curriculum Teacher	15 - 24	ASL Development Checklist	ASL Materials (DVDs, Games, Pictures), ASL Gloss Activities	Observational notes
Education Assistant	1 - 5	None	ASL Materials (DVDs, Games, Pictures), ASL Gloss Activities, ASL-using Community Guests, Off-Campus Field Trips	Daily conversations, repeat in ASL of what children were doing
Education Assistant	1 - 5	None	ASL Materials (DVDs, Games, Pictures), ASL Gloss Activities	Inform teachers when noticing any indications of language acquisition, handshapes, etc; communication as another ASL resource

4.2.2 Mixed-Methods Data Procedures/Analysis

4.2.2.1 Qualitative Data

4.2.2.1.1 Interviews

While I aimed to capture adult participants' perspectives about the development and/or accessibility of ASL resources, I produced a list of semi-structured interview questions to bring about a natural flow of an interaction between myself and individual participants. Most questions were extracted from the online surveys in which I asked participants to elaborate. I kept the list of questions as an interview guide to stay on task of my research topic. I conducted seven face-to-face interviews with educators in ASL, three video chats with parents—both in ASL and in text, and received one email from a group of parents. Excluding the email, I recorded participants with the video materials during our face-to-face and video-chat interviews. The usage of video in the interviews enabled me to be "free to explore, probe, and ask questions that will elucidate and illuminate" important issues that are predetermined (Patton, 2002, pp. 343-344). The interviews went on between 30 minutes and 75 minutes. Educators' interviews focused on their educational background including training and work experience, their philosophy of ASL as a language and its assessment, and their experience of collecting, incorporating, sharing ASL-related resources and strategies.

There were a few questions I opted not to ask EAs as some questions were not relevant to their professional positions as their role is to support students' learning in accordance with teachers' requests or programs. Parents' interviews were somewhat similar to educators', in that they were asked to share their philosophy towards ASL as a language. They also were asked to discuss their experience in using ASL at home, within the community and at school with their child(ren). Further to the use of ASL, parents also discussed their experience in finding and sharing ASL resources in a hearing and English-speaking society.

After each interview in ASL, I immediately translated their responses and comments into standard English. When participants give examples of their conversations with children, I depicted their conversations verbatim using some ASL grapheme and

ASL gloss sentences. I then compared the transcriptions with the report of online surveys to determine whether the statements confirm or disconfirm my first eight of nine predetermined mixed-methods questions. This comparison prompted me to validate the accuracy of information being shared by the participants without bias. I emailed participants transcriptions of their interviews for confirmation and clarification as a means of member-checking. Most participants replied with a satisfactory response indicating that my information was accurate and they were in agreement with their statements found in the transcriptions.

For the purpose of analysis, the collected data of the interviews were translated into the content analysis (Cohen et al., 2011). In doing so, I chose to use some of Hycner's (1985) procedures that can be followed determining participants' experiential accounts. I selected 8 out of Hycner's potential 15 steps: Transcriptions (transcribe the video interviews); Listening (reading the transcriptions); Delineating the general meanings that are relevant to the research questions; Eliminating redundancies; Clustering the meanings; Identifying general and unique themes from all the interviews; Contextualization of themes; and Composite summary. Completing these 8 steps captured the nature of experiences being investigated which can be described as the participants' realities without the influence of my assumptions (Hycner, 1985).

I discovered that they shared four commonalities/themes: Systemic Attitudes; Accessibility; Preparations; and ASL Resources & ASL Strategies. The themes addressed two quantitative questions:

- "What ASL resources do educators use to promote deaf children's ASL development and acquisition?

- In regards to the application or development of language (ASL) over time, what strategies do deaf children use in response to ASL resources and how often do they use them?"

They also addressed four qualitative questions:

- "Why do educators use these ASL strategies/resources and how or in what ways are they used? If used, how often?"
- "Which of these strategies and/or resources positively or negatively impact educators' professional opinions of children's ASL development?"
- "How do educators' beliefs and/or practices challenge or reflect larger discourses of how ASL has been historically viewed by society at large?"
- "How do parents' practices both challenge and reflect discourses of ASL in society at large?"

These themes will be explored in the next chapter. Each theme offers a lengthy detailed composite to gain a deep understanding of multiple participant perspectives on ASL-related resources and practices being used in either the classrooms or home, and in regards to children's language development.

Fewer participants shared an additional theme: deaf children's pace of learning ASL. In this regard, discussion of observations proves more fruitful when reflecting on the kindergarten participants' process and pace of acquiring ASL. I include educators and parents' reflections to strengthen a critical, transformative lens used to consider the ways these children respond to, and interact with, various ASL resources and/or strategies. They will be shared in Chapter 6.

4.2.2.1.2 Observations

I adopted the role of "onlooker" when observing three kindergarten participants' actions in response to various resources in formal and informal educational settings. Since I did not want to disrupt their natural interactions with and without the incorporation of ASL resources, I did not conduct interviews with the children. I used a digital video recorder as a data collection tool to capture the application, or exclusion, of ASL resources including ASL features (Figure 4.1). The video recorder proved vital to

my research. I used these recordings to perceive for children's subtle but natural use of space, nuanced facial expression that indicate ASL non- manual grammatical structures, in addition to eye-gazing, and body shifting.

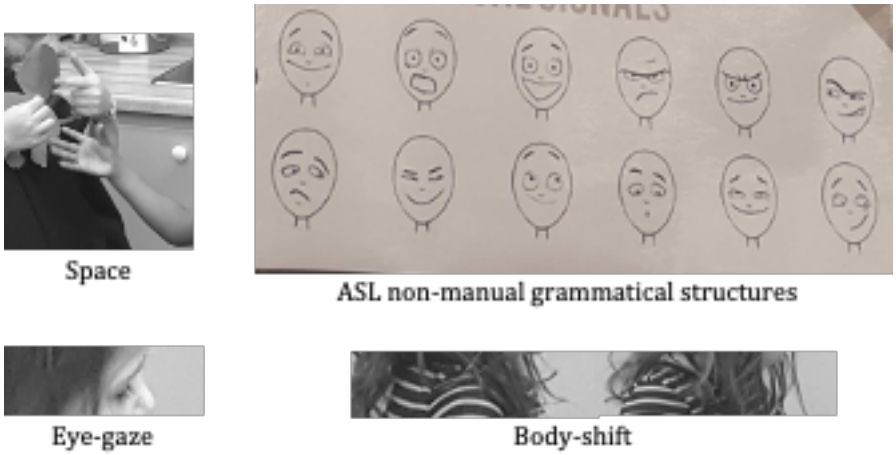


Figure 4.1. Examples of ASL Features.

To capture a wide range of responses and ASL use, I video-recorded each kindergarten participant in at least three separate sessions that spanned 10 to 30 minutes in duration. Observations were conducted during the initial, interim and final visits of my study in the Fall of 2019, Winter of 2019 and in the Spring of 2020 respectively. Video-recording took place in a setting of a teacher's choosing such as an outdoor playground or at one of inquiry/play-based learning centres. The recordings usually focused on one or two participants at a time, but sometimes included all three during their playing and/or while conversing in a specific area or about a specific topic. Endeavours were taken to have my presence be less invasive and to allow play and activities unfold in a natural and unimpeded manner in their familiar settings. Although non-participant children were present along with other educators and their peers at a different location within the setting, they were generally kept away from the recording area. However, being young and curious children, they sometimes managed to appear in a recording area during my observations. In these few instances, the video recorder was either turned off or moved away from the non-participant to prevent recording their faces to respect of their privacy and confidentiality. I was always prepared for such occasions by either standing and holding the camcorder or sitting and holding the tripod/camcorder. During the

observations, I kept the mixed-methods questions in mind: “In regards to the application or development of language (ASL) over time, what strategies do deaf children use in response to ASL resources and how often do they use them?” and “How do deaf children respond when they interact with peers and/or adults?”

In answer to these questions, I started with the qualitative methodology to understand three kindergarten participants’ responses as they interacted with peers and educators by purposely focusing on their behaviour and language use. I did so by observing, documenting and analyzing the scenes as much as possible. Patton (2002) implies that while researchers tend to offer their own interpretations of the data, they keep readers in mind for clear descriptive and analytical commentaries.

Video materials were a useful and reliable means for me to review and analyze children’s responses because recordings provide detailed commentaries that enable readers to gain a better visualization of what children are commenting and doing in specific selected settings. I recorded each kindergarten participant’s reactions, words, phrases and/or sentences in which reflected their language use and interaction with or without the incorporation of ASL resources at school. According to Bloome, Katz, Hong, May-Woods and Wilson (2013), I was expected to “closely [examine] what the child does with language over time [and closely examine] how the child responds to what is happening” (p. 608). While interpreting their actions or behaviours, I reviewed the video materials to create detailed transcriptions using ASL gloss and ASL grapheme in order to appropriately represent ASL language, culture and features. Out of about 25 video-recordings, I reviewed 20 and transcribed 15. I reviewed 15 transcriptions and disconfirmed one transcription that led to 14 valid transcriptions for me to further analyze and present reports as seen in Chapter 6. However, instead of presenting all 14 transcriptions in this paper, I chose to present 6 to 9 transcriptions (2 or 3 per kindergarten participant), many of which were extracted for the purpose of critical interpretation and discussion in this study.

Using video materials led to three ethical issues – vulnerability, confidentiality/anonymity and trust. In following the general principle of researchers’

ethical obligations: primum non nocere ("do no harm to participants" [Cohen, et al., 2011, p. 542]), I protect participants' vulnerability, with particular care afforded to the kindergarten children, by assigning them coded numbers such as: K1, K2 for children, T1, T2 for teachers, and E1, E2 for educational assistants. These coded numbers were utilized for my numerical data. Participants who were being recorded are not named and I further minimized their information by neutralizing their gender in the transcriptions by using such pronouns as "they," "their," and "them." In regards to typed transcriptions with the combination of ASL gloss, ASL graphemes, and English, I wish to explain how I used them. I used English to describe a context, setting and action while I used ASL gloss and ASL grapheme to record statements made between child and educator and between the children themselves.

Unlike most researchers where they typically record a deaf child's use of ASL and/or gestures into written English in subjective interpretations or translations, I choose to depict children's responses, actions and spontaneous conversations using ASL gloss and ASL graphemes. A typical written record of a session looks like this:

Session 1 *(Description of the setting in English)*

.

.

.

(K gets up from the semi-circle and walks to the front of the peers.)

T: IX=2[1] IX=3[2]…

(As K begins to sit down, K looks up at the teacher).

K *raises eyebrows*: IX=3?

---

[1] "IX=2" in ASL gloss stands for "you" in English.

[2] IX=3 for "she," "he," "the," or "it".

(T nods).

I used this approach in my own study, because it depicts ASL language and culture with greater accuracy and authentically demonstrates the ASL that emergent bilingual deaf children use with peers and educators. This helps both the researcher and reader to better acknowledge and fully comprehend and value how remarkable and indispensable ASL is in the lives and education of deaf children. Because of its level of accuracy and authenticity, I believe the application of ASL gloss and ASL graphemes in this manner is more effective when compared with other researchers' interpretations.

ASL gloss sentences can be observed and analyzed to recognize and identify how the language and culture are being used in the classroom by children and educators. I used a line number system to document interactive conversations between children and educators or peers which looks like this:

Session 1 *(Description of the setting in English)*

.

.

.

6 (K gets up from the semi-circle and walks to the front of the peers.)

7 T: IX=2 IX=3…

8 (As K begins to sit down, K looks up at the teacher).

9 K *raises eyebrows*: IX=3?

10 (T nods).

For the purposes of review and analysis, this process is more effective and clearer for both the researcher and reader.

4.2.2.2 Quantitative Data

4.2.2.2.1 Surveys

As alluded to the convergent parallel mixed-methods design section, I started my data collection with online surveys. There were two separate links for online surveys: one for educators and another for parents. Each participant was asked to complete 5 minute close-ended surveys; a pre-survey and a post-survey. The pre-survey took place at the beginning of my research in October 2019 and the post-survey took place at the end of my research in March 2020. In the online survey for educators, they were asked to identify their number of years of experience in teaching kindergarten children, total number of kindergarten children, types of ASL-related assessments and the resources and strategies they use. In addition, teachers (excluding EAs) completed a checklist identifying which one of four ASL development stages their students have achieved. Further to the assessments and resources, educators were asked to complete the checklist of how often they use or provide such assessments and resources. The online survey for participating parents were asked to identify the languages they use and the total number of children in a household. Parents were also asked to complete a checklist of how often they and their children use ASL resources and/or services within their home, community and educational settings. All questions in the pre- and post-surveys contained the same questions to note any differences or progresses between the Fall 2019 and Spring 2020. Educator and parent privacy were maintained by analyzing, interpreting and presenting the results of all completed pre-surveys and most post-surveys within the survey statements rather than by creating tables to showcase participants' responses.

Educators' surveys. According to seven educators' surveys, 86% of educators are not kindergarten teachers (as shown in Table 4.3) and 44% of them do not collect nor administer ASL-related assessments to assess/identify students' language acquisition. However, more than half of educators reported using resources which promote the students' ASL acquisition most of the time throughout the academic year. Examples of ASL resources can be seen in Appendix K.

Parents' pre-surveys. As Table 4.2 states, all parents claimed using ASL (and English including another language) in their households. One parent reported being fluent in ASL while two other parents reported learning the language in the same timeframe as their child. In essence, those parents were learning ASL along with their deaf children. All parents reported that they are familiar with one ASL-related resource and one ASL-related service, the ASL Parent-Child Mother Goose program and ASL family consultants from either the Infant Hearing Program (IHP), private ASL instructors, and/or home-visiting teachers from one of ASL-English bilingual schools. Only one respondent reported knowing all ASL-related resources and services available in the Ontario community, home and education. Diagrams denoting the frequency of use of ASL-related resources will be shown in the next chapter under the subheading, "ASL Resources & ASL Strategies."

At the time of writing to the time of this paper's submission, two parent participants have not completed their post-survey online despite the researcher's outreach and friendly promptings on two occasions. While I am cautious with making an assumption, I have concluded that parents may be experiencing unexpected stressors that are preventing completion due to challenging circumstances of the COVID-19 pandemic. Parents' incomplete post-surveys do not pose any significant impact on the outcomes of my study, because the same questions have been answered in the pre-surveys. I deduced parents' incomplete post-surveys convey no change in regards to the accessibility to ASL resources at home, in the community and at schools in the timespan between the two surveys.

Findings stemming from educator reports. I analyzed the initial and final results of the ASL Development Checklist (see Figure 4.2**)** garnered from teacher reports of approximately 30 kindergarten students.

RESULTS	28 STUDENTS
Stage 1	11
Stage 2	10
Stage 3	5
Stage 4	2

RESULTS	27 STUDENTS
Stage 1	9
Stage 2	8
Stage 3	8
Stage 4	2

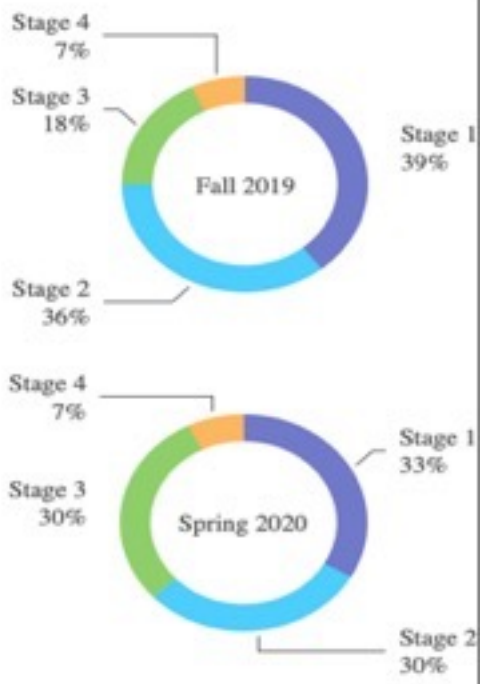


Figure 4.2. Results of ASL development stages of kindergarten students. *Note: Some students were either transferred in or out of ASL-English bilingual schools during the winter term 2020.

Based on Figure 4.2*, I learned that by the spring 2020, approximately one-third of students remain in Stage 1 (n: 9, 33%); an approximate third have demonstrated that they are acquiring ASL and have advanced to Stage 2 (n: 8, 30%) and a final approximate third demonstrated greater acquisition of ASL and advanced to Stage 3 (n: 8, 30%). At the same time, students that entered the kindergarten program at Stage 4 remained at that final stage over the course of the academic year, indicating that their ASL acquisition was within age-stage norms, continued to improve, and that their ASL skills did not regress (n: 2, 7%). Accounts of educators and parents outlined in Chapter 5 may offer explanations as to why so many students entered kindergarten in Stage 1 and why greater numbers of students did not advance into stages 2, 3 and 4 between September 2019 and March 2020.

From the group of approximately 30 students reported, three kindergarten participants were involved in direct research. One student entered kindergarten in Stage 4, ahead of expected age-stage ASL L1 milestones. Two students entered kindergarten in

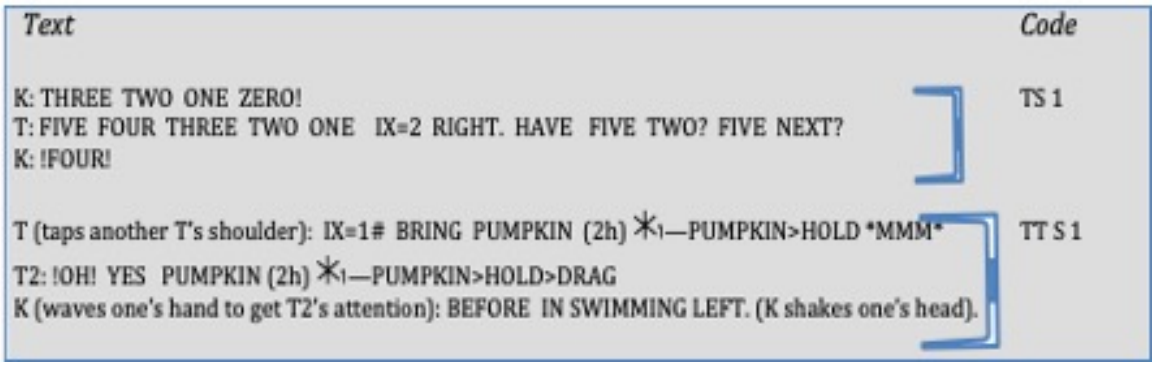
Stage 1. While progress was shown, one of those students remained in Stage 1 in March 2020 whilst the other progressed to Stage 2 in the same timeframe. Did educator/student use of ASL strategies and/or resources that enable these kindergarten students to acquire or strengthen their ASL (L1) skills? Did the availability of ASL strategies and/or resources improve the scores of the participants' language competency? My questions will be answered in Chapter 6 where observations and interpretations regarding the reported progress are shared.

4.2.2.2.2 Transcriptions

The qualitative analysis of the transcriptions of observation sessions referred to the research question: "How do deaf children respond when they interact with peers and/or adults?" In terms of quantitative approach, those same transcriptions were analyzed for frequencies of the behaviours, reactions and interactions demonstrated by kindergarten participants during the observation sessions. The frequencies were noted.

According to Cohen et al. (2011), coding can be carried out on many kinds of data, such as, "conversations, reports, behaviours, events, interactions, activities, contexts, settings, conditions, actions, strategies, practices…nothing is ruled out" (p. 559). No strict guidelines exist regarding a universal approach to coding employed during the analysis of data. I chose to derive codes from the data responsively by using a Non-Participant Observation guide (Appendix J) along with transcriptions of observed sessions. All observed transcriptions, as explained in the observations section, are written systemically line by line using numbers, an abbreviation and descriptive codes by the side of each datum (Cohen et al., 2011).

For example:



Selective coding is the approach I used in this research even though it closely resembles an axial code. However, unlike the axial code, production of the selective code requires a deep understanding of accounts. After the completion of selective codes on the observed transcriptions, three tables were created (Table 4.4) to capture kindergarten participants' conversations and/or interactions with educators and peers using ASL resources and/or strategies. Sums of a tally system were tabulated to measure the frequency of participants' own use of language parameters found in the following set categories: a) Space (use of space for referential purposes); b) ASL non-manual grammatical structures (eyebrows for YES/NO-, WH-, rhetorical-questions including conditional & topicalization; mouth morphemes of sizes & distances: CHA - big, MMM - medium, MO - small, AHH - far, MMM - medium, CS/OO - near); c) Eye-gazing; and d) Body shifting (physically use of role-shift excluding indexing-point) with or without the application of ASL resources and strategies.

Table 4.4.

Sample of Observation Table

Session #	Space	ASL Structures	Eye-Gaze	Body-Shift	Application of ASL Resources	Strategies (indexing, mouthing, or other)
1						
2						
3						

The analysis allowed for greater reflection and interpretation of the data observed and described. The results of participants' behaviour, action, interaction and language use with the application or absence of ASL resources will be presented in a descriptive manner in Chapter 6.

4.3 Research Rigor

Overall, the study went smoothly from the fall of 2019 until data collection ceased in March 2020. Every method of data collection is limited and impacted by elements beyond my control, and the surveys, observations and interviews of this study were no exception. Despite the obstacles, I saw this study through. A variety of strategies were used to minimize the limitations of each method during the course of my research to ensure reliability, credibility, and validity.

Online surveys as quantitative method have a limitation regarding reliability. Reliability deals with dependability, consistency and replicability over time; if the study were to be carried out on a similar group of respondents in a similar context it should offer similar results (Cohen et al., 2011). Thus, surveys are to be constructed with careful consideration to ensure that questions are selected on the premise that they are predictable, consistent and replicable. The questions used in this study were standardized

so that the responses can be independently analyzed with ease. In the case of this study, the number of respondents was considerably lower than I hoped which resulted the absence of the *Statistical Package for the Social Sciences* (SPSS). SPSS is a software tool that offers statistical analyses with at least 10 participants/items from different categories such as 10 parents, 10 teachers and 10 EAs (Arkkelin, 2014). At this point, I only had 3 parents, 5 teachers and 2 EAs, including 3 kindergarten participants. The sample size in my study was too small and would not be reliable if using the SPSS.

The credibility of qualitative methods employed during my fieldwork is also central to the validity of this study (Patton, 2002). The degree of skill, competence and rigour of the researcher directly impacts the quality of data collected and its accurate interpretation; the researcher herself effectively becomes a research tool. Observations and interviews make up a significant portion of my research, especially when video-recorded materials are considered. I was conscious of how my presence directly or indirectly caused some certain changes in the behaviours of participants and in the use of physical settings and contexts such as in classroom, on the playground, in the gymnasium, or on a field trip.

For instance, the presence of an unfamiliar person within the classroom can cause a change in the behaviour of kindergarten students. During the first few minutes of my presence as an observer using a digital video-recorder, the children were quieter than normal; they either became shy or curious or both. To mitigate this situation, I quickly developed a rapport with children before bringing the video-recorder into setting. I informed the children and educators about my role and encouraged participants to "go ahead as normal" and "be themselves" as I was there just to observe and learn from them. I followed the advice of Blommaert and Jie (2010), which was to sit back and try to observe as much as possible while letting the video-recorder capture the scene. This approach worked exceptionally well; young participants forgot my presence as the hours and days of my visits progressed. Blommaert and Jie's (2010) advice was pertinent to my interviews with participants as well.

At the end of each qualitative method of data collection, I reviewed data of video observations, made notes and typed transcriptions of interviews in order to identify, analyze and discuss themes and/or ASL words used. I declined the computer software, ELAN. I instead used a time-consuming approach of pausing, rewinding, and playing moving images of participants' specific ASL features to calculate the frequency of specific ASL behaviours. The same approach was used when I came to transcribing, describing and/or coding their behaviour and use of language for the purpose of collecting objective evidence as per mixed-method analysis.

Validity addresses "honesty, depth, richness and scope of the data achieved, the participants approached…or objectivity of the researcher" in qualitative data while "careful sampling, appropriate instrumentation and appropriate statistical treatments of the data" addresses validity in quantitative data (Cohen et al., 2011, p. 179). In the quantitative method, I recorded exactly what participants reported in their surveys. In qualitative methods, I used descriptive and interpretive coding and analysis to ensure validity when describing what actually happened as well as ascertaining the meanings, interpretations, terms and intentions that exist in events being observed or topics discussed during interviews (Cohen et al., 2011). Following the observation sessions and interviews, I conducted "member-checking" with interviewees to preserve the validity and credibility of their transcriptions.

4.4 Summary

This chapter has presented the detailed procedures and methodology of data collection and analysis. Details of the surveys, interviews and observations were also provided to give a clear picture of the data gathering process. The following chapter will introduce and demonstrate the findings that stemmed from my analysis of the data gleaned from the interviews and surveys with educators and parents. These findings will then inform our understanding of progression of ASL acquisition and development of three kindergarten participants.

Chapter 5

This mixed-method descriptive exploration is to examine educators and parents' accounts of the four themes respective of educational and societal systems: Systemic Attitudes; Accessibility; Preparations; and ASL Resources & ASL Strategies. Their accounts in the study provide deep insight into how and why ASL-related resources and practices are being used in either classrooms or home and finally, their impact on children's language development.

5 Finding I

The findings of this study are quantifiable yet presented in a narrative manner based on the lived experiences of the participants shared in surveys, interviews and video-recorded sessions. Multiple participant perspectives on the experience of systemic oppression/attitudes towards ASL and individuals being deaf, accessibility, preparation, and resources/strategies are revealed.

The themes listed above help address the following seven research questions that guided this study. They are not listed in any particular order of importance.

Quantitative Questions

1. What formal ASL assessments do educators use to identify the language acquisition of deaf children? What is the frequency of these assessments in an academic year?
2. What informal ASL assessments do educators use to identify the language acquisition of deaf children? What is the frequency of these assessments in an academic year?
3. What ASL resources do educators use to promote deaf children's ASL development and acquisition?

Qualitative Questions

4. Why do educators use these ASL strategies/resources and how or in what ways are they used? If used, how often?
5. Which of these strategies and/or resources positively or negatively impact educators' professional opinions of children's ASL development?

6. How do educators' beliefs and/or practices challenge or reflect larger discourses of how ASL has been historically viewed by society at large?
7. How do parents' practices both challenge and reflect discourses of ASL in society at large?

To answer these seven mixed-method research questions, data collection of surveys and interviews were used. Analysis included both quantitative and qualitative analysis. Quantitative analysis involved basic descriptive expositions of frequencies in respect to the data. The qualitative analysis consisted of themes derived from the data which were supported by the accounts of the participants. The following thematic sections will address each research question and the analysis of the findings. In doing so, the nature of two systems, education and societal, will be explored. The findings and analysis allow for the consideration of a variety of roles and factors played within the acquisition and development of deaf children's ASL.

5.1 American Sign Language

Many educators and parents of deaf children share a concern regarding access to American Sign Language within the educational and societal systems found in Ontario in the 21st century. While several educators argue that the general Ontario populace typically misconstrues ASL as a tool rather than a language, one educator commented:

> *Things are changing. I wonder what the future looks like for deaf students. More deaf children are in mainstream schools, they would watch and copy other hearing peers' actions since they are pretty much their models. Although deaf children behave like hearing [children], they do not really understand much about rationales behind [their] actions. Human relationships are missing. They may feel isolated. ASL offers deaf children human social interactions. In short, ASL would benefit deaf children.*

Participants' experiences and perceptions help to build a greater understanding of the issues regarding ASL language and resources. Participants' answers to two qualitative research questions, "How do educators' beliefs and/or practices challenge or reflect larger discourses of how ASL has been historically viewed in society at large?"; and "How do parents' practices both challenge and reflect discourses of ASL in society at large?"

5.1.1 Systemic Attitudes

Systemic attitudes towards ASL are rooted in the disproportionate value society and education systems place on the dominant language (English) and the ability to hear and speak it over and the ability to understand and use a sign language (ASL) with proficiency and fluency. The resulting cultural and linguistic oppression of deaf individuals is termed *audism,* it exists across all aspects of society in which deaf children find themselves, including the education system. Audism is a theoretical form of systemic oppression in regards to hearing and the ability to access and use spoken languages. Tom Humphries (1977) originally describes the term in a specific manner in which audism is a conviction that "one is superior based on one's ability to hear or behave in the manner of one who hears" (p. 12). It is additionally defined as a "schema of audiocentric assumptions and attitudes that are used to rationalize differential stratification, supremacy, and hegemonic privilege" (Eckert & Rowley, 2013, p. 105). The parallel between audism and spoken language regarded as a superior language is closely linked (as will be clearly demonstrated in the accounts of educators and parents in the next sections).

The direct or indirect practice of audism within society and education systems is the result of weakened policies and/or acts (as discussed in Chapter 1), whereas an idea of employing or accessing a sign language in either systems is often a choice, not a mandate. Many barriers or obstacles were formed to intentionally (or non-intentionally) prevent educators and parents from finding or expanding more ASL resources/services made by deaf Canadians for deaf children. Throughout the rest of the themes such as accessibility, preparation, and resources/strategies, the reader will detect examples of how deeply rooted the audism is in systems. In short, the reader may note in reports that medical, social, and educational structures do systematically deny deaf children early and appropriate access to a natural language, ASL.

5.1.1.1 Educational System

Qualitative Analysis. How do educators' beliefs and/or practices challenge or reflect larger discourses of how ASL has been historically viewed by society at large?

In one interview, an educator revealed that "everything is new in the society where more deaf children are implanted with [artificial hearing], more deaf children are mouthing or speaking and more deaf children arriving with zero languages." All educators interviewed struggle with the reality that deaf children are viewed as inferior to hearing children and American Sign Language is viewed as inferior to English both in broader society and the education systems within which they work. One educator shared that a lot of families enrolling children at ASL-English bilingual schools in Ontario "prioritize a spoken language over ASL. In my classroom, I repeatedly ask my students to respect my expectations [to use ASL] and be mindful of their classmates [who solely use ASL] during discussions." Prioritization of a spoken language over ASL has a significant impact on deaf children's language acquisition.

This attitude among educators has evolved due to a shift in an understanding of ASL beyond one of manually coded English. Acceptance of ASL "has changed dramatically from…a crude system of gestures (or a code version of English) to a language in its own right" (Cripps & Supalla, 2012, p. 86). Their statement mirrors another educator's experience of witnessing ASL's evolution:

> *I have seen how much ASL has evolved over years. I strongly value ASL as a language in spite of how it has been historically viewed negatively by a society…I am not saying English is not important, no…I am just saying that discarding ASL is impossible. Society's misperceptions of ASL and deaf people do not influence or change the way I work [in the education system].*

While acceptance of ASL has improved among educators within Ontario's ASL-English bilingual programs, one educator expressed deep concern and despair when learning that audism continues to exist: "I was so shocked by how many students have parents who do not bother to take up ASL. That was when I realized that society at large does not support ASL in a way I thought they did." Another educator candidly shared their view of how audistic and oppressive systems are:

> *Professionally, I invest in deaf children because I strongly believe in sign languages…Every person should start signing from birth. Personally, I am angry at how society works. The society does not give [parents] a fair chance or in-depth information about the benefits sign languages have for [deaf] children.*

—

> *It is not deaf children's fault. It is society's fault for having poor or weak information. Sometimes, it is not parents' fault due to insufficient information they probably get from their [medical] professionals.*

—

> *Not only is [society] frustrating, the school system is also challenging. How the school system works is an insult to how deaf education should look; it needs more deaf staff as role models for young deaf children to look up to. Really, there are [no good examples] out there in the school systems [that] broadly represent deaf children… [B]ecause of these systems…deaf children, who are in grade 1 or older, are usually at a kindergarten level or below. Very few of them who have fully acquired ASL and are at their respective appropriate age-grade levels.*

Many educators are trying to maintain the value of ASL and ensure that deaf children are learning ASL despite the audism that exists within the education system. Educators value ASL acquisition as the primary goal for their young students because they know that their students will be more successful with a strong first language. They are in agreement with Cummin's linguistic interdependence theory even if they are not explicitly aware of it; in order to successfully assimilate the second language (English), the L1 (ASL) needs to be readily available for children to use and rely on as a resource.

I concur with Pribanikj and Milkovikj's (2009) argument that all languages are natural—sign languages and spoken languages, because language is inherently human and social and thus, it strongly influences people's way of living and overall quality of life. Educators in the system are accountable to ensure that deaf children form a positive identity as a deaf person in spite of the existence of audism. To do so, they also incorporate ASL language and cultural content as part of their daily teaching practice for the sake of deaf children's well-being in addition to their cultural literacy. In doing so, educators afford the children the appropriate language resources, and respectful learning environment by planning and implementing a wide variety of structured, and unstructured inquiry/play-based opportunities so that their ASL acquisition can develop naturally.

The affordance reminds me of a discussion I had with an educator three years ago at a time when I was preparing for my doctoral research that grew from my Master's

thesis. They said, “There would be tough, challenging and frustrating days, but I always get inspired to keep going by creating and developing resources when I see [kindergarten students] having their ‘ah-ha’ moments or pick up ASL words and have conversations at a rapid pace” (personal communication, October 19, 2017). All educators in my current research are deeply involved in deaf children’s language learning despite many systemic barriers that may prevent them from formally assessing their ASL capacity and development. One educator’s statement echoes some educators’ feelings that “families and students carry on the same negative attitude towards ASL, no matter how much I have to explain…the importance of learning or studying ASL.” I wondered if that statement is true. Do parents think that ASL is not valuable or important to their deaf children’s language and social development? The next section is about parents’ experiences of societal attitudes towards ASL when they learned their child was deaf at infancy.

5.1.1.2 Societal System

Qualitative Question. How do parents’ practices both challenge and reflect discourses of ASL in society at large?

When parents hold their deaf child in their arms, they often find themselves facing a number of dilemmas: Which language(s) should they use? Should they consider having their child fitted with artificial hearing devices? If so, which ones? What kind of relationship will they have with their child? What kind of relationships will their child have with others? The life of their child may not be the one they envisioned. A parent shared a recollection of their deaf baby’s birth:

> *My [child] was born prematurely. At about 6 months, my child was identified as deaf. At first, doctors were exclaiming, “Oh no, [your child] is deaf.” While they were dismayed by the discovery, I was worried and wondered why. I was thinking maybe because my child was born early, they had a brain injury that caused a [physical or intellectual disability) and doctors were telling me that my child would have many severe issues growing up. At that moment, I was so worried! I asked my doctors for specifics: Does my child have a terminal illness with additional problems? They said “no, your child does not have [a terminal illness or additional problems] except for being deaf.” “Is that it? My child is deaf and healthy? My child is not sick…all good, right?” The doctors*

> *immediately recommended my child to get hearing aids or cochlear implants (CIs) as early as possible. I declined their recommendation, especially on CI surgeries.*
>
> —
>
> *I asked doctors not to give my child CIs right away. I emphasized that if my child grows up and asks for CIs, sure okay but I am not comfortable for my child to have them now. They, the doctors, immediately backed off. At that point, I do not think they understand that ASL is a language. I do not think they do. No. They always think one thing: Every deaf child MUST have hearing aids or CIs. [I could] feel their disapproval. My child used to have a SLP [speech-language pathologist], but the Ontario government changed the policy where we the parents must choose one or another: Oral [Auditory Visual Therapy, AVT] or ASL, not both (dual). Before my child was allowed to have both (speech-language therapy and ASL). Why not now? My child can learn ASL to understand a second language (English), but no. I was told that I had to choose AVT [and that] ASL acquisition must stop altogether because [ASL] is a difficult language to learn. I was told that I MUST pick ONE, not [both] of them. They then added that there are no resources available to support learning ASL while there is plenty for oral (AVT). If I chose to have [my child] use oral language, they would provide support at daycare, at home, in school etc., but there is no support for sign language in the same way.*

This parent, as well as other parents (including my own), continues to fight for the child's right to be who they are whether they are deaf, fitted or implanted with artificial hearing devices. Parents do so by including ASL in the part of their children's language development as early as possible. This fight is a constant challenge and stressor because there will be always people, especially medical professionals whose unwarranted advice, makes parents feel like ASL is a less desirable choice.

There is another group of parents who succumbed to the pressure placed upon them, not by choice but because they did not feel they had any choice. A parent explained that the decision "was hard, because [my partner and I] decided to go with CIs. We were entirely discouraged from using ASL, [mainly from our speech-language pathologist]." As mentioned in Chapter 1, the information about benefits of sign language apparently is being deliberately withheld from the IHP website. The withholding research-based information about sign languages being natural, human languages resulting parents not aware of young deaf children's potential experience of language

deprivation. Thus, parents often are forced into making a choice instead of having everything available to them.

Parents in that situation often learn too late that limiting deaf children to learning English mainly through speech and audio-verbal therapy (AVT), rather than letting them acquire ASL naturally, may result in failure to acquire any language. Parent participants who opted for cochlear implants for their child, rationalized that they initially let "the Infant Hearing Program dictate what happened next. We went to speech therapy…we were told that [our children] would be on par with peers by the time [they] started school. [That] was not going to happen [and] we started asking questions." Being promised by medical professionals that cochlear implants and AVT alone will result in normal language development is serious harmful to young deaf children's chances of acquiring ASL. Parents often also hold the biases of the majority culture to which they belong; parents of deaf children can also share societal attitudes by upholding audistic, values and expectations. A parent from the same group confessed:

> *When my [first child] was identified as deaf, I thought, 'My child will get CIs and will be fine'. I thought that way because of how my [deaf] friend was treated, I was scared my [children] would be treated unkindly too. I do not think I told anyone that - it is not a thing to be proud of. When [my child's] speech was not moving as fast as it was 'supposed to' according to a speech-language pathologist, [they] wanted to label [my child] as "not normal." I was grossly offended.*
>
> —
>
> *[My partner and I] decided: No, we are going to try some signing with [our child]. [Our child] took off with [ASL] at aged 3. [Our child] could finally tell me simple things such as:*
>
> *IX=1 WANT MILK, NOT WATER. IX=1 EAT, NOT DRINK.*
>
> *I knew we had to continue. [My child] had hearing aids before having the [CIs]. No one in our family outside our home, except my sibling in-law, has bothered to learn ASL. I figured they would not and that scared me that [my child] would not be able to connect with those [they are] closest to.*
>
> —

> *Having a deaf child has certainly changed my perception of others—I feel more personal responsibility to be helpful to those I do not necessarily understand and certainly more accommodating.*

When families decided to incorporate ASL into their lives, parents of deaf children were often asked serial questions: *Why ASL? What for? How come? What's the point?* These questions stem from a mixture of negative attitude and ignorance towards ASL and the concept of being deaf. The following three stories are lived examples of audism (the form of discrimination, negative attitudes) which all parents experienced.

Story 1:

> *I took my children to hearing tests every year. An audiologist suggested cochlear implants (CI) for my children, I firmly said no. I told the audiologist to back off when [they] kept pushing for CIs. The audiologist did this by sending emails and texts. I repeatedly said no and explained that my children do not need any [artificial technology] to hear when they already have TWO languages. The audiologist had the nerve to ask if I want CIs. What nerve! I told that person "enough is enough. If you do not back off, I will do something about this." The audiologist has begun to understand because [they] stopped trying to persuade me to consider CIs ever since. [They] actually commented that all my children are doing great because they have languages. No concerns on the audiologist's part. Finally!*

—

> *I often encountered people saying this statement: 'I am sorry that you are deaf.' I kept telling people that I am fine and I am a professional. Even my [partner's] parents— they are so, so, so I do mean, so old-fashioned. They were so heart-broken and always took a pity on my partner for being deaf in spite of having a steady job with a great life in comparison to my partner's sibling who is a hearing adult. My partner's parents kept thinking CIs would be a solution and that would make [my partner] happy. That negative notion kept on and on until my deaf child was born. I practically threatened my partner's parents that if they mention one more 'woe is me' phrase in front of my child, they would be banned from visiting. I do not want my child growing up feeling bad about being deaf. The parents immediately changed their attitude and took ASL classes. Oh gosh, I wish they would have done that before!*

&

Story 2:

Sometimes, people ask me why I chose ASL for my child. They even ask me about my child needing hearing aids or CIs. I often tell them no; my child does not need them but would get them if they desired them. Many people do not understand that there is a spectrum of [being] deaf, where deaf people can speak, listen, or hear to a greater or lesser extent.

—

People are always puzzled and ask me questions when they hear my [child] speaks, "What is the point of learning ASL if your child can talk?" I kept emphasizing that my child is deaf even though they can speak some words.

&

Story 3:

I asked my doctors if my child could learn ASL. [I also asked the] audiologist and Speech Language Pathologist. [They] were puzzled and asked "Why?" I shrugged and answered, "My child is deaf." I explained to them that I met many deaf people who use ASL and some of them do speak English. I added that deaf people have been telling me their experiences growing up as deaf individuals.

—

One time, I had a meeting with an otolaryngologist (ENT) and I expressed that I wanted to have my child to learn ASL. All of the sudden, the meeting was over, no next appointments were made and I heard nothing from the ENT since then.

Despite these negative stories, not everyone is resisting the notion that ASL is a human language or that it benefits deaf children's learning so that they can grow up to become contributing citizens of society. Parents from my study have conveyed that forming a positive rapport and educating people are possible, especially with patience. A parent has commented, "Outside of the health care [system], people are pretty supportive in society. When people see me signing with my child in public, they always ask questions about how to sign something to my child, especially cashiers at stores." This shows that the negative attitudes apparently exist in the medical system—not in the society at large as presumed.

Parents reached out to other parents of deaf children who have gone through similar experiences and who reminded them that they are lucky to meet a few people in

the deaf community and their deaf children also are lucky for having parents who "can sign too […] because most parents do not sign to their deaf children. They do not." (personal communication, October, 2019). Parents were encouraged to strongly advocate for their deaf children by, for example, going "back to our social worker and asking for more help [and]…to get [home-visiting teachers from ASL-English bilingual schools] come to our home. It was not easy. I went to [a local college] to take an ASL course for one semester and [my partner and I] try to integrate with [ASL-using people] as often as possible."

Meeting deaf people who welcomed them into their community reassured them that they made the right decision. A parent from the interview fondly reminisced about meeting deaf individuals and coming to the realization that deaf people can grow up to lead "full happy lives, have professions. So I figured, *Why can't my child do that too?"* Like this parent, many parents, who are drawn to and welcomed into the deaf community, were surprised to learn that many other parents do not sign to their own children at home. A parent suggested that "children that are identified as deaf should learn ASL right away." To learn *ASL right away* points to an attitude that enters around the deaf children's right to learn. Opportunities to learn ASL occur in both educational and societal systems when educators and parents are fully involved in children's language processes. Once aware that ASL learning occurs within human social interaction, parents and educators are able to search out and/or create social opportunities for deaf children to interact with others using ASL, and thereby acknowledge and support the interdependent link between social context and language.

5.1.2 Accessibility

Linguistic interdependence occurs within social and educational interactions that take place in accessible, language-rich environments. When this occurs, the development of ASL as an L1 is strongly fostered and ASL can become an integral part of daily life for deaf children. In ASL immersive environments, deaf children acquire ASL through constant exposure to the language everywhere they go and language is linked to everything they see, do and feel, through incidental language exposure and direct conversation. All bilingual schools, including ASL-English bilingual schools, expect that

children are able to readily access and use language to meet curriculum expectations and thrive academically. However, the current reality for deaf children in the education system is that their access to use/acquire languages and experiences are not consistent. Many deaf children are transferred into ASL-English bilingual schools from school board programs for a variety of reasons, including increasing average class sizes that result in overstretched resources and human services. Support or accommodations for deaf children in school board programs may be reduced and/or become unavailable. For example, when, for example, a qualified ASL interpreter or an EA who is fluent in ASL is not available to employ at a mainstream school for a lengthy period of time that in turn affect young children's access to education, parents opt to remove their deaf children from those systems in favour of enrolling them within ASL-English bilingual schools.

ASL-English bilingual schools offer access to various resources and strategies which will be examined in the ASL Resources & Strategies section of this chapter. Regardless of deaf children's language acquisition history, many children experience a "double benefit" when they transfer into an ASL-English bilingual school. In an ASL immersive setting, their ASL is strengthened and becomes the foundation upon which greater English skills are built and both languages are improved. Meanwhile, parents continue to do their best with their deaf children at home following a transfer and they do so within a society that offers limited opportunities for families to acquire ASL.

5.1.2.1 Educational Systems

Quantitative question. "What formal ASL assessments do educators use to identify the language acquisition of deaf children? What is the frequency of these assessments in an academic year?" Seven educators submitted responses which address these questions through online surveys conducted for this study (Figure 5.1). Only two educators are using two formal ASL assessments two to three times per academic year. They reported using the ASL Development Checklist and the ASL-PA to measure their students' ASL abilities. The first uses a checklist of linguistic age-stage developmental milestones to assess students' ASL proficiency while the second assesses, identifies and specifies areas of strength and needs in a deaf child's comprehension and construction of

ASL. These assessments aid teachers in pinpointing which aspects of ASL need to be learned in order for the child to meet their social, emotional and academic potential.

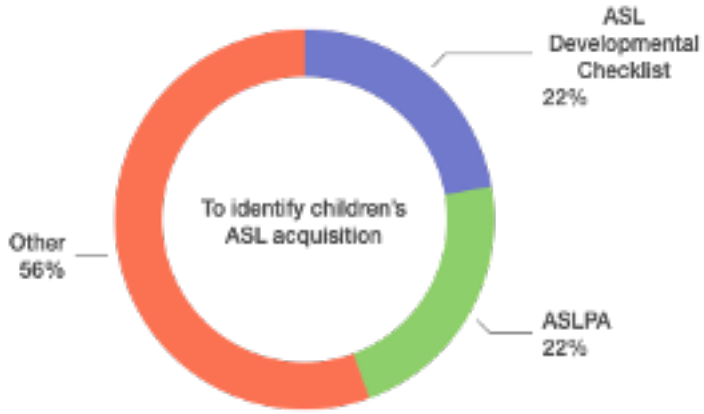


Figure 5.1. Usage of ASL Assessments.

Two respondents are ASL curriculum teachers, one of whom has extensive experience of working with deaf kindergarten students. Both teachers are deaf; one has nearly 25 years of kindergarten teaching experience before changing positions to become a full-time ASL curriculum teacher in the 2019 - 2020 academic year. The other teacher has at least four-year experience in teaching ASL. They are undergoing training regarding the use of the checklist and ASL-PA assessment tools and two other ASL-related assessments not named in the surveys: The Visual Communication and Sign Language (VCSL) Checklist and the ASL-Ontario Curriculum Centre (ASL-OCC). The VCSL is a standardized assessment that documents deaf children's ASL growth and identifies any 'red flags' in typical ASL development from birth to five years of age. The ASL-OCC is an additional assessment to the ASL Development Checklist which also identifies areas of concern regarding ASL acquisition during early stages of language development.

Five teachers, including the two ASL curriculum teachers mentioned above, reported using various informal tools as a means to assess deaf children's ASL acquisition and areas of strength and need. These tools included observational notes, anecdotal records, videos, photos and work portfolios. The recently listed assessments answer the mixed-methods question: "What informal ASL assessments do educators use to identify the language acquisition of deaf children?" and "What is the frequency of this

assessment in a year?" All teachers use the informal assessments throughout the year in their own particular fashion on an as-needed basis. Informal assessments do not necessarily require teachers to undergo specific training as they would have already received training in assessment and evaluation as part of the pre-service programs required by all Ontario Certified Teachers (OCT). The practice of informal assessments falls into the "other" category of pedagogical documentation whereby teachers gather evidence of student work using photos, portfolios, and notes which are used to assess student progress. Two EAs did not answer questions regarding assessments as they are not expected or trained to assess and monitor deaf children's language progress. EAs are, however, actively involved in discussions with teachers regarding the actions, conversations, behaviours and/or ASL words kindergarten students use during natural spontaneous conversations observed during inquiry/play-based sessions or at structured learning centres.

After completion of the ASL assessments, all educators, especially teachers, plan and implement ASL-rich programs that meet the learning and language needs of each deaf child. They start sessions with natural conversations covering a wide range of topics. In doing so, teachers are able to provide the children with "ASL vocabulary and [model] basic ASL features. That way, students apply what they recently learned into their every-day conversations with their peers.

During short sessions with specific learning goals, teachers made sure deaf children were aware that ASL is a complex language that should be studied the same way they study English as a language. ASL curriculum teachers, including the allied teachers, further ensured that deaf children discern the fact ASL is completed with phonological, morphological, syntactical, semantic, and pragmatic features (Stokoe, 1960). Other than that, educators strongly encouraged all children at ASL-English bilingual schools to interact with each other rather than solely rely on adults to communicate with one another. Teachers opted to consciously withdraw from some social interactions to reduce dependency and to allow children to practice using ASL in order to strengthen their L1. However, when it was observed that deaf children who are learning ASL were struggling to communicate with peers, educators made sure they have access to new ASL

vocabulary and grammar through repetition, rehearsal and role-play. Teachers may also explicitly repeat or describe recent actions or observations in ASL and/or use games or ad hoc language modelling during inquiry/play-based activities, all of which are pivotal teaching moments. Although all educators interviewed provided different detailed examples about how they ensure children's access to ASL one educator offered exceptional and elaborative examples as outlined below:

> *I would encourage students to increase their ASL vocabulary and complicate their ASL grammatical structures by asking, "IX=3 CAR DO WHAT?" A student would reply, "V -VEHICLE>MOVE>FAST!"*
>
> *Some students would look at me and move their toy cars around. I am just there to model the language by stating, "IX=2 C -VEHICLE>MOVE>AROUND."*
>
> *Later on, students would evolve their hand form from simple "G" to complex "V." A few students used index-finger "1" or "Co" to represent vehicles. I closely observe how students use their hands to represent certain ASL words.*
>
> *During a random observation, I saw one student who likes poems reciting an ASL poem about a spider using an ASL number system: SHH! LOOK>AROUND WALK>SLOW SPIDER! SCARED! I would be able to identify that student's interest which leads to an opportunity [to enhance] ASL acquisition.*
>
> *I would not be worried if other students are not interested in ASL poems—they might be interested in…for example, trees. I would tell a student to observe and hug trees in order to measure trees' width and height sizes: OOO [mouth morpheme to show]…thin [trunks]; MMM [to show]…normal-sized trunks; and CHA [mouth morpheme to show] an enormous sized [trunk] that we can't wrap our arms around. The student picked up [the mouth morphemes] right away from a hands-on experience and through experimental play [with ASL].*
>
> *If another student has a short-attention span on other topics but stays focused on one thing such as digging into the ground. I would come to that student and ask questions like this:*
>
> *IX=2 DO WHAT IX=3? DIG DIRT? IX=2 SEE WHAT IX=3? HOLE DEEP, IX=2 THINK WHO LIVE DOWN IX=3?*
>
> *The student would shrug and keep on digging. We would have a conversation about what is and is not living in the dirt. The student did ask me: "IX=3 WHAT THAT?" I would name it by stating, "ROCK." The student immediately went on to collect rocks and then talked about [their] colours.*

Through continual exposure to rich ASL vocabulary in an encouraging setting with lots of language mentoring and/or one-on-one sessions, educators increase the likelihood of deaf students' language development in natural, rather than therapeutic, ways. In short, all educators have a significant understanding of deaf children's learning needs, both educationally and in reference to ASL and English language acquisition. One educator commented that it is critical that ASL continues to exist outside beyond the walls of the school and into the home and community by sending ASL resources home for families to use. For example, one teacher stated "[I send home] ASL words my students and I have been using in class" to reduce frustration at home because home is the place where the children should "feel safe and feel like they are being understood. The more children can share their thoughts with their parents, the more parents learn about them. […] It is important for parents to be able to relate to their children.

5.1.2.2 Societal System

Quantitative and qualitative analysis. Although there are no research questions asking parents what formal or informal ASL assessments they are familiar with, parents were asked about what language and resources they were using in their homes with their deaf child(ren). According to data collected from parents' surveys and interviews, including Table 4.2, all parents reported use two languages, ASL and English, in their households with deaf children. Parents explained in their interviews that they have chosen to use ASL on a regular basis, either at their children's birth or by the time they enrol at ASL-English bilingual schools. One parent who uses a third language stated that they do not use it with the child. Interestingly, one parent reported knowing all ASL-related assessments and resources that were available in school, home and community. It is possibly because the parent is fluent in ASL while other parents are learning the language alongside their deaf children.

Parents identified their households as hearing or deaf and this family-identity informs the decisions of medical interventions, language choices and educational choices that they make for their deaf children. They have expressed in a different range during the

interviews that their children are either fitted with artificial hearing devices, implanted with cochlear devices or none. The choices parents made are the potential factors that ultimately impact their children's acquisition of ASL and whether or not they are able to provide an ASL home environment independently or if they will require support.

One parent stated that although all family members in the house use both languages, ASL is primarily used. The parent justified this by stating, "All my children are doing fine with two languages at their schools, because they already have a language base in the household, ASL. Even my [child] whose hearing is unilateral does well, because [they are] able to catch a whole conversation using ASL if they miss any spoken words."

Other parents reported that their households' uses of ASL differed from the example above. Even though those families attempt to use ASL at home to ensure their children have barrier-free access to information, the children often choose to reply to parents in English. The parents reported finding ASL hard to practice at home, partly because deaf children know their parents are hearing. One parent added greater detail:

> *I sometimes forget that I am speaking English when using ASL. After I realized this, I turned my voice off…My family does not sign. If the whole family gets together, everyone speaks and I sign what they say to my [child].*
>
> —
>
> *My [child] is deaf, so I use ASL. I want my [child] to have languages, especially ASL. My [child] has some hearing, but no barriers with ASL—except [I am not] not fluent. Although my [sibling] went to ASL classes and my [parent] has just retired and goes to classes as well, they—including my whole family—always speak with my [child] in English. But now, my [child] goes to [an ASL-English bilingual] school and [uses ASL] more.*
>
> *When my [child] and I were conversing in ASL, my other family members became curious. They then often would ask how to sign this and that and try to repeat what is being modelled in ASL with my [child]. I think maybe—maybe now [my child is deaf, it becomes] more real because they see [my child] communicating in [ASL] in a way [they do not see] in a [spoken] language.*

When communicating with their hearing parents, deaf children use English as a means of code-switching which is quite a natural behaviour exhibited by bilingual children. They

are instinctive and observant and are able to easily identify who is deaf or hearing. Yet, the children who started school with Stage 1-level of ASL demonstrated a slower pace of language acquisition than their Stage 2+ peers. This was made evident when comparing assessment results and observation sessions of the fall, winter and spring of the study's duration. Insufficient ASL input and ASL application at home and in the community may be one possible explanation for the slow, delayed ASL acquisition of these deaf children.

In order to increase ASL input, parents sustained their efforts to ensure that their deaf children had better access to information through ASL from a young age. One parent promoted ASL by using ASL while reading books and by using online ASL dictionaries as a quickly accessible resource for them to find different ASL words they required for family conversations and activities. Online dictionaries include Gallaudet University's "ASL Connect" (https://www.gallaudet.edu/asl-connect) and the Canadian Cultural Society for the Deaf's online ASL dictionary for children which uses ASL graphemes to construct ASL words which are then also defined using ASL (http://www.asl-phabet.com/). One parent experienced challenges when trying to find high quality, accurate and useful resources that reflects the ASL dialects and signs used in Canada. "There are so many online videos and resources and websites that it is hard to figure out which ones to use" (parent, personal communication, November 2019).

In a fairly unique case, one ASL-fluent parent described the experience of assessing resources to determine which are most beneficial for deaf children:

> *[E]ven though there is a small number of…accessible ASL resources… I love my small local community. It is a very close-knit community. It was suggested by some people [for me to move my family] to a larger community where [deaf children] have better access to ASL resources.*

To stay in their community successfully, the parent had to become an ASL-English facilitator for their deaf child at different community classes at recreation centres, gymnastic clubs, the public library and at audiocentric social events to "make sure [they have] full access to information." Furthermore, this same parent put forth an effort to

"recruit more deaf children whose [ASL is] proficient to my local community, so my child can have more options to mingle, especially at my child's age and language levels."

Not many parents have the same experience as this parent whose ASL and English skills are fluent and thereby serve as a model for deaf children. Deaf children look to ASL models to decipher information and mimic during their play through experimenting, deconstructing or reconstructing ASL to make sense of the languages. Precisely, ASL needs to be used at all times in the presence of deaf children if they are to benefit from incidental language exposure. Deaf children need this type of learning to counter common obstacles and the absence of information in order to reinforce all areas of their development and to build world knowledge. Incidental learning takes place through informal conversations, interactions, and games in home, and over-"seeing" conversations taking place in their environment at home, at school and in the community. Likewise, multimedia text such as newsletters, newspapers, comics, books, and visual arts and music provide opportunities to increase language exposure as does access to televised and social media where closed captions and/or ASL are used. Broadcast news, television shows, YouTube videos and GIFs are a few examples of language present in media. In one interview, a parent pointed out that, when sitting next to their deaf child trying to translate what was being said on television into ASL, the parent had a desire to "write a letter asking [the Canadian] government why there is no signer on every TV show. Other countries such as Cuba, Ghana, Barbados have signers on TV, why would our Canadian government not have that too?" Although the use of ASL is reportedly growing in our current society, the language can hardly be seen in television or in books at home and has no part of radio programming when in vehicles. Parents need to make incidental learning possible for deaf children so that they are able to see it all around them. In this manner, children acquire ASL when opportunities to consistently see and learn it are created (Yee, 2011).

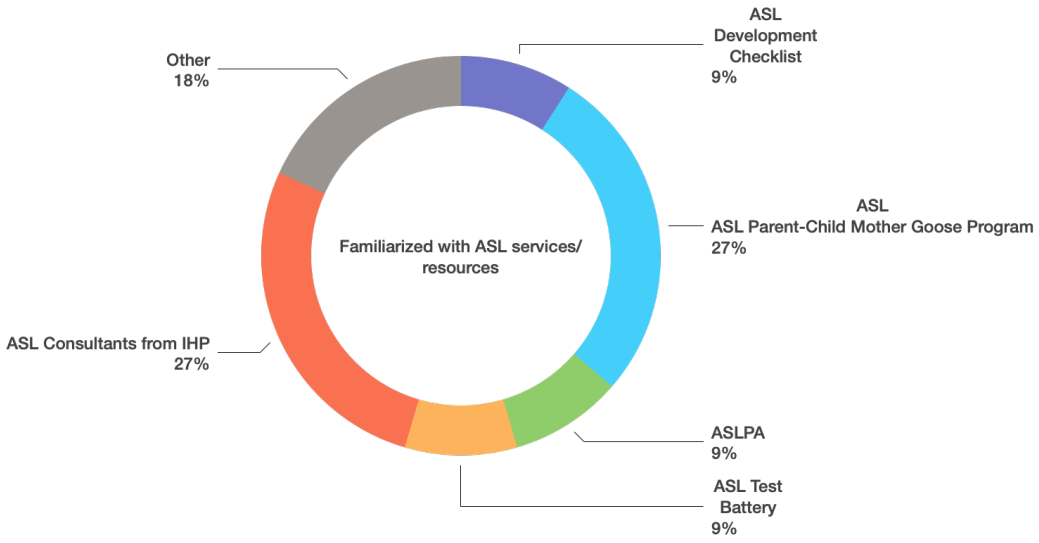


Figure 5.2. Percentage of parents reported knowing ASL resources.

A parent has confessed that "I am a slow learner—I try signing with my children as much as possible, but it is difficult because none of us are fluent." That statement may resonate with most parents of deaf children who may not be familiarized with specific ASL-related services and resources because of either insufficient information or inadequate support. As mentioned in Table 4.2 regarding languages use in familial households, the current figure (Figure 5.2) shows that all parents reported knowing ASL Parent-Child Mother Goose Program (27%) and ASL consultants from IHP (27%). However, one parent reported knowing all assessments in the educational system (e.g., ASL Development Checklist, ASL-PA, ASL-TB) while other parents do not. I wonder, if parents increase their involvement and immersion within deaf and ASL communities, would they be more aware of the assessments like the parent was aware? With that in mind, the greater the involvement, the greater the access to ASL resources and strategies that support language acquisition for deaf children and their parents. In preparation for deaf children to be consistently involved in the ASL-using deaf community, parents need someone to guide them to obtain "hard-to-find" information and plentiful active opportunity provided by the deaf community.

5.1.3 Preparations

5.1.3.1 Educators' Preparation

On a recollection of the finding in regards to Figure 5.1, educators have skills to adjust and accommodate the language and learning needs of each deaf child; however, only two teachers were in training to administer ASL-related formal assessments while training on the use of the ASL Development Checklist was pending for a third teacher. The third teacher's training has not occurred due to circumstances beyond their control: insufficient supply teacher coverage, conflicting schedules; location of the training; the trainer's availability, lack of training funds; and the COVID-19 pandemic.

Although only teachers who are already trained or in-training (including trained ASL assessors) can employ formal, standardized ASL assessments, all educators of the deaf should be familiar with ASL-PA, ASL-TB, ASL Development Checklist as well. They understand, and are expected to "know what English-related and mathematical-related resources and assessments are for. Why not ASL-related resources and assessments too?" All educator participants concurred that ASL assessments are important because they are a baseline to identify where students are at. They guide educators in their planning and scaffolding of lessons to incorporate and focus on aspects of ASL that deaf students need to be exposed to and assess their students' demonstration of applying these features. ASL assessments also are used for "two main purposes: 'pulling' students 'up' to a high standard of ASL and seeing individual students' growth." An in-training teacher explained, ASL assessments provide the data and statistics to "identify students' language acquisition and language learning process. These methods will enable students to be successful, not only with the ASL curriculum but also in other subjects. […] I try to use these ASL assessments every 2-3 months. I try to do [these assessments] 3 or 4 times per year." Another in-training teacher added that kindergarten students will be assessed and "learn their results before progress report cards. Four times a year for Year 1 […] and three times a year for Year 2 students. I also use an alternate assessment for deaf students with additional learning needs, the ASL-OCC."

Formal ASL assessments are neither simple to administer nor analyze. They are not conducive to being employed "on the spot". One educator has justified the requirement of training for such formal ASL assessments:

> *Of course training is important […] I do not want any more language deprivation happening for my students. [ASL] is their primary language. […] So, the assessment of their ASL is important because it is part of their language development. They need both languages on a path of an equal parallel, not one language ahead of another. So, if I am assessing [my students'] English skills, I have to assess their ASL skills as well—just the same.*
>
> —
>
> *ASL assessments are more important than English-related assessments. I thought so because some [children] are [experiencing] language deprivation and because they are deaf, their articulation will be ASL first. So, when they are young, they are developing and learning about themselves whereas they articulate themselves through the use of ASL. If I do not assess [students'] ASL skills, how can they articulate while making connections to English? How can they? In my opinion, they need ASL first.*

Educators who intend to use formal ASL assessments need to possess the ASL skills of a native user in addition to a strong foundation in ASL linguistics, skills and knowledge of the Ontario ASL curriculum. On that note, one educator realized that "the more I learned about ASL, the more I realized I did not know. For example, I realized there is more than just knowing how to use ASL. ASL is the complex language I need to learn in depth. I regularly went to weekly ASL mini-workshops and I was amazed." Like any other language, the use of a language and the study of a language are two separate things. The educator's statement upholds my point where I implied in Chapter 1 that not many educators are particularly trained in ASL linguistics nor have access to ASL curriculum information. Again, the availability to access such ASL linguistic information, if any, is limited to one pre-service teacher deaf education program in Ontario. Thereby, attending ASL mini-workshops available at ASL-English bilingual schools apparently is educators' opportunity to grab on critical ASL linguistic information to better understand ASL-related genres, literatures, devices, features and more.

Informal assessments are used by educators who have not been trained in using formal assessments. For instance, when teachers assess deaf children's skills and knowledge across the Kindergarten curriculum, they also watch for evidence of ASL skill development. For example, as one teacher stated as they assessed "[a student's] ability to identity colours, I did look at their miscues in ASL, especially their [handshapes]. I would model how to produce the ASL words correctly." Noting their students' handshapes while signing indicates states of fine motor skill development and its impact on ASL word formation. Having knowledge of fine motor stages along with stages of language acquisition allows teachers to discern the nature of ASL error.

As a form of assessment, one teacher used observational notes a few times per week to "see if students are able to meet the ASL curriculum's learning expectations as indicated in the ASL kindergarten program." The teacher added:

> *For example, I look at how my students produce ASL words using which handshapes. I also observe their ability to produce ASL rhyme and use ASL rhythm, including students' ability to retell, recite and create stories, all in ASL. I would check off some items in my notes if students show that they can produce certain [features of ASL]. If they do not [demonstrate these features], they can practice specific [role-shifts, body-shifts, eye-gazes, ASL vocabulary) with my support.*

Teachers assess student language use by observing deaf children's interactions with each other or with materials made available to them in the classroom or other educational settings. EAs may help document observations for the teachers but they do not administer or interpret assessments. Guided by teacher requests, the EA's role is to develop and share visual age-grade-appropriate resources that engage children while also supporting children's participation in language games, reading picture books, or referring to anchor charts and posters during activities.

A teacher rhetorically acknowledged, "Do I observe and analyze students' ASL? No, not really." Most teachers do not evaluate a student's ASL skills without consulting with the ASL teachers, ASL mentors, ASL education officers, ASL curriculum coordinators, ASL linguistic textbooks, ASL grapheme and gloss information, and ASL

curriculum documents on a regular basis. Teachers also frequently participate in ASL-related workshops, ASL professional learning communities, and ASL webinars as well. Some educators go beyond expected practice by maintaining current knowledge of ASL assessments and resources by emailing appropriate links regarding ASL-related research and resources and creating Google Drive platforms for teachers from ASL-English bilingual schools in Ontario. Although this work is very time consuming, educators of the deaf are passionately committed and trained (or in-training) to ensure that the information they hold regarding assessment and resources is current, appropriate, and beneficial for deaf children's ASL acquisition and overall education.

5.1.3.2 Parents' Preparation

Unlike educators, parents do not commonly undergo formal training to administer ASL-related assessments on their own deaf children. This section outlines parents' experiences of learning as much as they can about ASL in a society that neither values nor supports their choice to raise their child with a deaf identity and as an ASL user.

According to the interviews, each parent took the initiative in learning ASL and strengthening their ASL skills so they can promote ASL use in their households and with their families for the benefit of their deaf children. Some parents have mixed feelings about taking onsite ASL classes:

- *I am working full time, so it is hard to take a college course. I also think I am halfway through ASL Level 1, so it would be boring, but ASL Level 2 might be too hard to jump into.*

- *I took 10-week ASL classes at the CHS, but each class took 3-hours, which was difficult for me as a parent. For example, I had to pay for 4-hours of parking weekly for my vehicle for 10 weeks in a row.*

- *There are no ASL classes designed for children to take. None. Adults only. […] Where would family members such as nieces, nephews, cousins, aunts, uncles, grandparents go to take workshops or classes to learn ASL? Where?*

- *For two years in a row, I went to an ASL immersion camp. [Instructors] were really, really, really good! The camp only lasted one week for one year! At least I had a great experience learning to turn my voice off, talking to everybody at the camp in ASL and picking up so much from them. I was in awe. I learned so much.*

> *I will have to wait for one year again to be able to go to one-week ASL immersion camp.*

Apparently, ASL classes available in the society are not designed to meet the needs of parents of deaf children and are not free to them. Because of this, some parents attempt to take online courses to better fit their hectic schedules and budgets. For example, one parent found two websites: ***https://www.startasl.com*** and ***https://www.signschool.com***. The parent clarified that "The SignSchool has a 'sign of the day' email, which I like. I never actually completed any [courses] entirely, but I picked up some things."

Another parent had a different experience going online, "I do not like it because most videos I found are from the USA, not Canada. I cannot ask online ASL instructors any questions. I had to figure things out on my own. All I get from online is ASL words, just vocabulary that I have had been learning […] they do not offer full sentences [that can be replicated in] actual ASL conversations." Apparently, parents are eager to participate in language training but are facing an inadequacy of resources. One parent claimed that the experience of searching for ASL resources independently was isolating. Indeed, parents state they appreciate any support they get from ASL-English bilingual schools, ASL resource service providers and from deaf communities. They also are appreciative of resources shared between parents and between deaf children who are learning ASL. One parent pondered over different learning options and rationale for taking ASL courses, "It has been on my mind more since I think [my child] is getting to a point where ASL and English are equally comfortable, and ASL may even start getting more comfortable for [my child]."

One parent recalled that practicing and using ASL was one of the best means to prepare themselves as the parent of a deaf child and that they are in a better position to develop and sustain a strong bond with their child by doing so. Forming networks and creating new relationships with parents of other deaf children offer a feeling of belonging and shared experience. These social networks reduce stress and feelings of isolation while also increasing access to ASL resources. Workshops for families with deaf children are one such resource. The parent elaborated that the workshops offer families an opportunity "to learn ASL [for basic communication]. For example: 'IX=3 APPLE,

IX=2 WANT? POP?' There were many activities to do with deaf children in these workshops. We learned and practiced different ASL words and sentences with our children. Afterwards, I always got interested in learning [more] by going online and trying to find ASL resources. Many parents from the workshop are hearing, they would tell me about ASL resources. I also shared mine with them."

Having ASL resources and strategies readily available in Ontario for parents, deaf children and educators is crucial if language goals are to be met. The following section lists different resources and strategies that each education and societal systems have to offer. In turn, these resources and strategies inspire parents and educators to persevere in their ASL learning and use, allowing them to thrive in ASL rather than struggle as they create an ASL rich environment. Once an optimal environment has been created, deaf children can academically, socially, and emotionally develop and meet their full potential.

5.1.4 ASL Resources & ASL Strategies

Access to ASL resources and strategies are of utmost importance not only during the short window of language acquisition during a deaf child's early years, but regardless of their age. Use of these resources and strategies are applied in real-life situations which is key to children's linguistic, academic and social learning. As noted in the previous sections, since incidental learning is limited due to barriers and systemic audism in audio-centric schools, families and broader society, deaf children do not have equal access to a wide variety of information throughout the day regardless of the setting.

Ntelioglou (2011) stresses that educators should ensure their classroom learning environments "create opportunities for students to engage in meaningful experience," so that they are able to "make use of their own life experiences" (p. 596). Since educators work with deaf children on a daily basis, they must provide opportunities that expose children to appropriate language models in an optimal learning environment that supports carefully planned structured and unstructured inquiry and play-based learning areas where ASL learning and acquisition can develop naturally. Parents are attempting to do the same in spite of insufficient support by learning and using ASL as best as they can

with the ASL resources that are available at home and in their communities, either with guidance or independently. The following section provides answers to one of the quantitative questions posed in this study that is related to ASL resources and strategies. The section is divided into two parts, ASL resources (Figure 5.4) and ASL strategies (Figure 5.5) found in the educational system and one part, ASL resources/services only (Figure 5.7) in societal systems. This division and categorization allow readers to follow and visualize the information educators and parents shared through interviews and surveys.

5.1.4.1 Educational System

Quantitative question. "What ASL resources do educators use to promote deaf children's ASL development and acquisition?" While analyzing educators' pre-and post-surveys (Table 5.1 & Figure 5.3), I learned that all educators comfortably used ASL materials such as ASL video texts, ASL-related card games, anchor posters, and real-life photographs or clip-art pictures to support language development. Five educators were consistently using a variety of ASL gloss materials and leading ASL activities. Two such examples are ASL grapheme cards and/or pictures that were matched with ASL gloss vocabulary and reading ASL gloss sentences as part of a guided reading session. Some educators invited ASL-using guests and planned off-campus field trips while others were considering adding guests and trips into their programs as the year progressed. All educators reported using an assortment of ASL resources and strategies to promote deaf children's ASL acquisition and development in class, but they did so to varying degrees.

Over the course of the year, most educators' preferences and uses of ASL resources did not change. However, the greatest new development undertaken by some teachers is the inclusion of ASL-using visitors within their classrooms and planning field-trips within their programs. One educator reported that "show and tell" sessions (referred to as Show & ASL Time) has recently been implemented into their daily program as well. Real-life, hands-on experiences rooted in meaningful social interactions that are linked to ASL provides language-rich opportunities that support deaf children's language acquisition. I would argue that these experiences, when linked with language, are the foundation of accessible early-language learning. These experiences allow deaf children

to freely acquire and use ASL naturally, in an engaging manner that is child-led and not dependent on constant monitoring and intervention by the educators. A highly motivated learner who is engaged and curious about a topic, person or place, will generate authentic language skills in their pursuit of knowledge and connection.

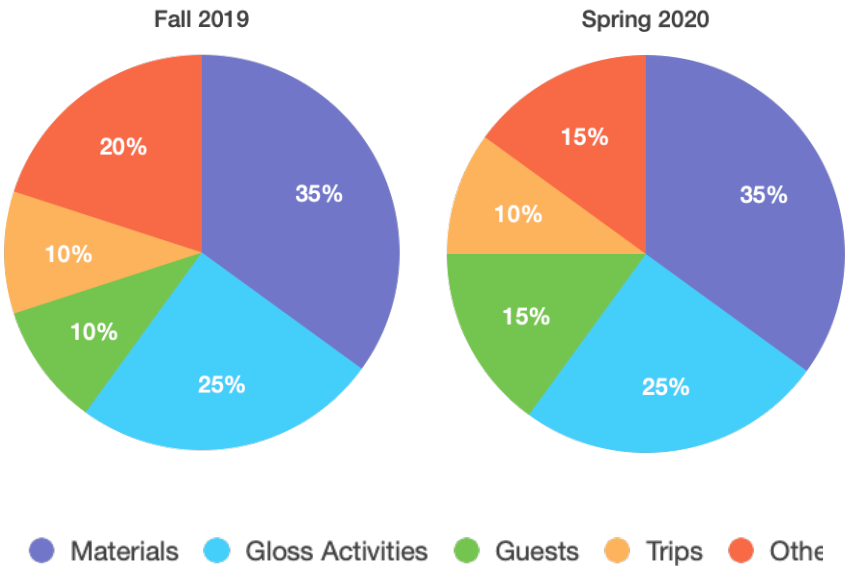


Figure 5.3. Percentage of ASL resources educators reported using in the 2019/2020.

Mixed-methods question. "Why do educators use these ASL strategies/resources, how or in what ways, and if used, how often?" Although educators had increased their use of visiting ASL-using guests as one of ASL resources in their classes by 5% as the academic year progresses, the usage of ASL materials, ASL Gloss activities, and field trips reminded the same (Figure 5.3). One EA reported that they do not usually use ASL resources such as ASL graphemes and gloss materials to engage in activities as much as they would like. The EA clarified that their role was to act as an ASL language model for kindergarten students and support students in a manner determined by the teacher. By acting as an ASL language model, the EA effectively became the ASL resource.

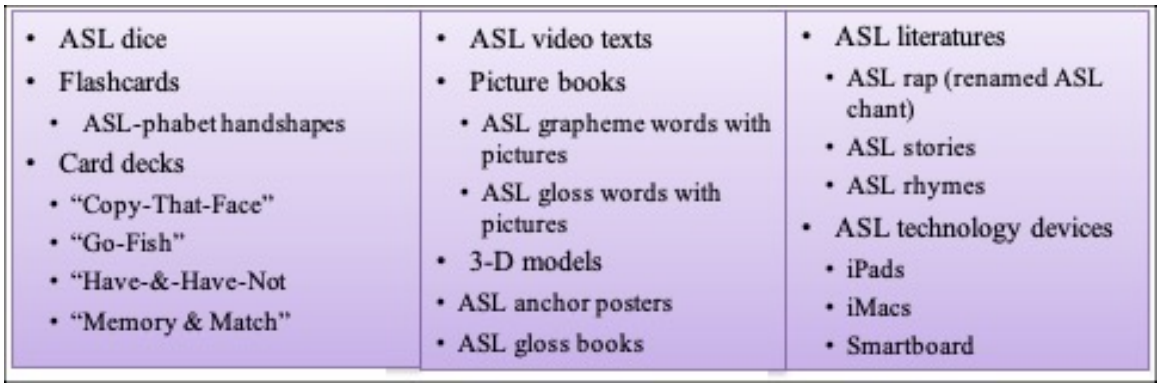


Figure 5.4. Sample of ASL Resources.

The ASL resources (Figure 5.4) are the examples educator participants most often cited as effective and beneficial for deaf students. Most educators have proposed that ASL game materials, ASL cards and ASL video texts are the most commonly used resources in their classrooms.

An educator explained that cards "are useful in class for supply teachers and as back up when students complete their classroom tasks earlier than expected. I am working on custom-made cards that can turn into a book to reflect ASL graphemes and patterns." **Copy-That-Face cards** are used to help kindergarten students develop, strengthen and identify non-manual grammatical structures and features as students mirror the picture on the card by copying depictions of exaggerating faces. **Go-Fish cards** encourage kindergarten students to increase ASL vocabulary, noun-referents, handshapes, location, movement, palm orientation, prepositions, classifiers, and brief ASL story/phrases. **Have-&-Have-Not cards** are for kindergarten students to develop an understanding of opposites such as "CLEAN," "DIRTY," "EMPTY," and "FULL." M**emory-&-Match cards** support kindergarten students with their critical thinking and memorization skills.

According to an educator, **ASL gloss-grapheme flashcards** can be used to incorporate simple written English sight words to be read by children to foster an understanding that text has meaning. When playing with these cards, kindergarten students read a written English word by connecting it with a correct flashcard denoting one of 22 ASL-phabet handshapes.

Three-dimension (**3-D) models** are made for kindergarten students to explore and experiment. They use their senses to touch, see and talk about a 3-D model with an adult. Educators choose items based on individual student interest. The student uses ASL to discuss the 3-D model's attributes such as shape, colour, texture, and weight with the educator.

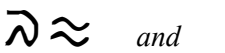
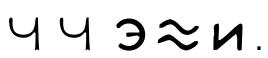
ASL dice are cubes with sides that are approximately 15 cm squared. Each of the 6 sides has a pocket. ASL grapheme cards denoting the parameters of handshape, location and movement are written in corresponding colours. Each see-through pocket is fitted with an interchangeable grapheme card. The dice are linked to numerous ASL curriculum strands, as they can be rolled by students to generate ASL words, stories, raps (chants) and/or sequencing patterns. Educators reported that some kindergarten students quickly acquire ASL when playing with ASL dice. They also note that students who enter kindergarten without sufficient ASL skills also take longer to understand the goal of the game than their peers.

Picture books are ideal for kindergarten students who are at the earliest stages of ASL acquisition. An educator explained that most books in the classroom are custom-made by the educators themselves. These books have "ASL graphemes, ASL words or [pictures of hands depicting the words] along with pictures, so [students] can recognize connections between pictures and ASL words. Most children picked up [ASL vocabulary] at a rapid pace."

The majority of educators regularly used video recording technology to capture students' use of ASL and ASL vocabulary. Teachers use **iPads** to take as many pictures/live pictures/videos as possible to capture moments of ASL use. These photographs and video become part of the educators' pedagogical documentation that can later be used for assessment purposes and placed in the students' electronic portfolios. One educator chooses to record children with an iPad stating, "I cannot hold memories in my mind and keep information. I show my students the pictures I took for them to recognize the language they are actually using. At this point, students develop basic self-assessment of their language learning." The educator added that videotaping deaf

children is helpful as it enables them to see the ASL words they are producing which provides an opportunity to self-monitor and correct their ASL accordingly.

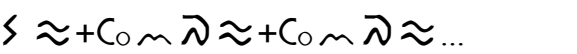
Smartboards can be used as a tool that kindergarten students use to decode, brainstorm and discuss a wide variety of topics through the use of ASL grapheme and gloss. Teachers use Smartboards to reinforce concepts of print and to understand that text has purpose, meaning and structure. ASL graphemes projected on Smartboards promote the development of students' critical thinking skills rather than parroting educators' statements and actions. An educator provided examples of using a Smartboard:

> *[A] student is confused with a word…"fall" assuming it only means one thing: a seasonal fall. I would seize this opportunity to explain to the student and class [that the English word f-a-l-l has multiple meanings] by using the Smartboard. I write "FALL" in ASL gloss, draw lines and write words in ASL graphemes:*
>
>  ,  *and* 
>
> *[In addition,] some students comfortably use ASL graphemes where they are able to make sense of ASL words, such as "PLAY" —not "Y" in English for play but "ϒ" in ASL grapheme and then complete its word with [graphemes denoting] other parameters (of locations and movements):*
>
> 

An ASL curriculum teacher who bases their teaching in experiential practice recommended that **ASL Rap** be renamed as **ASL Chant.** They state that ASL Chants are a strategy that deaf children of all ages, primarily kindergarten students, find highly engaging. ASL Chants stem from familiar stories and concepts which the teacher has already taught or referred to such as this teacher's example, "Jeni Jackerson's resourceful ASL stories." The teacher creates or co-creates a chant that follows a repetitive syncopation consisting of a 5-part beat. The beat is played as two quarter notes followed by two eighth notes and another quarter note. This would be written as "1-2 1-2-3. 1-2." Characteristics of the story or aspects of the taught concept would be clapped and

constructed in ASL to this standard syncopation and repeated, perhaps with more details added as the chant is produced in ASL.

ASL stories and ASL rhymes are both resources and strategies used to encourage comprehension, recitation and creativity in kindergarten students' use of ASL. These ASL literature resources may include kindergarten students' favourite characters, popular television shows and/or movies, or popular toys. An educator offered a detailed example of how to reinforce the acquisition and use of ASL with deaf children through story and rhyme:

> *If a child is obsessed with dinosaurs, I will to perform like a dinosaur to get this child's attention. Not only acting, I also include ASL classifiers or something that has a lot to do with dinosaurs in [my ASL words and gestures]. The [child] began to realize that by using the language (ASL) it is possible to tell a story in words, not just stomping and growling. I use ASL words to prompt the child to be creative by commenting:*
>
> *OH IX=2 DO WHAT? DINOSAUR (2h)V-CLAW* 
> *TAIL C-TAIL>LONG*
>
> *That [is an example of] the mixture of ASL words and classifiers [I use]. The [child] makes connections and produces ASL more than ever since then.*

• Model
• Ask questions
• Social Play
  • Turn-taking
  • Mingle
  • Circle-time
• Popular topics
  • Toys
  • Kid TV shows or movies
	• Translanguaging
	  • Fingerspelling
	  • Lexicalized
	• Labels in ASL gloss words with pictures
	• Inquiry-/play-based learning centres
	• Hands-on activities
		• Objects based on student interest
		• Repeat an action in ASL
		• Identify and name
		• Lessons with enrichment or extension
		• Concrete, Representation and Abstract (C-R-A) process

Figure 5.5. Sample of ASL Strategies.

Educators were in agreement that modelling the language is central to deaf children's ASL acquisition. **Modelling** is critical to the language development of deaf children who need to apply and internalize ASL as they learn it. Modelling can range from showing the children how to use ASL words and phrases in social and/or academic conversations. Modelling language during social interactions and educational activities provides an opportunity for children to learn how to infer the meaning/structures of ASL words. One educator proposed that modelling should occur during natural conversations, hands-on activities and interest-based topics if it is to have a greater impact on deaf children's language development.

Kindergarten students are encouraged to develop the language skills necessary to make requests and ask questions. The ability to **ask questions and provide answers** during social interactions and formal and informal conversations, and to acquire knowledge and information is paramount for development of the whole child. Basically, an extensive ASL vocabulary would help kindergarten students who are learning ASL to initiate articulating or producing ASL sentences other than randomly indexing-pointing at things. Repeating kindergarten students' actions in ASL is strongly encouraged by one educator participant. The following example was given. A deaf child is sitting and eating a fruit such as blueberries when an educator approaches the child and states in ASL, "IX=2 EAT BLUE+BERRY. IX=3 DELICIOUS?" The educator repeats that phrase to the child and may even expand on it. In another example, when a child accidentally slips and falls on the floor, narrate the action using ASL and repeat it with some exaggeration or emphasis, "!OH! IX=2 FALL! !OW! !HURT!"

Identifying and **naming** things deaf children are interested in will enable them to meaningfully acquire and use ASL meaningfully and with a purpose. One educator has shared a story about how to apply vocabulary through identifying and naming things in a natural conversation:

> *I usually use different ways of teaching…ASL vocabulary. For example, if today [we formally begin the study of colours, I will sign different colours and identify colours of objects students play with in hope they acquire the vocabulary and use it in return. It may take a month for them to acquire vocabulary fully before I can [formally] move on to another topic such as numbers. Just very basic.*

Another example in regards to educators referring deaf children to real-life objects in indoor or outdoor contexts:

"IX=3 CHAIR. IX=3 TABLE. IX=3 COLOUR+PENCIL."

"IX=3 LEAF LEAF>FLOAT>DOWN. IX=3 SWING...SLIDE..."

This is important for the children to make visible connections between things they see and ASL words.

Labelling using ASL gloss words with real-life pictures and items within classrooms is another beneficial strategy used to support language learning. Students see and remember, subconsciously or consciously, words that are repetitive and/or permanently part of their learning environment. Labelling is a strategy that may also maximize deaf children's incidental learning and provide a useful tool that supports their independent spelling and writing much like that of word walls commonly found in elementary classrooms. **Fingerspelling** is another skill that Stage 4 kindergarten students have typically acquired. However, kindergarten students of any language stage can develop this skill by breaking down the spelling of a word into segments, especially if the word includes double letters, small two- or three-lettered words they already know, and/or have familiar prefixes or suffixes. In addition to the fingerspelling, lexicalized fingerspelling is a complicated and different form from full formal fingerspelling, where it involves two handshapes in an ASL word (Valli et al., 2011) such as "TY" for "TOY," "CR" for "CAR".

Concrete, representation and abstract (C-R-A) **process** help teachers scaffold lessons to enhance a deaf child's understanding or experience by moving from concrete items (tangible materials that can be manipulated) to pictorial representation (pictures of real-life objects) before finally advancing to abstract representation (ASL conversation about objects without any use of pictures, real-life objects and/or symbolic reference through written text such as ASL gloss and ASL graphemes). The C-R-A process is applicable for every kindergarten student to increase their ability to acquire and

internalize ASL. For example, if water is the topic of discussion, ASL classifiers depicting verbs linked to drinking water can enhance understanding of how water spouts from the fountain and pours into a cup. Although there are plenty different ways to enable kindergarten students' ASL acquisition, using pictures and ASL words—depending on topics—are beneficial.

Although many educators regularly use the resources and strategies listed above (including figures 5.4 & 5.5), some educators choose to change ASL resources every 2 or 3 months to keep their practice fresh, include new ideas, and link resources to children's interest and areas of need as determined by formal and informal assessments. Educators make sure resources support the well-being of children by creating and selecting resources that are suited to their interest, abilities and learning styles. The acquisition of ASL resources depends on having open communication and collaboration between colleagues working at ASL-English bilingual schools. Through communication and collaboration, colleagues share resources and strategies within and between the schools, thereby enriching each teacher's practice and program for the benefit of their students.

5.1.4.2 Societal System

All parents, as reported in surveys, sometimes used some ASL resources mainly at home but they rarely used them in local communities and their deaf children's ASL-English bilingual schools. At home, parents would read books with their deaf children and tell different ASL stories. Some parents even encouraged the children to watch some ASL-related video texts.

Whilst most parents reported in their pre-surveys online that they never used any resources at the schools their deaf children attend, their interviews revealed something differently. In this instance, parents commented that once their children enrolled in ASL-English bilingual schools, they were overwhelmed with different ASL resources that were previously non-existent in their local communities. Parents stated that they received information from the schools via in-person meetings, emails, and through printed newsletters and flyers. One parent reflected upon an experience where they met their child's kindergarten teacher "at the event and I was told to take my child to a local

community library for an hour every Saturday. At the library, [my child and I] were able to play, read and converse in ASL." The parent continued:

> *There is one community-based organization in a town where I live that offers social activities for deaf children: S5 Waves. They [host events such as meeting ASL] Santa [and] pumpkins patch farm, and apple-picking [get-togethers].*

Another parent explained, "There are not many community events that benefit my children… [O]ne event happening recently [but it] felt more like a school-based community [event], rather than a community [hosted] event."

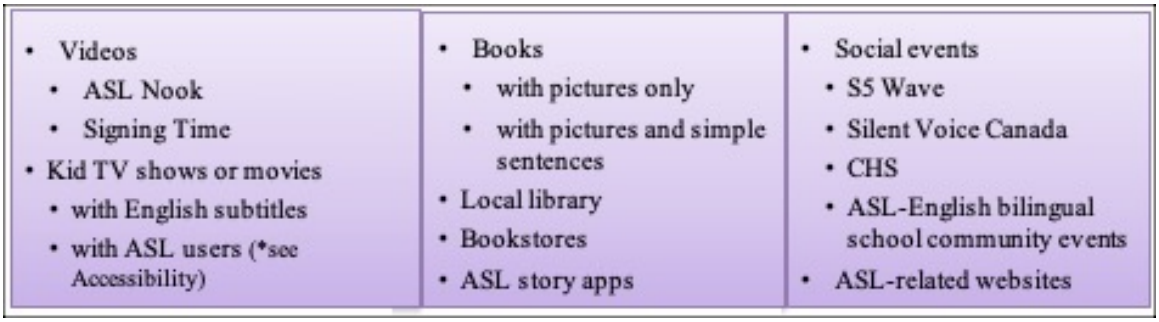


Figure 5.6. Sample of ASL Strategies/Services.

For parents, finding ASL resources in the community prior to deaf children starting their schools could be difficult. During the interviews, parents shared that ASL-related resources and services are not always available or affordable in a manner that allowed them to learn ASL (see Figure 5.6 for specific resources and services parents reported using at home and/or in their communities). Despite these hardships, parent participants were determined to maintain an optimistic view and be positive examples for parents of other deaf children.

Access to ASL resources and/or strategies in systems that promote deaf children's language acquisition is essential not only to parents, but also for educators and researchers. As Cummins' (1996) states, "the experience with either language can promote development of the proficiency underlying both languages, given adequate motivation and exposure to both in school or in the wider environment" (p. 110). The next chapter sheds light on three kindergarten participants' interactions with peers and educators while in their ASL-English bilingual school environment. Parent and educator

accounts will be included to reflect upon or support the rationales behind child participants' responses concerning their language acquisition and progress in light of the availability of ASL resources.

Chapter 6

6 Finding II

The second findings in this chapter focus on the analyses of selected transcriptions of observed sessions of three kindergarten participants. The purpose of this mixed-method study was to observe and document participants' (K1, Stage 4; K2, Stage 2—formerly Stage 1; and K3, Stage 1) actions and responses at an ASL-English bilingual school. They will be presented here in reverse order. While K2 and K3 were observed in the last two seasonal visits (Winter 2019 and Spring 2020), K1 was observed throughout my study (Fall 2019, Winter 2019 and Spring 2020). A total of 14 observed sessions totalling about 240 minutes were included in this study. Some of 14 transcriptions serve as vignettes of kindergarten participants' language use and skill progress what are depicted in detail though transcription. Understanding the information gleaned from these transcriptions was further enriched when read alongside the data which stemmed from the surveys and interviews. Furthermore, additional discussion with educators shed light on possible factors impacting the rate of ASL acquisition and student demonstration and application of their ASL skills. The observed sessions addressed two mixed-methods questions of this study:

> **Quantitative Question.** "In regards to the application or development of language (ASL) over time, what strategies do deaf children use in response to ASL resources and how often do they use them?"
>
> **Qualitative Question.** "How do deaf children respond when they interact with peers and/or adults?"

To answer these research questions, data collected from the videos and observed transcriptions were employed through mixed-methods analysis. This chapter opens with tables showing the frequency kindergarten participants used specific strategies and their responses in ASL. Participants' interactions with various ASL resources, peers, and educators is also shown. Qualitative analysis includes the analysis of transcriptions of sessions. These transcriptions, and sections of this chapter, are written using a

combination of ASL gloss, ASL graphemes, and English in order to accurately portray participants' ASL language use. A short background description of each kindergarten participant is also part of this chapter's introduction. Keep in mind, each participant is a unique kindergarten-aged child and therefore recorded observations and results will be different for each child. The findings drawn from these observed sessions provide considerable information on the participants' nature, spontaneous use of ASL and reactions to resources and strategies.

6.1 Observational Sessions: Deaf children

Each kindergarten participant, K1, K2 and K3, had interesting ways to communicate their thoughts, desires and interests through ASL words, gestures and sometimes intentional silence. Like all children, these three participants visually "listened" (deciphered), observed, experimented with and used language from birth, as per parent accounts. At ASL-English bilingual schools in Ontario, deaf children who are acquiring ASL show more assertiveness when they make requests for educators to listen to them telling stories in ASL; educators observe and support students' attempts at producing and constructing ASL during these child-initiated interactions.

Deaf children of deaf families typically advance quickly in regards to their story-telling and conversational abilities; their ASL language acquisition is generally on par with the spoken English language skills of their hearing peers. Within days and weeks of school enrolment, deaf children of deaf families are demonstrating academic advancement due to barrier-free communication and exposure to new people, places, concepts and challenges. This academic advancement continues to take place throughout the two-year kindergarten program barring any potential diagnosis of a learning disability or other factor that may impede progress.

Deaf children of hearing parents may also have some language skills depending on the level of language exposure they have had from birth to school enrolment. They have a sense of identity and their personality is taking shape. These children typically show advancement between two months and two years during the span of the kindergarten program.

A third group of children entering kindergarten consists of children who have not acquired any language yet and thus have no language skills due to extreme language deprivation. These children may not know their own name or have any home signs or gestures upon which to depend for the most basic communication. Some are not yet toilet trained and do not know the titles or understand the roles of their immediate caregivers (e.g., parents, grandparents or other family members). In this instance, a deaf child who does not have a language foundation, also lacks experience in social interactions linked with language both with peers and adults. Communication with others is strained due to the child's insufficient exposure to, and use of, communication; social skills and self-regulation skills may be severely delayed. These children require intensive, targeted ASL intervention upon enrolment into kindergarten. They demonstrate a slow pace of language acquisition and they often struggle within all aspects of the kindergarten program and beyond, sometimes taking three or four years after kindergarten to close the language gap and succeed in other areas of the curriculum.

The levels of ASL acquisition for the three groups outlined above is empirically in line with Cummins' (2005) linguistic interdependence theory. "The development of language skills [as well as] a deeper conceptual and linguistic proficiency is strongly related to the development of literacy in the majority language" (Cummins, 2005, p. 4). Observations of three deaf kindergarten participants provide insight into why children who enter kindergarten with strong ASL skills fare better than their peers with delayed ASL skills. Participants, K1, K2, and K3 are introduced in reverse order in the following section.

6.1.1 K3's Observed Sessions

K3 is a year two kindergarten student with two artificial hearing devices (cochlear implants). Their ASL level was assessed at Stage 1 as stated on the ASL Development Checklist. K3 comes from a family household that has two languages (ASL and English), but English is primarily used. A parent disclosed that K3 is "behind in learning, considering their age." An educator however praised K3's although slow but notable growth in using ASL, in particular, maintaining eye contact, index-pointing at people and objects (space), and consistently acknowledging hand wave and shoulder-taps as

culturally appropriate means of obtaining the attention of others. The educator added, "when I was reading a book and [K3] was copying and then [independently using ASL] while pointing at words and pictures, I was thinking, '*Finally'.* I could see K3 clearly understood [the information]."

Quantitative Analysis. Table 6.1 and Figure 6.1 depict the differences in frequency of K3's ASL use in two comparative observed sessions. Observed sessions were analyzed for ASL use and specific data was recorded using a coding system. K3's interaction with ASL resources in the presence of educators and peers were recorded. Their use of ASL structures and features such as space, eye-gaze, body-shifting along with strategies such as intentional silence, index-pointing, mouthing, and responding to and/or using a hand wave and/or shoulder tap to gain attention was recorded.

Based on the data collected from K3's winter and spring observed sessions, Table 6.1 and Figure 6.1 shows that K3 has increasingly relied on ASL resources and strategies to help make their thoughts and desires known as the months progressed. In addition to the analysis of K3's comprehensive observed sessions, their interaction with peers with the use of ASL is far rarer than the interaction with educators. Unless prompted by educators, K3 would intentionally choose to be quiet during work and independent play sessions. However, K3 demonstrates keen observation skills and was well aware of their surroundings. K3's usage of space matches the educator account where K3 reportedly began to use index-point in the spring what was a strategy they did not use regularly during the winter term.

Table 6.1.

Comparison of K3's frequent use during observed sessions.

DESCRIPTION	FREQUENCY (WINTER)	FREQUENCY (SPRING)
Space	3	11
ASL Structures	13	11
Eye-Gaze	68	67
Body-Shift	0	1
Application of Resources	48	70
Strategies (other)	51	61

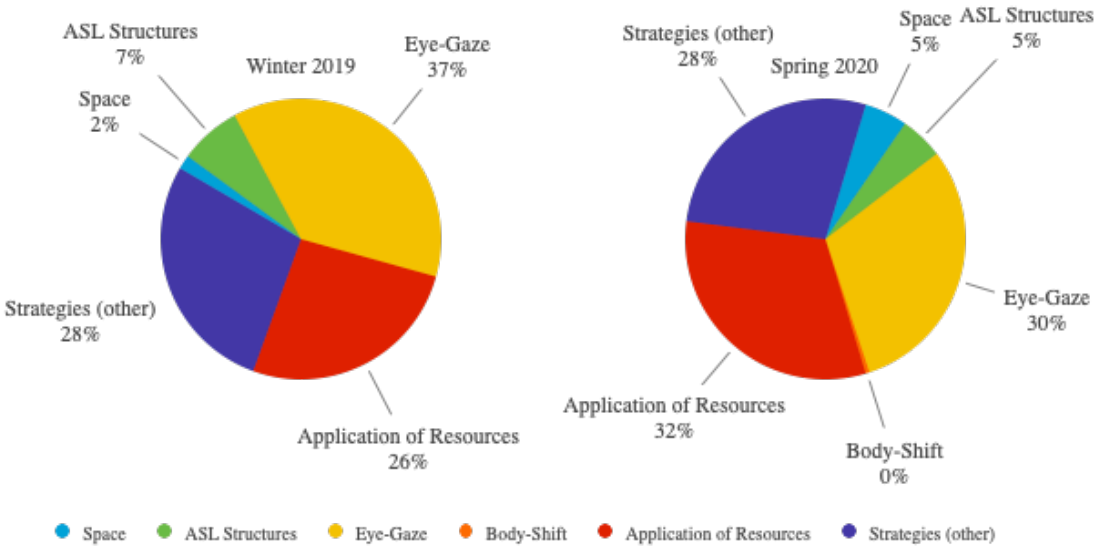


Figure 6.1. Percentages of K3's frequent use during observed sessions.

Qualitative Analysis. K3 often used strategies and ASL resources during the interactions with educators but less so with peers. The following two vignettes, the first in winter and second in spring, provide examples from observational data regarding K3's use of strategies and application of ASL in class. The vignettes are written in the present tense. Throughout the vignettes, my analysis notes are interlaced with K3's responses. These notes capture and identify the actions, unique strategies, and responses of K3 and include specific ASL features that are often overlooked.

Winter Session: *First and second-kindergarten classes come together in a class for afternoon activities: snacks and open-ended inquiry-and-play-based activities are offered in various learning areas. K3 sits quietly amongst students eating snacks. While eating and drinking, K3 looks at educators and peers talking and walking):*

1 (E2 walks and finds the path is being blocked by K3's chair and arm swaying, E2 taps K3's shoulder.)

(K3 looks up).

2 E2: EXCUSE. IX=1 ㅣ - PERSON>WALK>FORWARD.

3 (K3 looks away and keeps arm-swaying and drinking a cup of chocolate milk. E2 gently moves the arm to a safe position. K3 looks up again).

4 E2: IX=1 EXCUSE.

5 (E2 walks past and turns around to look at K3 while K3 looks back).

6 E2: THANK>IX=2.

7 (K3 watches E2 walks away. K3 picks up a foam puzzle of alphabet letters from a bookshelf. When a peer runs past, K3 moves the chair to make a path bigger. K3 continues to explore manipulative materials while eating. K3 turns around when a teacher takes K3's lunch bag to clean up. K3 finishes up the meal. Moments later, K3 stands up from the chair and walks to tap E2's shoulder).

(While being busy with a student, E2 smiles and turns to K3. K3 waves a hand as if gesturing "NO." K3 holds E2's arm).

8 K3: IX=3—

9 E2: EXCUSE—.

10 K3: —WATCH>IX=3…

11 (K3 sits back down on the chair and watches E2 modelling an ASL sentence).

12 E2: EXCUSE…IX=2—

13 K3: EXCUSE.

14 (E2 thumbs up and gets up to move the chair out of K3's sight. K3 smiles and deciphers an online movie: WIZARD OF OZ in ASL adaptation).

Note: Lines 1 to 14 part strongly imply that K3 was a keen observer and took some time to process and internalize what has been learned. Specifically, K3 has used a resource (language model) to mimic some ASL words while employing eye-gaze and other strategies (responded to shoulder-taps, moving the chair to make a path bigger for peers and educators to pass through). In the end, K3 applied various skills for successful ends.

———

20 T2: FINISH?

21 (K3 shakes head and T2 copies by shaking head).

22 T2: WHAT?

23 (T2 shakes head again while K3 looks at T2).

24 T2: WHAT?

25 K3: NO.

26 T2: NO? <u>WHY</u> IX=2 CONTINUE EAT+.

27 (K3 smiles and looks away to decipher the televised ASL show. T2 puts hands on one's chin while watching K3 deciphering the show. T2 waves a hand to get K3's attention. K3 turns to T2 and raises eyebrows as if K3 is asking "WHAT"?)

28 T2: IX=3…WHAT INSIDE WHAT IX=3?

29 (K3 smiles and picks up the cup to show T2. T2 grabs the cup and peeks in the hole).

30 T2: WHAT-IS IX=3 IX=3?

31 (K3 puts down the half-eaten bagel on the table).

32 K3: CHOCOLATE.

33 (T2 puts down the cup and K3 grabs it closer. T2 repeats K3's ASL word).

34 T2: CHOCOLATE.

35 (K3 nods).

36 T2: IX=2 KISS-FIST CHOCOLATE?

37 (K3 looks away and nods. T2 nods and laughs. T2 grabs a roll decorated as a bee and shows it to K3. K3's attention immediately shifts from the show to the toy bee while drinking. K3 puts down the cup).

38 K3: FLY! FLY.

39 T2: fs-BEE. fs-B..

40 K3: fs-B…

41 T2: fs-BEEEEEE

42 (K3 laughs and looks at T2. K3 grabs the bagel to eat and looks away).

Note: K3's kindergarten teacher used K3's favoured objects to maintain their attention and prompt K3 to independently use ASL. The teacher became the ASL resource. The teacher modelled language which included basic and complex ASL features such as raising eyebrows during rhetorical or yes/no questions (lines 26 & 36). K3 immediately experimented by raising eyebrows, thereby applying what was recently learned (line 27).

Spring Session: *A teacher and K3 work together on an individual STEM project: planning, designing and completing a bird feeder:*

24 T1: BIRD LIVE IN WHICH, IX=3? INSIDE, WHICH?

25 (K3 picks a heart-shaped lid and an empty 1-litre chocolate milk carton. T1 holds up the heart-shaped lid and asks).

26 T1: [∩ˎ-SURFACE ⚹ı-OBJECT>PUT>ON] (T1 flips the lid over) [∩ˎ-SURFACE ⚹ı-OBJECT>PUT>ON], WHICH?

27 K3: M-OBJECT.

28 T1: IX=3? (K3 nods; while holding the lid, T1 picks up the carton and holds it up. T1 raises the eyebrows and K3 nods. T1 puts it on the top of the lid) HOUSE (T1 rotates the carton in a few different positions on the lid. T1 then gives the carton to K3: HOW IX=2 WANT [∩ˎ-SURFACE ⊂-OBJECT>ROTATE>ROTATE, WHAT?

29 K3 (holds the carton and places it as a demonstration): [∩ˎ-SURFACE ⊂-OBJECT].

30 T1: fs-OR (T1 flips the lid over) [S-SURFACE M-OBJECT>PUT>ON] WHICH?

31 (K3 smiles and positions the carton under the lid).

32 T1 (nods and hand waves to redirect K3's attention to the teacher): RED…

33 K3: RED…

34 T1: FLIP [∩ˎ-SURFACE IX=3] RED—FLIP….FLIP…

35 K3: FLIP…

36 T1: RED…

37 K3: RED.

38 T1: [∩/-SURFACE IX=3]…RED [∩/-SURFACE IX=3]…(T1 nods when K3 copies; T1 gives the lid to K3 and T1 holds up the carton) WHERE (T1 holds up the carton) WHERE?

39 K3 (holding the lid): IX=3.

40 T1: CENTRE…

41 K3: CENTRE.

42 (T1 positions the lid and carton as they have previously agreed. Both nod in agreement. T1 puts them down on the floor and waves at K3 for their attention)

43 T1: IX=3 IX=3>SAME>IX=3 (K3 nods and points at other objects. T1 taps on K3's kneecap) LOOK PLAN DO? IX=3 (at the flip-chart and draws the picture as K3 deciphers with an interest) WHAT-IS IX=3? (K3 pauses and looks at T1; T1 repeats the question) WHAT-IS IX=3? HEART…

44 K3: HEART.

45 T1: HEART [(2h) ׀ -SHAPE:heart] IX=3. (T1 draws the picture and K3 nods) IX=3, WHAT-IS IX=3? (K3 looks at the objects and nods) WHAT-IS IX=3? (K3 has not responded accordingly except nodding to the fact the drawn pictures and real-life objects are the same; T1 gives K3 the marker).

46 K3 (gets up): HELP.

47 T1: HELP WANT? IX=3 (using the finger to help K3 draw following the trace T1 makes. When done, T1 gives K3 a high-five) fs-YES. IX=2 ∨ -SIT>OVER>THERE (K3 sits down) fs-OK. POS=2 HOME…

48 K3 (looks away and sees a peer's completed bird-feeder): IX=3.

49 T1 (looks at where K3 points at and nods): IX=3. WANT SAME FLOWER PUT+ (alt)?

50 K3 (nods, gets up and walks to a specific object glued in the feeder): IX=3.

51 T1 (nods): IX=3 PRINCESS.

52 K3: IX=1 (∩ ☆ ☙).

53 T1 (waves and taps on K3's shoulder): SEE LATER FIND OTHER ONE.

54 K3: IX=3 IX=1 IX=1!

Note: Unlike the winter session, K3 maintained eye contact with the teacher. K3 used space with the application of the concrete object when index-pointing. This strategy led to the increase use of other ASL features when compared to the use of the same features observed during the winter session.

———

T1 and K3 complete the hot-gluing portion of the activity.

60 (T1 holds up the carton and lid, which are glued together in front of K3).

61 K3: YES!

62 (T1 holds up a string of yellow garland to the "house/bird").

63 K3: YES!

64 (T1 nods. T1 then hot-glues the carton and puts the garland on it while K3 observes).

65 K3: MORE! MORE (T1 laughs. K3 gets down and runs to get an empty paper towel roll. K3 puts it on top of the lid).

66 T1 (takes the roll and puts it on the lid. T1 asks) WHAT-FOR? (K3 takes the roll and puts it in a horizonal position on the carton) WHAT-FOR? (K3 does not respond; T1 puts down the glued "house/bird" and hot-glues the edge of the roll. T1 puts it carefully on the carton) THAT IX=3? (K3 nods) CIRCLE [∩-SURFACE ⊂ -OBJECT>PUT>DOWN]? (K3 nods and gets down to get a small blue round lid) IX=3 FACE? (K3 nods) HOLD, RECESS TIME. RECESS TIME. BACK, IX=3 FINISH. COME>ON. (K3 slowly steps down from a child-sized foot stool).

Note: Lines 61, 63, and 65 depicted that K3 has used ASL independently. When interested, K3 would produce one-ASL-word sentence rather than looking at an educator, index-pointing and nodding.

In summary, the quantity of using ASL during conversations and activities with educators appears to be influenced by the nature of ASL resources, especially favoured objects. K3 would produce more ASL words when interested in topics such as favourite drink, food, animals, arts and during interactive STEM projects where they had choices to make. An educator from the interview described that deaf children would pick up on ASL and understand its meaning as well as its purpose by realizing: "Oh ASL is helpful. I can communicate using ASL. I can use ASL to do things." It is likely K3 will acquire and internalize ASL to the degree that they will demonstrate Stage 2 ASL proficiency before the end of next year in June 2021. Any use of ASL resources and strategies, no matter how small, will result in huge language gains for K3 and other deaf children's language learning. To ensure continued progress, K3's parents and educators are encouraged to continue to engage K3 in conversation and play. They also are encouraged to expose K3 to a wide variety of topics and concepts they find interesting in order to build their ASL vocabulary and structure, comprehension and construction.

6.1.2 K2's Observed Sessions

K2 is a year one kindergarten student with two artificial hearing devices (hearing aids), currently assed at Stage 2 using the ASL Development Checklist. K2 started the ASL-English bilingual school with almost no language; their language skills were so low that it was not possible to assess their skills using the ASL Development Checklist because there was no evidence of ASL of comprehension or use. As the autumn progressed, K2 continued to acquire ASL skills which resulted in a Stage 1 assessment in the winter term. Following my observational session in the spring, K2 has been promoted to Stage 2. An educator noted that acquiring ASL quickly is typical for deaf children. Their skills can develop in a short period of time once enrolled into an ASL-English bilingual school. The educator continued, "at the beginning, children would not understand what I [articulated in ASL] to them, but over time, they were able to repeat or tell me what happened to them in their own words in ASL. Their ASL vocabulary have been growing."

K2 comes from a household that has three languages (ASL, English and Jamaican), but English is primarily used amongst family members while ASL is used consistently between K2 and a parent.

Quantitative Analysis. Table 6.2 and Figure 6.2 record the frequency of K2's ASL use in two comparative observed sessions (Winter 2019 & Spring 2020). I coded and analyzed K2's interaction with ASL resources in presence of educators and peers. In addition to recording strategies used, K2's application of ASL features were recorded in the manner as K3. According to the data collected during the winter and spring observation sessions (see Table 6.2 and Figure 6.2), K2 began kindergarten using a lot of gestures and was easily distracted.

K2 exhibits curiosity and follows and copies the actions of their peers. K2 often would take a firm stance if in disagreement with peers and/or educators. When doing so, K2 sometimes produced ASL in a clear manner. Unlike K3, K2 often interacts with peers and educators equally. K2 ended the spring session with noticeable changes as the measure of ASL acquisition clearly demonstrates. Further, K2 also used resources and strategies to support and strengthen their ASL acquisition.

Table 6.2.

Comparison of K2's frequent use between stages 1 and 2.

DESCRIPTION	FREQUENCY (WINTER)	FREQUENCY (SPRING)
Space	28	13
ASL Structures	10	11
Eye-Gaze	73	41
Body-Shift	1	13
Application of Resources	36	63
Strategies (other)	35	45

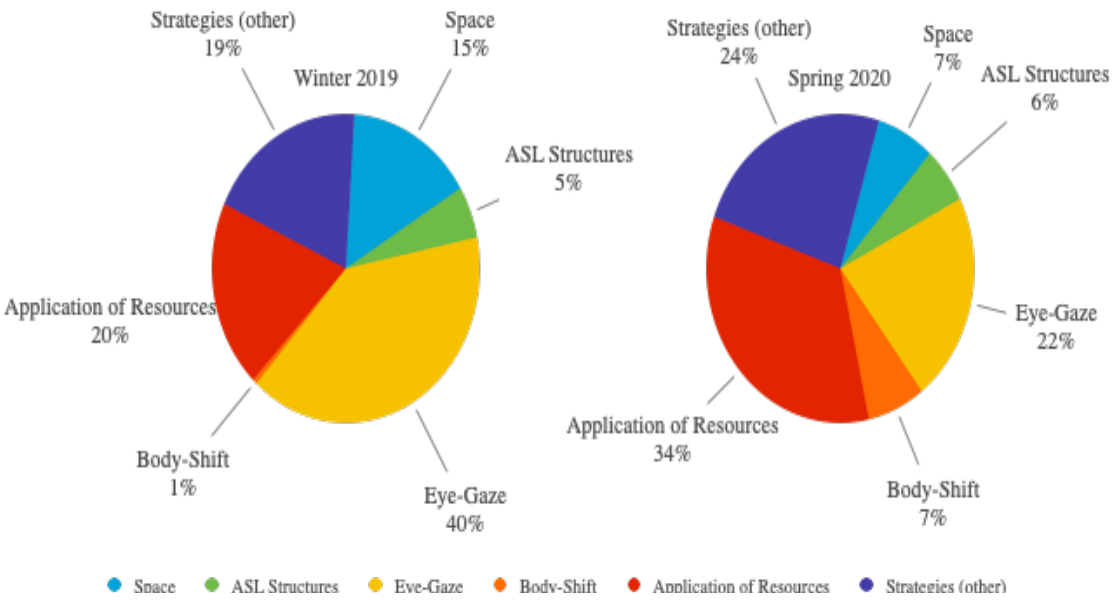


Figure 6.2. Percentage of K2's frequent use during observed sessions.

Qualitative Analysis. The following winter and spring vignettes reveal differences in K2's language development. Data collected during the observed sessions provide examples that demonstrate how K2 evolved from Stage 1 ASL use in the winter to Stage 2 ASL use in the spring through the application or absence of ASL resources and strategies during their interactions with educators. K2's interaction with non-participant peers was evident in other observed sessions but is not alluded to in this paper due to confidentiality and ethics approval. As with K3's vignettes, notes were made and data recorded regarding K2's specific use of ASL features and responses through the same coding and use of ASL gloss and graphemes.

Winter Session: *Outdoor Nature Play, educators and students are roaming woods on the school campus. K2's use of strategies is being observed in response to human ASL resources and nature, wild surroundings. K2 tries to put a hat on while wearing mittens):*

1 (K2 walks up to a teacher, taps the teacher's arm and gives the hat): IX=3.

2 (T1 puts the hat on K3's head).

3 (K2 turns around and walks away).

Note: K2 did not use any ASL vocabulary except a simple gesture. However, IX=3 is an emergent part of the linguistic acquisition that is commonly seen in the Stage 1.

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6 (T1 walks to tap K2's shoulder. K2 looks up).

7 T1: WANT ICE-CREAM RESTAURANT IX=2?

8 (K2 nods)

9 T1: YES. IX=3 (2h) Co-SHAPE:circle—

10 (K2 turns away to see where the teacher points at)

11 T1 continues: —CHAIR (taps K2's shoulder and walks as K2 turns back to the teacher in response to the shoulder tap.)

12 (K2 gets up at around the same time T1 taps K2's shoulder)

13 T1: IX=3—

14 (K2 walks to a wooden stump)

15 T1: (2h) ∩/-HAND-ON>OBJECT>ROLL>OVER
(2h) ⊂ -SHAPE:circle>PUT>DOWN SIT>IX=3

16 (K2 looks down at the stump and stoops down in preparation to pick up the stump but decides not to. K2 gets up and looks at the teacher).

17 T1: IX=2 CAN. SELF>IX=2 CAN.

18 (K2 looks back down at the stump and stoops down to lift it before stepping back when the teacher steps to help).

19 T1: IX=2 IX=3

20 (K2 kneels down on the ground and rolls the stump to the table. K2 gets up. The teacher sets the stump up-straight. K2 sits down and claps on the table. K2 then puts one of the mittens in the mouth to try pulling it off using the teeth. K2 looks up at the teacher while doing it).

21 K2: IX=3!

22 (K2 raises up one hand in the teacher's view)

23 K2: IX=3!

24 T1: WHAT WANT WHAT? (2h) ✳ı-MITTEN>TAKE-OFF(alt)?

25 (K2 nods once)

26 K2: TAKE-OFF.

27 T1: (2h) M-MITTEN>TAKE-OFF(alt)?

28 (The teacher walks to the student to take the mittens off, but they are firmly stuck. The teacher pretends having a hard time getting either mitten off. K2 smiles. Once the teacher successfully gets one mitten off, K2 exclaims to see the hand being free).

29 T1: YEAH! MITTEN>TAKE-OFF. IX=2 SELF MITTEN>TAKE-OFF.

30 (K2 processes to take another mitten but stops to watch a bowl flying off the table. K2 looks down at the fallen bowl).

31 K2: IX=3.

32 (K2 glances up at the teacher and the teacher picks it up. As the teacher begins to talk to the group, K2 turns back to the mitten).

33 (K2 waves hand at the teacher for attention and suddenly stops).

34 T1: —MORE LEAVES…CAKE!

35 (K2 deciphers carefully at the teacher who is walking to a pile of leaves. The teacher takes on a character of a monster gathering and putting leaves in the bowl).

36 T1: DELICIOUS CAKE FOR FOUR MONSTER!

37 (The teacher stomps over to the table).

38 (K2 smiles and deciphers carefully at the teacher)

39 (K2 and peers grab leaves. The bowl flies off the table).

40 K2: IX=3.

41 (K2 deciphers other peers collecting leaves. K2 turns back to the table to pick up the mitten but puts it back before turning to decipher a peer performing just like the teacher. K2 smiles).

42 K2: IX=3…

43 (The teacher walks by K2 when the peer lies down on the ground rolling around).

44 K2: IX=3!

45 (K2 watches that peer resumes the role of a monster. K2 smiles and turns to the table with the group of peers stomping hands on the table. K2 laughs and joins).

46 (K2 stops and returns to the task: getting the mitten off. K2 gets up and walks to the teacher. K2 taps the teacher's arm while the teacher is talking to a student. When done talking to the student, the teacher turns to K2)

47 K2: IX=3.

48 (K2 raises up one hand in the teacher's view. The teacher takes the mitten off. K2 runs back to the table. The teacher follows).

49 (K2 stands to pick up an empty bowl from the ground. The teacher takes the bowl. K2 tuns to see other students making a conversation with the teacher in ASL. K2 turns around to see a student walking up to the teacher and realizes that it is not K2's turn yet. K2 sits back down and smiles).

Note: Based on lines from 6 to 49, K2 has observed people's behaviours closely as they produced a lot of ASL in front of K2. Role-playings is an activity of K2's particular interest. K2's intentional silence occurred as if they were busy observing and studying peers and educators to make sense of language and actions. Instead of producing words in ASL, K2 often responded using other strategies such as smiling, nodding, gesturing, and index-pointing, including a lot of eye-gazes.

Spring Session 2: *ASL curriculum class; ASL curriculum teacher, K1 and K2 co-create ASL words, poems and imaginations. K1 sits while T3 and K2 stand behind a round table with flash cards and ASL dice (all in basic ASL-phabet handshapes):*

6 T3 asks: WHAT-IS IX=3?

7 K2: IX=3!!

8 T3: WHAT?

9 K2: ICE-CREAM!

10 T3 *nods*: ICE-CREAM RIGHT. IX=3. *picks up another card* IX=3 WHAT? WHAT-IS IX=3?

11 K2: ICE-CREAM!

12 T3 *nods*: ICE-CREAM IX=3, IX=3 ICE-CREAM. *holding the same card* IX=3?

13 (K2 is being silent).

14 T3 (to K1): HELP *K2's name-sign*. COME.

15 (K1 gets off the chair and walks closer to T3 and K2. T3 taps K2's shoulder for the attention). T3: SIT IX=3 SIT.

Note: Unlike the winter session where K2 used gesture following after index-pointing, K2 has begun to produce ASL words following prompts by the teacher (T3).

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32 (K1 pauses and looks at T3. T3 taps K2's shoulder to maintain the attention and points at the held card. K2 looks at the card). T3: POUR…

33 K2: ICE-CREAM!

34 T3 *nods* ICE-CREAM…

35 K1: POUR>OVER

36 T3 continues:…[○-CONE ✳ı-ICE-CREAM>SCOOP>PUT>ON] POUR>OVER…

37 (K1 copies while K2 watches and scratches one's ear).

38 T3 *taps K2's shoulder to maintain the attention again*: NEXT WHAT?

39 (K2 responses by biting in the air, as if to eat an ice cream cone).

Note: Although it seems as though K2 is continuing to use gestures and engaging in role-play when biting the air (line 39), K2 is actually employing body-shift as a response to the question asked by the teacher. Three-sequencing cards of how ice cream is made are being used as an ASL resource to support K2's comprehension of the topic and to produce ASL accordingly.

———

50 K2: ICE-CREAM!

51 T3 *nods* ICE-CREAM…IX=3?

52 K2: SYRUP>POUR!

53 T3 *nods*: SYRUP>POUR…IX=3?

54 K2 eagerly answers: ICE-CREAM SPRINKLE!

55 T3: YES. AGAIN. COME>ON. IX=3…

56 K2: IX=3. *opens one's mouth and pretends putting a cherry in the mouth*

57 T3: RED…

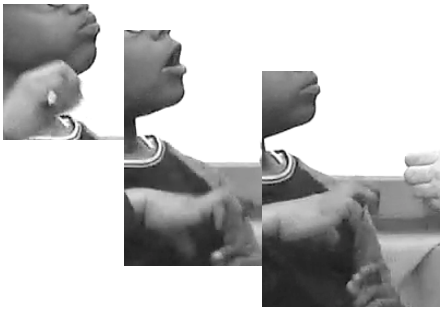
58 K2: RED—

59 T3: CHERRY

60 (K2 looks down; K1 lays one's head on the table while observing K2 acquiring some areas of ASL features).

61 T3 *taps K2's shoulder again to maintain the attention*:—[ᑕ -CONE ✳ı-CHERRY, ✳ı-CHERRY>PUT>ON>SCOOP].

62 K2: [ᑕ -CONE ✳ı-CHERRY, ✳ı-CHERRY>PUT>ON>SCOOP]!



63 T3: ONE MORE TRY SELF>IX=2. IX=3?

64 (K1 gets up and walks away. T3 and K2 continue). K2: ICE-CREAM.

65 (K2 looks around to see what K1 is doing. T3 taps K2's shoulder). K2 exclaims: IX=3!

66 (K2 looks away and keeps index-pointing at the screen. T3 taps K2's shoulder again but K2 looks away again. It goes on at least two times before K2 refocuses and answers when T2 shows the 3 flashcards). K2: ICE-CREAM….*nods*…ICE-CREAM—SYRUP>POUR. SPRINKLE.

67 T3 *nods*. YES SPRINKLE. *thumbs-up*

Note: Lines from 50 to 62 demonstrate that K2 keenly attended to a simple sequential ASL story about ice-cream. K2 increasingly used ASL features with direct support and encouragement by the teacher. Lines from 64 to 66 are the examples of K2's curiosity in the actions of their peers. This behaviour occurs each time a peer does something different from what K2 is doing (e.g., K1 at lines 60 and 65).

In summary, ASL resources, be they human ASL users or ASL materials supported K2's acquisition of ASL vocabulary. K2 developed a fondness for role-playing after paying attention to educators and peers' comments and actions. Remarkably, as observed in the winter session, K2 often engaged in silent observation of

others. Yet, in the spring session, K2 made some comments in ASL and used body-shift to indicate everyday actions. K2 has been developing and internalizing ASL because of their constant interaction with the language, in the presence of ASL-using educators and peers at school as noted in two observed sessions. Evidentially, depending on each student as an individual, they typically are acquiring and using ASL by November or December. Some students pick up ASL vocabulary slowly until one day they spontaneously use ASL in conversations.

Another educator suggested that for deaf children (e.g., K2 & K3) to acquire ASL naturally, it is important not to criticize or correct their ASL miscues too often. Ultimately, it is more important to be a consistent language model in front of deaf children, so they would pick up correct forms of ASL on their own at their own pace. Fish and Morford (2012) rightfully suggest that "educators of deaf children can capitalize on their students' metalinguistic skills in ASL" (p. 3). Learning tools that match the language goals of deaf children, like K2 and K3, can be successfully employed to achieve the ASL skills required to meet expectations of various ASL developmental stages. Reading books; playing with toys; experimenting with the ASL online with the ASL-phabet dictionary; telling and deciphering ASL stories, attending ASL event or retelling a funny episode of a favourite television show; interacting with peers and staff who model ASL; and deciphering-deconstructing ASL video texts can be all utilized with deaf children such as K2 to foster language development to meet Stage 3 goals. For K2, games and role-play are highly motivating means of developing ASL rapidly.

6.1.3 K1's Observed Sessions

K1 is a year one kindergarten student at Stage 4 as indicated in the report of the ASL Development Checklist. K1's household has two languages (ASL and English). Unlike K2 and K3's households, the primarily language is ASL. K1's strong bilingualism is based in full exposure and full access to fluent ASL from birth as this is the family's first language. K1 has had many opportunities to explore, experiment, use and internalize ASL long before enrolling in kindergarten at an ASL-English bilingual school.

Deaf children like K1 tend to be keen and ready-to-learn students who are on par with their hearing peers when they enter ASL-English bilingual schools to learn academically. They are ready to learn across the curriculum and begin their academic careers at a young age. They make continual demands on educators as they inquire about the "why's" and "how's" of their world in a quest to gain knowledge or information, a common practice of their developmental stage. They interact socially with children of any ages, especially peers who use ASL fluently and are able to code-switch with children younger than themselves (e.g., use "baby-ASL" with younger siblings). According to the parent of K1, K1 has not had the opportunity to mingle and use ASL at a Stage 4 level in conversations with same-age peers because the peers have not yet acquired the same level of ASL. As will be seen in K2's spring session (lines 13-15, 32 and 37), K1 often ends up becoming a language model for peers who are starting to learn ASL. Deaf children at Stage 4 ASL level often become language models for their peers and assume leadership roles at an early age. Whether taking a leadership role will influence the development of K1's age-stage appropriate language use is unknown.

Quantitative Analysis. I approached K1's data collection and analysis differently than my collection and analysis of K2 and K3. Keeping in mind that K1 uses ASL as a fully developed L1, I limited the coded and analyzed responses to the lessons being taught, jokes between K1 and their educators/peers and K1's application of ASL features and/or use of resources and strategies during conversations took place over the course of the observation sessions.

Table 6.3 and Figure 6.3 detail the frequency of K1's language use in three comparative observed sessions (Fall 2019, Winter 2019 & Spring 2020). K1 was an assertive student who willingly and eagerly participated in every lesson, inquiry and-play-based learning sessions, and other activities. K1 exhibited patience when waiting for peers at Stages 1, 2 or 3 as they attempted to communicate or "take the floor." K1's use of eye gaze decreased over time until it disappeared altogether. In regards to the application of ASL resources, the frequency of K1's use of them has remained roughly the same throughout the year.

K1's use of the strategies, however, varied over the 3 observation sessions: 19% in the fall, 50% in the winter and 36% in the spring. The major fluctuation in K1's use of strategies was puzzling and were therefore reviewed and analyzed again with particular attention to the data collected from the winter observation session. In doing so, it was noted that K1 used strategies 50% of the day during outdoor activity, performances, gym, mathematics and the arts. During the fall and spring, observation sessions took place while K1 was engaged in math and science activities. As observed on video recordings and in the data collected, it was noticed that K1's language use easily shifted between different topics and/or between educators, parents and peers.

Table 6.3.

Comparison of K1's frequent use during observed sessions.

DESCRIPTION	FREQUENCY (FALL)	FREQUENCY (WINTER)	FREQUENCY (SPRING)
Space	5	21	14
ASL Structures	11	12	7
Eye-Gaze	6	3	0
Body-Shift	8	0	0
Application of Resources	21	41	33
Strategies (other)	12	76	30

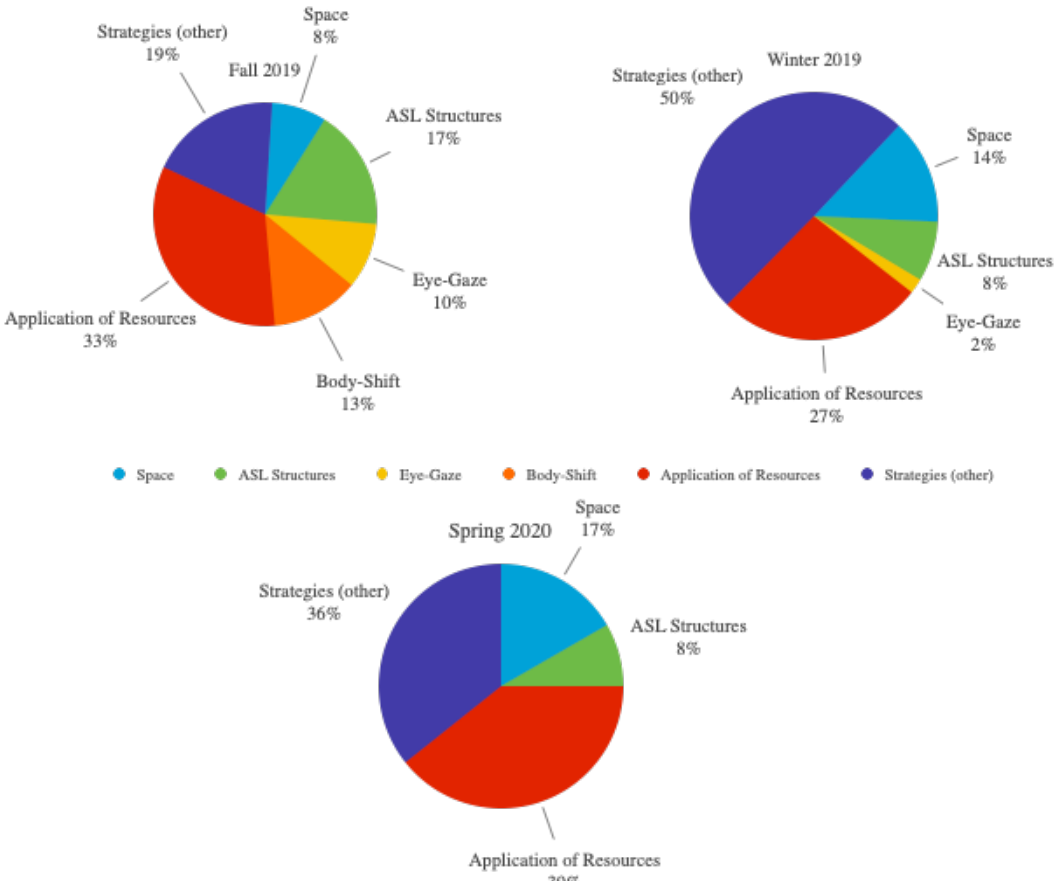


Figure 6.3. Percentage of K1's frequent use during observed sessions.

Qualitative Analysis. The following three vignettes taken from the fall, winter and spring observation session exemplify K1's ASL skills. These vignettes capture K1's ability to alter their ASL use dependent on the topic, setting and audience and move back and forth between conversational ASL use and academic ASL during their interactions with peers and adults. K1's responses to jokes are also observed. Unlike previous vignettes, I did not insert notes throughout the vignettes because K1's responses clearly reflected my observations and analysis.

Fall Session: *In a kindergarten classroom, K1 plays alone at the Play House centre. The focus in this session is K1's actions, especially transitions between play and conversations. While organizing toy foods and stuffed animals, K1 checks in at the instructional centre. At the instructional centre, the large screen of the Smartboard is showcasing a video of the class experimenting with pumpkins. K1 walks over to the instructional centre and deciphers a recorded video of their recent pumpkin-related field trip on the screen. K1 leans against the "U" table and rubs an object. When K1 sees a teacher walking past, K1 waves a hand to get the teacher's attention).*

1 K1: IX=2—(walks to the screen and carefully points at a moving person in the screen) IX=3 PUMPKIN. IX=1 IX=3. IX=3 *a peer's name sign*. IX=3…*another peer's name sign* WHERE *a different peer's name sign*?

2 T1 *not shown in the observational video*

3 K1: WHY?

A peer interrupts by tapping K1's shoulder.

4 K1: IX=2 (shake heads) WATCH IX=3 (index-points at the screen).

5 K1: (nods) YES!

K1 returns to the Play House and the peer joins. K1 opens a door of a toy fridge and points at an object inside.

6 K1: IX=3—(turns around facing the peer) FOR LATER. fs-OK? fs-OK?

7 K1 (K1 closes the door of the toy fridge) fs-OK.

Both the peer and K1 walk to a Play House dining table. K1 sets up cups on the table and gathers the kitchen tools. K1 turns to the peer.

8 K1: fs-OK IX=2 COOK.

K1 walks away to get chairs. The peer joins to help.

9 K1: FINE.

K1 returns to the Play House while the peer carries a chair. K1 continues searching for kitchen supplies to set up.

10 K1: (shakes head) FIRST EAT SUPPER. (nods) SUPPER! IX=2 WANT JUICE?

11 K1: ORANGE? ORANGE IX=2 WANT? fs-OK. fs-OK.

A parent walks in, K1 turns and explains to the parent.

12 K1: *the peer's name sign* WANT ORANGE. IX=1 TAKE ORANGE AND lexicalized fs-ZZA (pizza).

K1 turns away smiling.

Winter Session 3: *In a kindergarten classroom. An interactive math lesson during snacks:* Calendar, months, days and numbers. *At the "U" table, students sit and eat while deciphering a teacher, in a frog hat, shuffles a deck of cards):*

1 T1: IX=1 *T1's name sign*. *sticking a tongue in and out of the mouth*

2 T1: IX=1 *T1's name sign*.

3 K1: IX=2 FROG! *laughing*

4 (T1 shakes head)

5 T1: IX=1 *T1's name sign*.

6 K1: IX=2 FROG! !FROG! *laughing*

7 (K1 eats a yogurt and observes T1 performing as a frog looking at a fly. T1 pretends to catch the fly with the tongue).

8 T1: IX=1 SWALLOW.

———

47 (T1 puts away the flashcard and picks up a different flashcard: DECEMBER. T1 shows it to the class).

48 K1: !SNOW! SNOW>FALL

49 K2: IX=3.

50 K1 continues: SNOW.

51 T1: IX=3 fs-DEC! NOW fs-DEC! LAST MONTH THIS YEAR TWENTY NINETEEN. NEXT MONTH WILL WHAT? TWENTY TWENTY! NEW YEAR. NOW. fs-DEC MONTH. WHAT-HAPPEN—— WHAT-HAPPEN THIS MONTH?

52 (K1 smiles and shrugs).

53 T1: SOON WHAT-HAPPEN…

54 (K1 watches carefully to figure out what ASL word T1 is planning to produce).

55 T1: ᑕ …SURFACE…

56 (K1 smiles).

57 T1: SURFACE…ᑕ … ᑕ -CHOP+!

58 (K1's smile fades and laughs)

59 T1: ᑕ … ᑕ -SWEEP>LEFT>RIGHT?

60 (K1 laughs and shakes head)

61 T1: ᑕ … ᑕ -HOP>UP>DOWN?

62 (K1 laughs and shakes head).

63 (T1 shakes head).

64 T1: WHAT?

65 (K1 shows T1 a correct position; a proper palm orientation).

66 (T1 copies and then hand-motion the handshape, ᑕ)

67 K1: CHRISTMAS!

68 (T1 picks up the flashcard)

69 T1: IX=3 fs-DEC.

70 (K1 bounces).

71 K1: !YAY!

———

135 T1: STAND. STAND>UP. STAND. STAND. READY PATTERN DANCE PATTERN. READY?

136 All class in unison: GIFT. CANDLE. GIFT. CANDLE. GIFT. CANDLE. GIFT. CANDLE. GIFT. CANDLE.

137 T1: ONE MORE. IX=3 GIFT. IX=3 CANDLE. IX=3 GIFT. IX=3 CANDLE. IX=3 GIFT. IX=3 CANDLE. IX=3 GIFT. IX=3 CANDLE. IX=3 GIFT. IX=3 CANDLE. IX=2…CHAMP.

138 (T1 puts the frog hat on K1's head. K1 accidentally pops a button off).

139 T1: SEW LATER. COME. AROUND IX=3 STAND.

140 (K1 follows).

141 T1 (to the class): IX=3 WHY HAT *K1's name sign* WHY? IX=3 *K1's name sign* PATTERN CHAMP IX=3!

142 (K2 looks away but T1 redirects K2's attention to the class).

143 T1: LOOK>IX=3.

144 (K2 looks away again and index-points at a bean chair).

145 T1 (at K1): WHY IX=2 HAT? GIFT?

146 K1: PATTERN CHAMP!

147 T1 (to the class): IX=3 PATTERN CHAMP IX=3!

148 (K2 jumps in joy).

149 T1: GIFT. CANDLE. GIFT. CANDLE. GIFT. CANDLE. GIFT. CANDLE. —— IX=2>WATCH>IX=3.

150 (K1 walks to the calendar and points at each posted card. K1 looks at T1).

151 T1: MEAN WHAT? TOMORROW NUMBER WHAT? ONE. TWO. THREE. FOUR. FIVE. SIX. SEVEN. EIGHT. NINE. TEN. TEN…NUMBER TOMORROW WHAT?

152 (K1 looks at the calendar).

153 K1: ELEVEN.

154 T1: ELEVEN. WILL—

155 K1: TWELVE -THIRTEEN-FOURTEEN-FIFTEEN-SIXTEEN-EIGHTEEN-NINETEEN…TWENTY!!

156 T1: WOW. !FAST!

157 K1: WHERE TWENTY?

158 (T1 smiles and shakes head).

159 T1: NOT TOMORROW. CHRISTMAS SANTA COME WHEN? IX=3…

160 (T1 picks up a card of a Christmas tree. K1 exclaims).

161 K1: !IX=3! IX=3 IX=3 CHRISTMAS TREE! !TREE! TREE…WILL SEE IX=3. IX=3 CHRISTMAS SANTA! MANY PRESENT+.

162 T1: OTHER SPECIAL DAY TOO.

Spring Session: *In Kindergarten classroom, K1, K2 and K3 work on their individual STEM projects with T1's guidance: bird feeders. They are located at the craft and arts centre, the table is scattered with recyclable materials and other art supplies. A divider is being set up to minimize external distractions):*

6 (T1 reaches into a large ziplock bag and takes out a few coloured circles. T1 shows K2 the circles. To K1, T1 explains) CIRCLE COLOUR VARIETY. IX=2 CAN USE DECORATION. (T1 puts some circles down on the corner of the table, between where K2 and K1 are sitting. K2 continues exploring the bird-feeder while K1 curiously explores the circles. T1 grabs the same ziplock bag and holds it up for K1 to see—coloured flower heads. K1 smiles and attempts to get the bag.)

7 K1: THAT—

8 T1: —FLOWER FOR DECORATION—

9 K1: —FLOWER—

10 T1: PUT+ (alt)—

11 K1 (waves at T1 while T1 puts down the bag): AND TOO EAT TOO.

12 T1: FOOD IX=2 YES, RESTAURANT IX=3 (at K1's bird-feeder) MAKE LOOK SAME RESTAURANT!

13 K1: YES. THAT IX=3 (at the bag filled with flower heads) AND—

14 T1: KIND FOOD? PUT+ (alt) KIND FOOD IX=2 WANT PUT+ (alt) IX=2 DECORATE WHAT?

15 K1: IX=1 PICK SELF>IX=1.

16 (T1 picks up a silver pail filled with toy foods and gives it to K1. K1 explores inside the pail and takes out ice-cream cones. T1 supervises quietly as all students work away).

17 T1 (picks up and sets up a few toy foods in order that K1 takes out and identifies; K3 looks) ICE-CREAM CONE. CHOCOLATE CAKE. BAR. IX=3 SPIRAL>TOP. IX=3 APPLE PUMPKIN (picks up an item and nods; K3 ignores and re-focuses on the pink sheet) CELERY TOMATO CUCUMBER MEAT (K1 looks up at T1 identifying toy food items K1 picks out) LETTUCE. IX=3 FLOWER. ICING FLOWER. CROISSANT. (T1 looks on K1 reaching something out of the pail. K1 puts something small and blue—a princess on the table) PRINCESS IX=3! (K1 nods; T1 picks it up) IX=3 FOOD QUESTION IX=3? (K1 nods). IX=2>LOOK>IX=3 IX=3, FOOD IX=3? (K1 nods and smiles. T1 smiles back). IX=2 FUNNY. IX=3 HOLD (T1 puts the toy princess on the table; K1 continues exploring inside the pail).

———

34 T1 (nods): SOON. IX=3 (at the bird-feeder) FIRST FINISH DECORATION (moves the feeder closer to K2. Turn to K1 who pretending eating toy food items) fs-OK. PICK WHICH ONE POS=2 FAVOURITE FOOD FOR BIRD DECORATION PUT>IX=3 BIRD RESTAURANT. (K1 picks a spiral-top item and raises eyebrows as if K1 is asking if it is the one to be used on the bird-feeder) SPIRAL-TOP FOR IX=3?

35 K1: ICE-CREAM (K1 puts a cone and the spiral-top together).

36 T1: ICE-CREAM [-CONE -ICE-CREAM>SCOOP>PUT>ON]? WANT? (K1 nods) fs-OK. WILL DECORATE IX=3. PICK ONE MORE IX=3# WHICH. (T1 holds on K2's feeder while K2 takes out some seeds) fs-SEEDS (turns back to K1 and shakes head) ONE. (holds up two toy chocolate bars and K1 picks one).

———

61 T1 (to K1): GO IX=3 E-GLUE>SPREAD. (T1 takes K1's feeder and gets up).

62 K1: GIRL? GIRL…(looks for the blue toy princess and gets distracted by the pink plastic sheet. K1 picks it up and looks at different faces. K1 thumb-punches and twists a plastic face free).

63 (When realizing the students are not following behind, T1 walks back and mentions them to join to a different craft area. T1 takes K2's feeder and K1 picks up the selected items. They follow T1 back to the counter where the hot glue is located. K2 moves the child-sized foot stool and stands on it. K1 joins).

64 K1: WHERE GIRL?

65 T1: …

66 K2: HOT!

67 T1 (nods): HOT.

68 K1: WHERE GIRL?

69 T1: TWO CAN USE IX=3 (picks up the hot glue. K1 looks around. T1 waves) LOOK>IX=3 (K1 is not sure where to look at) GIRL PRINCESS IX=3 IX=3.

70 (K1 looks right at the item and runs to get it before coming back to the counter).

In summary, K1's vignettes clearly demonstrate a natural, self-initiated ability to intermediate between educators and peers in addition to a visiting parent during one

session. There were several instances in the vignettes where K1 was observed using ASL resources and strategies. Additionally, K1 was observed asking questions for the purposes of clarification, confirmation or locations (e.g., fall session, lines 1, 3 & 11; winter session, line 157; and spring session, lines 34, 64 & 68). Unlike deaf children at Stage 1 and Stage 2, K1 has extensive ASL vocabulary, exemplary comprehension and strong use of ASL features and ASL grammar. K1's level of language acquisition allows for full sharing of information, thoughts, opinions, feelings and jokes. Overall, K1 is a typical 4-year-old bilingual kindergarten student who is eager to learn, play and is willing to help friends.

Chapter 7

7 Introduction

The purpose of this study was to maintain a critical transformative stance to address the following mixed-methods questions:

Quantitative Questions

1. What formal ASL assessments do educators use to identify the language acquisition of deaf children? What is the frequency of these assessments in an academic year?

2. What informal ASL assessments do educators use to identify the language acquisition of deaf children? What is the frequency of these assessments in an academic year?

3. What ASL resources do educators use to promote deaf children's ASL development and acquisition?

4. In regards to the application or development of language (ASL) over time, what strategies do deaf children use in response to ASL resources and how often do they use them?

Qualitative Questions

5. Why do educators use these ASL strategies/resources and how or in what ways are they used? If used, how often?

6. Which of these strategies and/or resources positively or negatively impact educators' professional opinions of children's ASL development?

7. How do educators' beliefs and/or practices challenge or reflect larger discourses of how ASL has been historically viewed by society at large?

8. How do parents' practices both challenge and reflect discourses of ASL in society at large?

9. How do deaf children respond when they interact with peers and/or adults?

The findings shared in chapters 5 and 6, were produced in a narrative form regarding the ways educators, parents and deaf children use and respond to the presence and/or absence of ASL resources in ASL-English bilingual schools.

In this chapter, the implications of this study will be discussed. The culminating chapter considers the scope of analysis of the data collected from surveys, interviews and observational sessions of three kindergarten participants' interactions with, and use of, ASL within ASL-English bilingual environments. An exploration of my current study's limitations in addition to its significance and contribution to existing knowledge and application is presented. The practice of the study will reveal my newfound commitments for further future research.

7.1 Implications of the Findings

All findings from the raw data collected and analyzed during the course of this study are pertinent to understanding the language acquisition of deaf children enrolled in Ontario's ASL-English bilingual kindergarten classrooms. For the purposes of this dissertation, the findings I gathered are limited to the goal of this research: Determine whether or not L1-related resources, including assessments, available in educational and societal systems in Ontario, are accessible and adequate enough for deaf children to be able to acquire ASL. I wish to advise in advance that the previous and following findings echo the concept of linguistic interdependence. Linguistic interdependence theory provides an analytic lens to study the importance of inculcating a strong language foundation in deaf children to enable comprehension of the world and to engage in discourse at both conversational and academic levels.

Based on my experience and empirical evidence from this study along with my previous Master's research with the linguistic interdependence theory in mind, the following two key recommendations are put forth with transformative and proactive

ideas. Furthermore, the proposed suggestions below may prove to elevate deaf children's well-being and language development. They are presented in bullet points.

Key recommendation #1. Early exposure to, and consistent application of, ASL have a significant impact on deaf children's language acquisition to be better engaged in conversations and interactions with ASL-using parents, educators, and peers. In doing so:

- Ignore a flawed notion that deaf children who are learning ASL are unable to understand a word;
- Keep deaf children engaged in conversations whenever possible;
- Utilize social play as children move from stages of solitary play to parallel play to collaborative play;
- Use ASL on a daily basis in a variety of settings and in a variety of contexts with a variety of ASL users; and
- Provide and support collaborative partnerships between school, home and community with an emphasis on the provision of intensive, specialized, and ongoing low/no cost ASL workshops, classes and/or activities for families with deaf children.

Key recommendation #2. Increased access to ASL-centric opportunities within the education system, and more broadly in society, will increase deaf children's cognitive, personal, social, and emotional development by linking all aspects of their lives to language. As their language develops, so too will all other aspects of their lives, thereby resulting in the well-roundedness and well-being of the whole child. Full access to language builds a strong L1 foundation that leads to further inquiry and experiences. This further strengthens the foundation thereby creating a cycle of ever-increasing language competency by linking language to authentic experience. Humphries et al. (2013) suggests that "learning [ASL] is the only reliable way of ensuring that a deaf child gains language and thus is protected with respect to equal opportunities" (p. 873). It is of the utmost importance for deaf children to have a stronger L1 which will make more learning opportunities possible and increase their overall academic performance at

schools. This can be done by:

- Interacting with deaf children and employ ASL resources when doing so. Incorporate ASL resources and strategies into all facets of the kindergarten program, and across the curriculum in formal and informal ways;
- Encouraging deaf children, especially those assessed at stages 3 and 4, to participate in critical-thinking discussions where inferencing, prediction and comprehension skills are challenged and practiced via adapted ASL Bloom's taxonomy questions;
- Ensuring children who have already reached age-stage ASL language skills continue to be provided with opportunities that will support ongoing development of their cognitive, personal, social and emotional skills through interactions that employ conversational and academic vocabulary, word choice, awareness of audience, changing register and other aspects of higher order thinking;
- Actively introducing children to as many age-appropriate Canadian ASL video texts created by and for the deaf using deaf talent and fluent ASL-using individuals whenever possible through a variety of formats (social media, YouTube videos, live-streaming shows; monitor carefully and assess the quality of the ASL modelled);
- Eradicate systemically held attitudes of oppression (audism) towards the deaf and ASL by:
    - Eschewing "special education" status of ASL-English bilingual schools in favour of a "language immersion" status;
    - Ensuring that pre- and in-service teacher education and deaf education programs value ASL and that teacher candidates understand, demonstrate support, and have the skills to work towards ASL-English bilingualism;
        - Taught by deaf faculty, including certified ASL-English teachers, who are experts in the pre- and/or in-service programs regardless of the number of teacher candidates.
- Actively invite ASL-English bilingual experts (e.g., researchers, educators, parents, members of deaf community, etc.) to apply to positions of influence and to participate in decision-making organizations, panels, meetings, conferences,

presentations, workshops and events that policy-makers host and attend through accessible electronic channels;

- Provide free access to ASL resources for parents and educators through open-sourcing, monetary grants, release time for professional learning communities and other professional development, development of ASL resources, materials, and interactive software/programs;
- Create opportunities to enhance and increase collaboration and partnership between educators, parents, educational coordinators, ASL curriculum teams, school administration and Ministry of Education officials;
- Provide services of ASL/LSQ/Indigenous Sign Languages linked to all aspects of community engagement, including but not limited to daycare and preschool programs, recreational programs, after-school/extended day programs, sport leagues, lessons and clubs; and
- In tandem with the suggestion above, have members of deaf community, families of deaf children, sign linguists, sign language-related organizations involved in advocating to policymakers of Broadcasting Act and Telecommunications Act to incorporate sign language interpretation options for all televised programming in addition to closed captioning options. Doing so will make programming more accessible for deaf children who are not yet able to read captioning. Concurrently, improve the quality and increase the scope of closed captioning services.

The recommendations listed above emphasize that the acquisition of a strong L1 in ASL is of primary importance for the optimal development deaf children's cognitive, emotional and social skills. "Language mediates the child's relationship to his or her world and the child's identity is formed through linguistic interaction with other people" (Cummins, 2006, p.1). To support this view, there is one educator who shared a resonating statement in regards to the importance of having ASL as an L1 in order to acquire (and interdependent) another language (English):

> *Students need to be 100 percent immersed into ASL if their acquisition of a second language, English, is to improve. There is a structure—a bridge—a bridge between two languages. I know these two languages are not the same;*

> *they cannot be perfectly aligned. If we choose to focus on English only, students would end up just copying us…students would not be able to make meaning of (or internalize) these English words… If students learn ASL first, and they would gain an understanding of the language by internalizing it, [they can] then bridge to English as a second language. They would understand English better because of the ASL they have in their lives. For example, if I explain to my students a quotation mark:*
>
> *"That is the quotation mark [which is used to indicate what is being said by] a person who is talking."*
>
> *They would not grasp the meaning. [But] if I refer to ASL to…discuss the meaning of role-shift (rs)…I would shift my body to different sides and take on characters, at that point the students would get it and make a better connection with the meaning of English [use of] quotation mark.*

The recent key recommendations include those explored in chapters 5 and 6 which complement Creswell's (2007, 2014) claims as mentioned in Chapter 1: the critical theory. Critical theory is a motivational source stemming from the researcher's desire to understand and transform through action that in turn benefits society, including transformative change within social and educational systems.

7.2 Limitations of the Study

I undertook my mixed-method research project beginning in the autumn of 2019 with data collection culminating at the beginning of March 2020, just as schools closed due to the COVID-19 pandemic. The data collected provided evidence of significant progress in language acquisition for kindergarten students assessed at Stage 1 and 2. The improvement of language skills was due in part to the application of ASL resources and strategies in formal and informal settings at school. Progress was noted when data collected during the three observational sessions at the beginning, middle and end of the school year was analyzed. This evidence of progress is important because, as most educators from my research have claimed, almost all deaf kindergarten students who started at ASL-English bilingual schools in September, did so with little to no language as shown in Chapter 4.

Video-recording was the most valuable tool in my research. Video records captured the subtle use of many strategies and actions of deaf children as they responded

to educators and resources. For instance, during a rehearsal for a winter-themed play, a teacher asked a child, "Where is your position as a bee?" The child, though being intentionally silent, responded with an eye-gaze to a stage. The eye-gaze is an early strategy the child utilized to demonstrate their comprehension to the teacher. Subtleties such as this would have gone unnoticed without a video record. Recognizing the use of these strategies allows for recommendations to be made to the educator in order to improve their practice by watching for the child's use of these strategies. In this instance, the teacher could have explicitly acknowledged the eye-gaze and modelled ASL by stating, "Yes, you are right! Your role as a bee is on the stage," before requesting that the child rehearse then make the statement, "I'm going up to the stage to act like a bee!" But without noticing the use of the eye-gaze, the teacher escorted the student to the stage instead.

There were limitations to this study due to the difficulties recruiting and retaining educator, parent and child participants from an already small pool of potential candidates. The small numbers involved in the study restricted the depth and scope of the project in regards to the possibility of additional resources that may have gone unmentioned. In terms of retention, only one educator-participant decided to withdraw from the study before it began. Two parent-participants did not complete the post-survey due to competing interest for their time, lack of availability, and presumably the stress caused by the COVID-19 pandemic. This study also lacked a child-participant assessed at Stage 3 of the ASL Development Checklist. This impacted my data collection that may have provided my research with valuable information regarding the strategies and resources a Stage 3 language- user may typically use in kindergarten. My curiosity remains.

In order to understand more about the potential contribution to language development and acquisition of deaf children with the incorporation of ASL resources, it would be beneficial if future research were to increase the sample size of all participants and the inclusion of school boards. With a team of Canadian deaf and ASL-using researchers and participants, an extended study outside of ASL-English bilingual schools in Ontario would be possible. Although there were indeed limitations of this study, the participants who were involved provided an in-depth understanding of their experiences,

interactions and ASL the children used. This provided not only valuable data for this study, but also optimism that there is more rich data to be mined through further study through the recruitment of additional educator, parent and child-participants.

This study serves as my humble contribution to a rapidly growing academic discourse of bilingual deaf children's language acquisition within the fields of applied linguistics, ASL studies, deaf studies, deaf education, bilingualism, language acquisition, and policy studies. In regards to policy creation, this study also serves to inform the Ontario government, where policymakers are invited to consider my research findings and recommendations in respect of the Education Act. Ultimately, it is my wish that the information contained in this paper will be shared with a number of people: policy analysts and policy makers; professionals working in the medical, educational and language therapy fields, the administrators of Ontario's ASL-English bilingual schools, public servants and ministers working in the Ministry of Education and the Ministry of Children, Community and Social Services.

7.3 Conclusion

This study proved that the presence of appropriate L1-related resources is necessary in improving and ensuring the development of language skills deaf children must acquire to use and internalize ASL. Through this dissertation, I join the team of linguistic, medical, psychological, and scientific researchers declaring that ASL is a naturally-acquired human language. Deaf children, like all children, are born social human beings that need language to form deep and meaningful relationships with other individuals as they learn to navigate the world in which they live. They have a right to access language from birth in order to reach their full potential. As Humphries et al. (2017) posits, the existence of ASL in a deaf child's environment will provide "a path to language and cognitive development that enhances even spoken language development" (p. 649). On that note, deaf children should not be denied the opportunity from the benefits gained through ASL acquisition. The well-being of deaf children takes priority over the hoped-for assimilation into a hearing, English-speaking society. One need not forfeit one's cultural and linguistic identity in order to be a successful and contributing member of society

By providing access to ASL when children begin their ASL-English bilingual schools, they can embrace their identity as Deaf and achieve in a first language without barriers. ASL can provide a solid language foundation that can, in turn, support the development of their second language, English. Based on this research, I anticipate that deaf children across Ontario hold great potential. It is my hope that my recent findings, recommendations and sample lists of resources and strategies spur further interest in recognizing, valuing and utilizing ASL resources and strategies in educator and parent practice and in their interactions with deaf children.

The more access children have to ASL resources and ASL-using people, in formal and informal settings, the more confident they become. Deaf children's true individual personalities and character blossom as they become compassionate people who are aware of their environment. They can become keen observers, leaders among peers, and strong-minded individuals with perseverance skills to navigate the challenges of life successfully. Finally, it is my hope that this study reveals the reality of children's ways of *doing* language, and thereby informs the ways in which researchers, teachers, parents and policymakers think about the quality of programs for the deaf, in community services, educational systems, and particularly in Ontario's classrooms.

7.4 Further Research

This paper provides a detailed description of an exploratory study that observed three deaf kindergarten children working at three different stages of ASL Development Checklist. Due to the small number of participants, further study is needed to observe kindergarten students who are assessed at Stage 3 of the ASL Development Checklist. Observations of Stage 3 ASL users would provide greater understanding of how resources and strategies are used at that level and what their behaviours and interactions would look like within formal and informal settings of ASL-English bilingual schools.

After the completion of this dissertation, I plan to undertake a new study that enables me to examine the educators, parents, and deaf children enrolled in Ontario's schools and programs other than ASL-English bilingual schools (e.g., mainstream public

and separate schools, self-contained classrooms, deaf programs). I wonder what stage of language acquisition deaf children have in these settings. Are they fully equipped with a first language? If they have a language foundation, is it ASL, English or another language? How did they acquire it and what resources and strategies did they have access to and use? If they have not acquired any language, why? Is that due to language deprivation or other factors? Are parents and educators feeling optimistic? Are they persevering through challenges, barriers and issues of audism present in educational and societal systems? Are the barriers similar or different to those found in ASL-English bilingual schools in Ontario? And how is the language acquisition of deaf children supported within these educational settings with or without ASL resources and strategies?

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Appendices

Appendix A: Email Script for Recruitment

Subject Line: Your invitation to participate in research

Dear Education Staff

I am a doctoral candidate in the field of Applied Linguistics at the Faculty of Education of the Western University (UWO). I am currently conducting a mixed-methods research in American Sign Language (ASL) resources being used and/or accessed to that underpin kindergarten Deaf children's language acquisition within societal and education systems.

You are eligible to be in this study because you work with Deaf children (ages between 3.5 and 6 years old). If you decide to participate in this study, you will be asked to complete:

- **Surveys.** I will ask for your participation in completing an online 5-minute close-ended pre-survey (at the beginning of my research) and another online post-survey (at the end of my research). Both surveys will be asked with same questions. Please go to [redacted] to read the details, including my observation procedure.

- D**istribution.** You will make sure each student has a pre-sealed envelope filled with hard copies of letter of information (LOI) with a link to online survey to take home to their parents to confirm that the students are not consenting for themselves; and

- **Interviews.** Up to three 30 – 60-minute interviews during a 8-10 month block. The last two interviews will be for clarifications or elaborations. The interviews may take place through Skype or face-to-face meetings;

You may contact me at above email address: [redacted] if you are interested in participating. Remember, your involvement will be voluntary. If you would like further information on this study, I can be reached at [redacted] (emails). If you wish, you can also contact my Principal Investigator, Dr. Julie Byrd Clark at [redacted]

Thank you,
Jenelle E. Rouse
Western University
[redacted]

Appendix B: Letter of Information (For Principals)

Exploring the Acquisition of American Sign Language by Deaf Kindergarten Children: Early Language Access and the Use of Appropriate Resources

LETTER OF INFORMATION

Introduction

My name is Jenelle E. Rouse and I am a doctoral candidate in the field of Applied Linguistics at the Faculty of Education of the Western University (UWO). I am currently conducting a mixed-methods research in American Sign Language (ASL) resources being used and/or accessed to that underpin kindergarten Deaf children's language acquisition within societal and education systems.

Purpose of the study

The aim of this study is to gain a depth understanding of how accessible ASL resources are for teachers, Deaf children and their parents within society and education systems. I also aim to gather information of such resources that promote the opportunity for kindergarten Deaf children acquire ASL. This is significant as the acquisition of ASL differs for all children. At present, there does not appear to be adequate ASL resources available in societal and education systems in Ontario.

If you agree to participate:

You will introduce me to school staff through emails: With your permission, you will introduce me to school staff who work directly with Deaf kindergarten students on my behalf with my contact information. Although I will be copied to the email, school staff will be BCC'd to initially maintain their privacy. The email will outline my 8-to-10-month study, including their participation, which are:

1. Completing an online 5-minute close-ended pre-survey (at the beginning of my study, and another online post-survey (at the end of my research). Both surveys will be asked with same questions.

2. Participants will make sure each student has a pre-sealed envelope filled with hard copies of letter of information (LOI) and consent forms to take home to their parents to confirm that the students are not consenting for themselves.

3. Participants will be asked to participate in three 30 – 60-minute interviews to discuss kindergarten Deaf students' ASL acquisition and effective (or ineffective) application of ASL resources. The last two interviews will be for clarifications or elaborations. Video-recording will be used during the interviews. They may take place either on or off school property, outside of class time. To accommodate participants' schedule and time, I will use Skype and face-to-face meetings.

4. **Permission to visit kindergarten classrooms**: On the day of my first visit for observations, I will collect your students' sealed envelopes of consent forms. I then will introduce myself to teachers and kindergarten students in their classroom(s). I will sit somewhere in the corner of the classroom to observe children's interactions and participation during their day(s) at school in order to capture Deaf students' language development. I will record these interactions with video, as there will be some language that is not attainable through live observation alone. In doing so, I will set up a digital camcorder to record a setting of students' play-based learning area in the classroom of teacher's choosing at least three separate times for up to 10 minutes each. I will observe and document kindergarten students' live actions and use of ASL. I will not interview nor interact with students. Students who are not participating in the study will not be observed, documented or video-recorded. That said, if they happen to be in a recording area during the study, the camcorder will be turned off to ensure privacy and confidentiality. Please note that video-recordings may be shared with the public.

5. **Photographs and Videos.** Photos and video of participants as cropped and selected may be used for sharing information (dissemination of results) with the public for research and academic purposes.

Confidentiality

The information collected will be used for lectures, conferences and research, professional, and educational purposes. All names will be removed to ensure privacy and confidentiality. No real names or names of locations will be used or will be identifiable in the report of future publications.

All data will be stored on an encrypted USB device in my Principal Investigator's office. The data will be stored in a locked cabinet with all names removed from the data (replaced with a coding system or ID). A master list linking pseudonyms to identifiers will be kept separate from the study data. All data will be stored in a locked filing cabinet for a period of seven years after the completion of the study.

Risks & Benefits

There are no known or anticipated risks or discomfort associated with participating in this study. The information gathered should provide benefits to bilingual education programs for Deaf children across the provincial schools for the Deaf.

Voluntary Participation

Participation in this study is voluntary. Participants may ask to withdraw from this study at any time. A child can inform his/her teacher that he/she does not want to participate at any time during the study.

Questions

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Manager, Office of Human Research Ethics, The Western University at [redacted]

If you have any questions about this study, please contact Jenelle E. Rouse at [redacted], or my thesis supervisor, Dr. Julie Byrd Clark at [redacted]. This letter is yours to keep for future reference

Sincerely,

Jenelle E. Rouse

Exploring the Acquisition of American Sign Language by Deaf Kindergarten Children: Early Language Access and the Use of Appropriate Resources

Jenelle E. Rouse*, BA with Honours, BEd, M.Ed., PhD Candidate, Co-Investigator, UWO*

Dr. Julie Byrd Clark, *Associate Professor and Principal Investigator, UWO*

PRINCIPAL CONSENT FORM

I have read the Letter of Information, have had the nature of the study explained to me and I agree that kindergarten teachers and students from my school: _____ may be invited to participate in the study. All questions have been answered to my satisfaction.

Name of Principal (please print): _____

Signature: _____

Date: _____

My signature means that I have explained the study to the participant named above. I have answered all questions.

Name of Person Obtaining Informed Consent: _____

Signature of Person Obtaining Informed Consent: _____

Date: _____

Appendix D: Online Letter of Information (For Educators)

Western Education

Exploring the Acquisition of American Sign Language by Deaf Kindergarten Children: Early Language Access and the Use of Appropriate Resources

LETTER OF INFORMATION

Introduction

My name is Jenelle E. Rouse and I am a doctoral candidate in the field of Applied Linguistics at the Faculty of Education of the Western University (UWO). I am currently conducting a mixed-methods research in American Sign Language (ASL) resources being used and/or accessed to that underpin kindergarten Deaf children's language acquisition within societal and education systems.

Purpose of the study

The aim of this study is to gain a depth understanding of how accessible ASL resources are for teachers, Deaf children and their parents within society and education systems. I also aim to gather information of such resources that promote the opportunity for kindergarten Deaf children to acquire ASL. This is significant as the acquisition of ASL differs for all children. At present, there does not appear to be adequate ASL resources available in societal and education systems in Ontario.

If you agree to participate in this study, you are providing consent for:

1. **Surveys.** I will ask for your participation in completing an online 5-minute close-ended pre-survey (at the beginning of my research) and another online post-survey (at the end of my research). Both surveys will be asked with same questions.

2. **Distribution.** You will make sure each student has a pre-sealed envelope filled with hard copies of letter of information (LOI) with a link to online survey to take home to their parents to confirm that the students are not consenting for themselves.

3. **Observations.** On the day of my first visit for observations, I will introduce myself to you and your kindergarten class about the study. I will sit somewhere in the corner of your classroom to observe children's interactions and participation during their day(s) at school in order to capture deaf students' language development. I will record these interactions with video, as there will be some language that is not attainable through live observation alone. In doing so, I will set up a camcorder to record a setting of students' play-based learning area in your classroom of your choosing at least three separate times for up to 10 minutes each. I will do the same on the next two seasonal visits. During my visits, I will observe and document kindergarten students' live actions and use of ASL. I will not interview your students. Students who are not participating in the study will not be observed, documented or video-recorded. That said, if they happen to be in a recording area during the study, the camcorder will be turned off to ensure privacy and confidentiality. Please note that video-recordings may be shared with the public.

1. for up to 10 minutes each. I will do the same on the next two seasonal visits. During my visits, I will observe and document kindergarten students' live actions and use of ASL. I will not interview your students. Students who are not participating in the study will not be observed, documented or video-recorded. That said, if they happen to be in a recording area during the study, the camcorder will be turned off to ensure privacy and confidentiality. Please note that video-recordings may be shared with the public.

2. **Interviews:** You will be asked to meet with me at a convenient time and place to discuss kindergarten Deaf students' ASL acquisition and effective (or ineffective) application of ASL resources. The interviews will take between 30 – 60-minutes and occur up to 3 times during a 8- or 10-month block. The last two interviews will be for clarifications or elaborations. Video-recording will be used during our interviews. The interview meetings may take place either on or off school property, outside of class time. To accommodate your schedule and time, I will use Skype and face-to-face meetings.

3. **Photographs and Videos.** With your permission, your photos and video as cropped and selected may be used for sharing information (dissemination of results) with the public for research and academic purposes. To be clear, the photographs and videos of you will be only you, and they do not extend to the students in the classroom (unless parents/students have also consented).

Confidentiality
The information collected will be used for lectures, conferences, research, professional, and educational purposes. If you choose to withdraw from the study, you can also request the withdrawal of your data. The information will be destroyed. Otherwise, the information that was collect that you consented to prior to you leaving the study will still be used. No new information will be collected without your permission. All names will be removed to ensure privacy and confidentiality. No real names or names of locations will be used or will be identifiable in the report of future publications.

All data will be stored on an encrypted USB device in my Principal Investigator's office. The data will be stored in a locked cabinet with all names removed from the data (replaced with a coding system or ID). A master list linking pseudonyms to identifiers will be kept separate from the study data. All data will be stored in a locked filing cabinet for a period of seven years after the completion of the study.

Risks & Benefits
There are no known or anticipated risks or discomfort associated with participating in this study. The information gathered should provide benefits to bilingual education programs for Deaf children across the provincial schools for the Deaf.

Voluntary Participation
Participation in this study is voluntary. You may ask to withdraw from this study at any time. A student can inform me (the researcher) if they wish to discontinue participation.

Questions

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Manager, Office of Human Research Ethics, The Western University at [redacted]

If you have any questions about this study, please contact Jenelle E. Rouse at [redacted], or my thesis supervisor, Dr. Julie Byrd Clark at [redacted]. This letter is yours to keep for future reference

Sincerely,
Jenelle E. Rouse

Appendix E: Cover Letter and Online Letter of Information (For Parents)

Dear Parents,

I am a doctoral candidate in the field of Applied Linguistics at the Faculty of Education of the Western University (UWO). I am currently conducting a mixed-methods research in American Sign Language (ASL) resources being used and/or accessed to that underpin kindergarten Deaf children's language acquisition within societal and education systems.

You are eligible to be in this study because you are a parent of Deaf child(ren; ages between 3.5 and 6 years old). If you decide to participate in this study, you will be asked to complete:

- Online pre- and post surveys, both with the same questions (each takes up to 5 minutes, first in the beginning of the study, and other in the end of the study); and

- Up to three 30 – 60-minute interviews during a 8-10 month block. The last two interviews will be for clarifications or elaborations. The interviews may take place through Skype or face-to-face meetings.

Please kindly find an unsealed envelope with hard copy of letter of information in your child's backpack. The letter has a link accessing to online survey, where you can read the details. In the online survey, you will be asked for your consent to have your participation as well as your child's in the study. Remember, your involvement will be voluntary. If you would like further information on this study, I can be reached at [redacted] (emails). If you wish, you can also contact my Principal Investigator, Dr. Julie Byrd Clark at [redacted].

Thank you,
Jenelle E. Rouse
Western University
[redacted]

Western Education

Exploring the Acquisition of American Sign Language by Deaf Kindergarten Children: Early Language Access and the Use of Appropriate Resources

LETTER OF INFORMATION

Introduction

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Purpose of the study

The aim of this study is to gain a depth understanding of how accessible ASL resources are for teachers, Deaf children and their parents within society and education systems. I also aim to gather information of such resources that promote the opportunity for kindergarten Deaf children acquire ASL. This is significant as the acquisition of ASL differs for all children. At present, there does not appear to be adequate ASL resources available in societal and education systems in Ontario.

If you agree to participate in this study, you are providing consent for:

1. **Surveys.** I will ask for your participation in completing an online 5-minute close-ended pre-survey (at the beginning of my research) and another online post-survey (at the end of my research). Both surveys will be asked with same questions. Please go to [redacted]

2. **Interviews.** You will be asked to meet with me at a convenient time and place to discuss your child(ren)'s ASL acquisition and your experience in access to ASL resources. The interviews will take between 30 – 60-minutes and occur up to 3 times during a 8- or 10-month block. The last two interviews will be for clarifications or elaborations. Video-recording will be used during our interviews. The interview meetings may take place at a private, but public area (e.g., library's study room). To accommodate your schedule and time, I will use Skype and face-to-face meetings.

3. **Photographs and Videos.** With your permission, your photos and video as cropped and selected may be used for sharing information (dissemination of results) with the public for research and academic purposes.

Appendix F: Sample Online Survey (For Educators)

Western Education *American Sign Language Resources & Strategies*

Online Survey Form

Please complete this survey

Position & Experiences

Are you a Kindergarten teacher?

☐ Yes ☐ No

If no, please identify your current position:

☐ ASL Curriculum Teacher

☐ Education Assistant

☐ Special Education Resource Teacher

☐ Other (please specify):_____

Number of years working directly with Kindergarten students:

☐ 1 - 5

☐ 6 - 14

☐ 15 - 24

☐ 25+

In your class, how many deaf kindergarten students ages between 3.5 and 6 years old?

☐ **1 – 2**

☐ **3 - 4**

☐ **5 - 6**

☐ **7+**

To your knowledge, how many students in your class have achieved which stage as resulted from their ASL Development Checklist?

☐ **Stage 4: _____**

☐ **Stage 3: _____**

☐ **Stage 2: _____**

☐ **Stage 1: _____**

To your knowledge, do your students' parents use sign language at home?

☐ **Yes, all of them do.**

☐ **Yes, some of them do**

☐ **No, they do not**

Assessments

What assessments do you collect to identify the language acquisition of deaf kindergarten students? *(Please mark all that apply)*

☐ **American Sign Language Development Checklist**

☐ **American Sign Language Test Battery**

☐ **American Sign Language Proficiency Assessment**

☐ **None**

☐ **Other (Please specify):_____**

How often do you use these assessments in a year?

☐ **Always**

☐ **Most of the time**

☐ **About half the time**

☐ **Sometimes**

☐ **Never**

What resources/strategies do you use to promote the language acquisition of deaf kindergarten students?
(Please mark all that apply)

☐ **ASL Materials (DVDs, Games, Pictures)**

☐ **ASL Gloss Activities**

☐ **ASL-using Community Guests**

☐ **Off-Campus Field Trips**

☐ **Other (Please specify):**_____

Do you use these ASL-related resources to ensure your students' language learning?

☐ **Yes, most of the time**

☐ **Yes, some of the time**

☐ **No, I usually do not use these resources/strategies**

Thank you for completing the *American Sign Language Resources & Strategies* survey.

Appendix G: Sample Online Survey (For Parents)

Western Education *American Sign Language Resources & Strategies*

Online Survey Form

Please complete this survey.

Household

Language(s) use at home *(Please mark all that apply)*:

- ☐ **American Sign Language**
- ☐ **English**
- ☐ **Other (please specify) _____**

Are you…?

- ☐ **Mother**
- ☐ **Father**
- ☐ **Other (please specify)_____**

In your household, how many children?

- ☐ **1 – 2**
- ☐ **3 - 4**
- ☐ **5 +**

In your household, how many deaf children?

- ☐ **1 – 2**
- ☐ **3 - 4**
- ☐ **5 +**

Appendix H: Sample Semi-Structured Interview Questions (For Educators)

Possible Questions asked by Jenelle Ellona Rouse, *Co-Investigator*

1. Outline your experience with developing and sharing resources to ensure your students' language learning.

2. What ASL resources or strategies do you collect to identify the language acquisition of Deaf kindergarten students?

3. Is an ASL assessment important? Why/why not?

Research Focused Questions

4. Can you share your experiential journey of becoming an educator?

5. How do your beliefs and/or practices as an educator challenge or reflect larger discourses of how ASL has been historically viewed in society at large?

6. How often in a year do you use the ASL assessment tools and/or resources to help identify your students' ASL acquisition? How/why?

7. Describe ASL resources or strategies that are most effective for you and your students. How often do you use them?

8. Which of those resources or strategies positively or negatively impact your professional opinions of your students' ASL development?

9. Do you interact with your students during play-based learning centres in class? Why/why not? How do you interact with them?

Appendix I: Sample Semi-Structured Interview Questions (For Parents)

Possible Questions asked by Jenelle E. Rouse, *Co-Investigator*

1. How many languages do you use in your household? Which language do you use often? Why/how?

1. Outline your experience with finding and sharing ASL resources with your child(ren).

Research Focused Questions

1. Can you share your experience in regards to access to and/or learn ASL alongside with your child in your community, home or school?

2. What ASL resources do you and your child(ren) use to acquire ASL? How often do you use them in a year?

3. How do your practices as a parent challenge or reflect discourses of ASL in society at large?

Appendix J: Sample ASL Development Checklist

(In Similarity to Sign Talk Children Centre, Winnipeg Manitoba Canada, with some adaptions for this paper)

Stage 1

✓	The child has reached this milestone:	Date (M/D/Y)	Observational Comments
	Begins to use simple handshapes: B, C, O, A, S, 1, 5 		
	Begins to use simple movements: Straight forward, up, down		
	Begins to use simple single ASL vocabulary		
	Begins to combine signs into simple two- ASL-word sentences		
	CLASSIFIERS: Object CL: O-pole		
	Negation – Headshake alone or headshake with negative ASL word: headshake NO headshake CAN'T		
	Questions used include YES/NO and WHAT, WHERE: wh-q (frown) WHERE yes/no-q (eyebrows raised) MINE		
	Indexes (points to) present objects and people		
	Storytelling is not always clear – copying actions and facial expressions		

Stage 2

✓	The child has reached this milestone:	Date (M/D/Y)	Observational Comments
	Try to use complex handshapes, but often simplify (substitute simple handshapes) e.g., WATER – with 5 handshape replacing the W handshape		
	Use simple movements e.g., Straight forward, up, down		
	Use of Verb Modification e.g.: WALK-stroll; WALK-quickly; WALK – for a long time		
	Three- or four- ASL-word sentences		
	CLASSIFIERS: Object + Movement e.g.: CL: 3 – car diving forward		
	Negation - Headshake with non-negative ASL word: headshake ME WANT MILK		
	Questions used include YES/NO and WHAT, WHERE, WHY: wh-q (frown) GO HOME WHY		
	Storytelling (different roles, body shift, facial expression)		
	—>Substitute present objects to talk about objects and people not present —>Character identification and shifts not always clear.		

Stage 3

✓	The child has reached this milestone:	Date (M/D/Y)	Observational Comments
	Begins to use complex handshapes: X, Y, T, R, 3 		
	Begins to use complex movements: Wiggly movement		
	Use of Verb Modification to indicate number and distribution e.g.: FALL-singular; FALL-plural; FALL – random		
	Begins to use Noun Modification to indicate intensity, size and quality of objects e.g.: BOWL - big		
	CLASSIFIERS: Object CL: O-pole		
	Questions used include YES/NO and WHAT, WHERE, WHY, FOR-FOR, WHO		
	Sentence Structures: —> Begins to use topicalization e.g.: Topic (raise brow) MY ROOM, PAINT TOMORROW —>Begins to use rhetorical questions		
	Storytelling: —>Inconsistent use of points in space to represent non-present objects/people —>Role-play through body shifts, eye gaze, and facial expression		

Stage 4

✓	The child has reached this milestone:	Date (M/D/Y)	Observational Comments
	Consistent use of complex handshapes and movements e.g., Fingerspelling short words and names		
	Use of Noun Modification to indicate the spatial arrangement of objects e.g.: TREE++ - in a row; TREE++ - in a cluster		
	Use of bracketing to indicate WH-questions e.g.: wh-q (frown) WHERE GO WHERE		
	Sentence Structures: —>Topicalization (Topic Continuation) —>Rhetorical questions —> Conditionals (IF or SUPPOSE) e.g.: Cond. (brow raised) IF-SUPPOSE RAIN, GAME CANCEL		
	Appropriate use of full abstract referencing for objects/people not present		
	Storytelling (character identification, role-play, role-shifts) is clear and consistent		

Appendix K: Non-Participant Observation Guide

As a non-participant observer in the natural surroundings of the school, I will:

- Minimize my interaction with children
  - Maintain social distance
  - Refrain from showing any interest
  - Avoid eye contact
- Sit at the back of the classroom
  - Supervise a camcorder to make sure it is placed directly to consenting participants
  - Code any time child participants converse in ASL and/or other strategies
    - Conversations between:
      - Teachers and students
      - Students and Students
      - Students and Self
  - List & code any time child participants use ASL resources/strategies
  - Record my observations in words and drawings

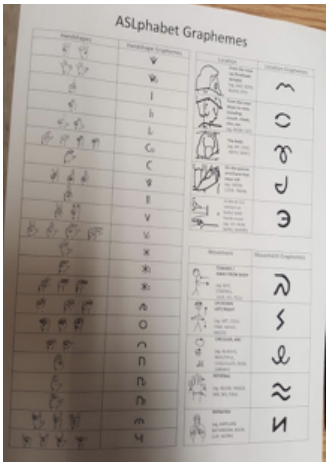
Appendix L: Additional Sample ASL Resources

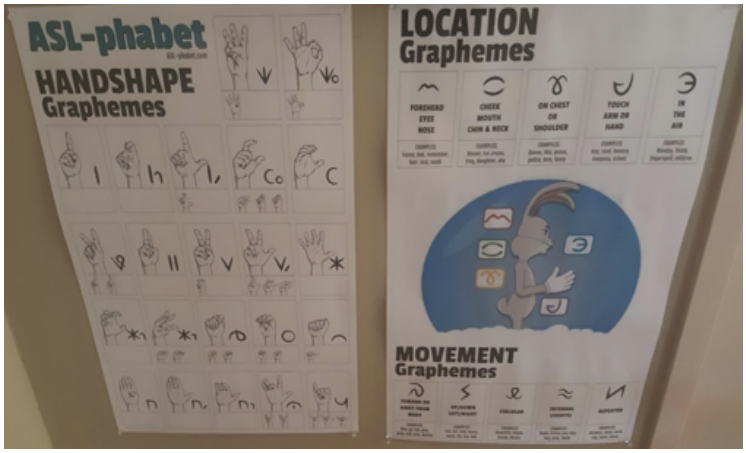
(All still images from the video and photos in this study are with permission to demonstrate various examples of ASL resources)

ASL video texts

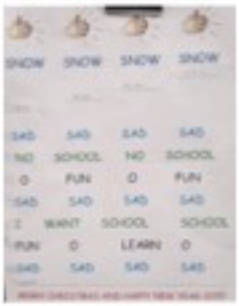
ASL Chant

ASL-phabet Graphemes (basic parameters)



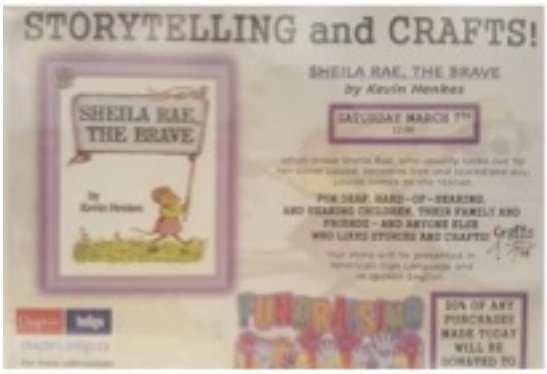


Play-/Inquiry-based learning centres



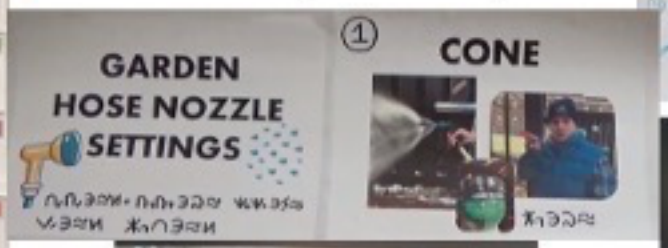
Field trip

Social gathering



ASL models (human/materials)

A storyteller with an interpreter



Curriculum Vitae

Name:	Jenelle E. Rouse
Post-secondary Education and Degrees:	York University Toronto, Ontario, Canada 2002 - 2006, B.A. with Honours in Sociology University of Ontario Institute of Technology (renamed University of Tech) Oshawa, Ontario, Canada, 2006 - 2007, B.Ed., President's List Western University London, Ontario, Canada 2013 - 2016, M.A. in Education Western University London, Ontario, Canada 2016 - 2020, Ph.D. in Applied Linguistics
Honours and Awards:	Ontario Graduate Scholarships 2017 - 2018, 2019 - 2020
Related Work Experience:	Graduate Student Assistantship Western University 2016 - 2018 Graduate Research Assistant Western University 2018 - 2020 Course Instructor Western University 2020