LITERACY DEVELOPMENT IN DEAF STUDENTS:

CASE STUDIES IN BILINGUAL TEACHING AND LEARNING

BY

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This work is the culmination of relationships and events in my life which called me to do something about the injustice of bright, intelligent Deaf people who, despite years of education, had barely begun to learn to read and write.

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Abstract

This study examines literacy learning in three students within the context of their school, a bilingual/bicultural educational program for deaf students, and their homes. A bilingual model has been applied to educating deaf students who are learning American Sign Language (ASL) as their first language, and English as a second language in written form. Although the theory of using a child's understanding of one language to learn another makes intuitive sense, the implementation of this theory, particularly with deaf students, is a complex and confusing process. Part of this confusion is due to the fact that bilingual education with deaf students differs from spoken language bilingual programs in several ways, including language modality (signed and written), only one language having a written form, and students arriving at school with varying levels of exposure to an accessible language. The purpose of this study was to reduce the gap between theory and practice, and provide descriptions of the teaching and learning strategies used by teachers, parents, and students within a bilingual/bicultural learning environment for deaf students.

The findings suggest that successful strategies, such as using ASL as the language of instruction, balancing direct and indirect teaching, making translation conceptual rather than literal, and using multi-modal (print, signs, words, pictures) information, contribute to literacy learning. Findings further indicate that some inconsistencies in applying a bilingual approach with deaf students continue to exist which limit its effective implementation. The limitations reflect that the shift from a deficit model to a cultural view of deaf students is not yet complete. The feasibility and implications of a transition to a cultural perspective of deaf education are also discussed.

Chapter One: The Gap Between Theory and Practice

The focus of this research is the literacy acquisition process of Deaf[1] children who acquire

American Sign Language as a first language and written English as a second language. Although

literacy is commonly interpreted as meaning the ability to read and write textual material, in this

research it will be defined more broadly to include the context and culture in which reading and

writing occur. A view of literacy that goes beyond the basic tasks of textual decoding and

encoding outlines the strong connection between language learning, the individual, and the

community. It also emphasizes the relationship between language and the individual's thinking

and identity. This broad framework emphasizes the importance of literacy acquisition for all

individuals including deaf people, and the problems that can occur when literacy in this broad

sense is impaired.

There are good historical reasons for the literacy impairment of deaf children. Prior to the

1970's, the education of deaf children in Canada occurred through almost exclusively oral

methods. This approach primarily emphasized the use of amplification (hearing aids) to develop

speaking and listening skills. The educational focus was to remediate the deficits of deaf children

to help them become more like hearing people. Frequently this emphasis on speech skills took

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[1] Throughout this document, which describes an educational program that views deaf children and their language from a cultural rather than the usual disability perspective, conventions are applied in labeling deaf children that tend to differ from standard Canadian usage. Following the convention proposed by Woodward (1972) I use the lowercase *deaf* when referring to the audiological condition of not hearing, and the upper-case *Deaf* when referring to deaf children and adults who share a language - American Sign Language (ASL) - and a culture. This is similar to the Canadian convention to capitalize the names of linguistic minority groups, such as Filipino, Cree, or Ojibway. In addition, *deaf* is also used inclusively to refer to all children with hearing losses including those who may eventually become *Deaf* children or adults.

precedence over facilitating non-oral language development and teaching deaf people to become literate.

Simultaneous communication - speaking and signing at the same time - was introduced and flourished in the 1970's. This method of communication used signs from American Sign Language (ASL), but presented them in the word order of spoken English. Some signs were invented to more directly match English words, and frequently grammatical markers and word endings were added to signs to reflect English grammatical structures. The purpose of using this method of communication in the classroom was to expose deaf children to a visual model of English and thereby facilitate their development of spoken and written English. In theory, the notion of altering a language to more accurately reflect the written code should facilitate the acquisition of the written form. However, the use of simultaneous communication, or sign supported speech, has two major flaws. Firstly, the appropriateness of altering language for instruction is questionable. Programs teaching French to English-speaking children or adults, do not facilitate this instruction by first introducing French words in English word-order or French words with English grammatical endings. It is appropriate to draw comparisons between the two languages, but not to alter existing grammatical rules and structures (Genesee, 1994). Secondly, it must be questioned whether English, as a spoken language, can accurately be represented in manual form. It was effectively documented that many of the grammatical structures of English were not included in teachers' use of English-based signing (Johnson, Liddell, & Erting, 1989). For these reasons, during the 1980's educators and researchers began to realize that simultaneous communication was not having the desired effect on the educational outcome of deaf students.

The overall reading level of high school graduates had not increased beyond the previous level of grade four.

One group of deaf children, however, consistently scored higher on tests of English reading skills than their deaf peers with hearing parents: those with Deaf parents. These children, it seemed, became fully immersed in American Sign Language (ASL), and treated it as their first language. Written English was therefore learned as if it were a second language, and these Deaf children became essentially bilingual (Hoffmeister & Wilbur, 1980). These observations established the premise that deaf children should learn ASL as a first language and English should be introduced as a second language, and that deaf education should be a form of bilingual education. The how, when and who of implementing ASL-English bilingualism, however, continue to be debated and delineated.

Deaf children may access text similar to children who are learning English as a second language, although the processes are not parallel. Hearing children learning English as a second language frequently learn to speak English before or while they learn to read it, whereas deaf children learn English through reading it. The advocates for teaching English as a second language to deaf children emphasize the importance of first establishing a language base in a natural and accessible language. In guiding a deaf child's entry into text, respecting her primary language to enable her to establish a productive relationship to the written medium is very important (List, 1990). This implies that ASL and English should be recognized as separate and distinct languages, but valued equally. Each language has its unique grammatical features, but neither is better or worse than the other. The similarities in the meanings English and ASL

express need to be made explicit. Reading and writing are deeply rooted in the relationship that a person establishes to language and to social communication in general (Vygotsky, 1978). If the deaf child's only experience with written words is linking them to spoken words which she cannot hear, or meaningless articulatory movements, her interest will wane. She will not be motivated to learn more about these written symbols. Linking written script to signs which have meaning for the child allows literacy skills to emerge from prior knowledge and experience.

Overall, there is agreement that early exposure to ASL allows deaf children to establish an effective way to communicate and interact with the world around them (Paul & Quigley, 1987). Disagreements arise in how this knowledge should be applied to guide them into reading and writing English. Hearing people have the advantage that the correspondence between the written pieces and the retrievable speech patterns follow the same linguistic structure. Additional translation steps are needed for the deaf learner. The exact nature of these steps and how to facilitate their development have yet to be defined. In this study, I attempt to contribute to this task. I examine how students' knowledge of ASL influences their acquisition of English literacy within a bilingual/bicultural educational setting. I identify teaching activities and strategies which contribute to literacy development.

The theories of bilingual and biliterate education can be applied to programs educating deaf students. As a result several schools and programs for deaf children in Canada have adopted a bilingual/bicultural philosophy (Isrealite, Ewoldt & Hoffmeister, 1992). However, a gap remains between the theoretical aspects of this philosophy and the practical aspects of its implementation. Teachers continue to question if they can use their students' knowledge of ASL

to develop and promote the English literacy skills of these deaf children. We know that deaf children who grow up in an ASL environment learn ASL in ways analogous to hearing children learning their spoken language (Meier, 1991; Pettito & Marentette, 1991). What we do not know is how deaf children learn English nor how they learn to read and write it. There is now growing evidence from case studies to support bilingually-focussed, alternative conceptions and pedagogies as successful in the language and literacy education of deaf children, and the evidence deserves further exploration. That is the goal of this research; to further explore the strategies that deaf children are presented with and use in acquiring English literacy.

Chapter Two: Understanding Bilingual Deaf Education

An understanding of bilingual education with deaf students builds upon the general study

of bilingualism. This chapter, therefore, includes a discussion of current literature in the area of

spoken language bilingualism, followed by applications of the information to bilingual programs

for deaf children using the languages of ASL and English. Studies which relate theory and

practice and emphasize the use of ASL to facilitate acquisition of English literacy are also

highlighted.

Bilingualism

For most of the history of the study of language development, bilingualism was considered

a disadvantage to children cognitively, intellectually, and educationally (Reynolds, 1991). This

attitude began to change, however, as a result of a landmark study by Peal and Lambert (1962).

Using standardized assessment of French-English bilingual children in Quebec, these researchers

suggested that bilingual children, in comparison with unilingual children, demonstrated increased

mental flexibility, superiority in concept formation, and a more diversified set of mental abilities.

These conclusions were supported by Vygotsky's sociocultural learning theory, which emphasized

the significance of language as the primary mediator in learning about the world (Vygotsky,

1978). Vygotsky suggested that through bilingualism the child could view phenomena under

more general categories, to see each language as a particular system among many, and ultimately

to gain an awareness of linguistic operations.

Since the work of Peal and Lambert, other research studies have tended to emphasize the

benefits of bilingualism and bilingual education programs (Reynolds, 1991). Research on

bilingualism expanded from describing the cognitive benefits to describing the psycholinguistic effects, such as the relationship between the two languages and their mental representations. In general, the psycholinguistic research suggested that bilingual people display both independent and interdependent functioning between languages. It therefore also suggested that their underlying cognitive systems are structurally separate and yet interconnected (Paivio, 1991).

The paradox of bilingual functioning as both independent and interdependent is resolved by considering mental representation models in which each language is stored separately but linked with a common conceptual core. This is proposed by the bilingual dual coding model, which assumes direct connections between the two languages, and a nonverbal imagery system functioning as a shared conceptual system for the two languages (Paivio, 1991). The three systems (two verbal systems and one imagery system) can function independently, but are also connected. Correspondences among the three systems can be one-to-one or one-to-many, depending on the language acquisition history (the two languages learned simultaneously or consecutively) and conceptual/experiential background of the bilingual individual.

The assumption that two separate language systems are linked to a common conceptual core plays a significant role in bilingual educational programs, because it suggests a common underlying proficiency (Cummins, 1984). It also implies that experience with either language can promote the proficiency underlying both languages. To understand the transfer of skills across languages, however, an examination of the relationship between language proficiency and academic achievement is needed.

Frequently, educators and researchers have erroneously assumed that the language

proficiency required for ESL students in everyday communication is similar to that required for performing an English cognitive/academic task. Research, however, suggests a distinction between the two. Immigrant students require, on the average, five to seven years to approach grade norms in English academic skills, although they demonstrate peer-appropriate conversational skills in English within about two years of their arrival (Cummins, 1984). The primary reason for the lag is context. Conversational skills reflect a surface fluency of the language's more formal aspects, such as pronunciation, basic vocabulary and grammar, and are supported by contextual cues and information. Academic language proficiency requires an understanding of the language's deeper structures, such as semantics and pragmatics (rules of language use), within decontextualized situations. In the context-reduced interactions of many academic tasks, it is necessary to focus on the linguistic forms themselves for meaning rather than on the speaker's intentions.

Understanding this difference provides a framework for instruction and assessment in bilingual educational programs, and explains the academic difficulties which conversationally fluent ESL students may encounter in the classroom. It also gives clues about the nature of the relationship between language proficiency and academic achievement, and about the nature of the common proficiency underlying bilingual language development. In particular, it suggests that the common proficiency exists not at the surface levels (pronunciation, grammar, vocabulary) of the first and second languages, but at the deeper conceptual levels (Cummins, 1984). The common proficiency facilitates the transfer of cognitive/academic or literacy-related skills across languages. The skills would include conceptual knowledge, subject matter knowledge, higher-order thinking

skills, reading strategies, and writing composition skills. In a French-English bilingual program, for example, French instruction developing first language reading skills is not just developing skills in French, but also a deeper proficiency related to the development of written literacy and general academic skills. Presumably similar benefits might happen in an ASL-English bilingual program. This possibility will be explored in this research while at the same time taking account of the differences between oral bilingualism (e.g., French-English) and Deaf bilingualism (ASL-English).

Bilingualism and Deaf Children

Although bilingual education programs had been accepted as beneficial for hearing children for several decades, the idea of deaf education as a form of bilingual education is recent (Strong, 1988). The movement to teach English to deaf students as a second language came out of the research documenting natural sign languages of the Deaf as languages (Baker & Battison, 1980; Johnson, Liddell, & Erting, 1989). As this research became widely known, Deaf people in Canada and the United States identified themselves as a linguistic minority rather than a disabled group. Gradually the shift to cultural affiliation has influenced deaf education by shifting its focus from special education to bilingual education.

Bilingual Deaf Education (BDE) differs from other bilingual programs in significant ways. The first difference is in language modality. Proponents of BDE advocate that students' first language be a natural visual-spatial language, such as ASL (Davies, 1991; Johnson, et al, 1989). Such a language, they argue, functions and is represented mentally in ways analogous to spoken languages.

Linguistic analysis of ASL shows that it is a complex, structured language with distinct grammar, and that it exhibits the fundamental properties that linguists have posited for all languages (Klima and Bellugi, 1979). The properties are manifested in distinctive structural characteristics of simultaneity and the use of space. Simultaneity means that features, such as movement and facial expression, are produced at the same time as the root sign and thereby add to, or alter, its meaning. In this way several morphemes are expressed at once. Points in space are used to refer to people, things, and places that are not present. The linguistic structures of ASL are adapted to maximize visual processing, visual memory and manual dexterity. ASL uses simultaneity and the use of space to convey similar concepts that depend on a sequential transmission of sounds in spoken language. For example, ASL is uniquely adapted to capitalize on the processing differences between deaf and hearing individuals by using space and motion where spoken language uses time for the same purpose.

Studies examining the linguistic features of ASL show that ASL functions in the same way as spoken languages. It allows people to request, command, argue and persuade as well as to express feelings, tell jokes, and create poetry. Further evidence that ASL is a bona fide language exists in the study of its acquisition by children, both Deaf and hearing, with Deaf parents. In these children language acquisition parallels that of children learning spoken languages; children of Deaf parents, for example, also experience periods of over- and under-generalization of ASL rules, just like children learning English (Meier, 1991).

Although ASL does not result in a difference in function or development, the question of a difference in mental representation remains, particularly since ASL uses visual and spatial skills

rather than auditory ones. This issue was addressed by Bellugi, Poizner, and Klima (1989) by studying the cognitive and language skills of Deaf people suffering left and right-sided brain lesions. They found that the left cerebral hemisphere in these persons was specialized for signed language, in the same way that the left cerebral hemisphere of hearing people is specialized for spoken language. The researchers argued, further, that the left hemisphere appears to be innately predisposed for language, as well as independent of language modality. Neurologically, therefore, ASL may function very much as a "verbal" language. Although its surface structures are significantly different from spoken languages, ASL at a deeper level is related to the same conceptual core or common underlying proficiencies.

The difference in modality between spoken and written English may also influence deaf children's acquisition of English literacy. Although hearing children learn to read by forming sound-symbol associations, learning to read without forming such associations is necessary, and hopefully possible, for deaf children. In other words, being a symbol without being mediated by the sound system should be possible for a visually represented pattern. This is the case for mathematical "sentences". The symbols can be verbalized through the sound system; however, this frequently inhibits, rather than helps, the processing of the "sentences". The written symbols appear to map directly to mental concepts without being mediated by speech.

Further insight into learning to read can be gained by considering orthographies that are syllable-based and therefore less dependent on phonetic associations. In the case of Japanese, for example, Hatano (1986) states that an experienced reader of Japanese uses several different internal codes for a word. Japanese orthography has two distinct written systems, one linked with

pronunciation (called kana) and the other linked with meaning (kanji). Meaning is achieved by the Japanese reader directly through the kanji symbols, but can also be mediated through the kana symbols and the phonetic code. The Japanese experience suggests that similar processes might occur in Deaf readers reaching meaning from written language. At times they might access meaning directly by the written symbol (word) or at other times through the sign code.

Another significant feature of BDE is that the first language, ASL, does not have a written form. Some have argued that this feature will reduce transfer of proficiency from ASL to English (Mayer & Wells, 1996; Ritter-Brinton, 1996). The argument assumes, however, that literacy consists only of the reading and writing components of language. A broader definition of literacy, one that includes the context of language use, changes the predictions somewhat. When literacy is defined broadly, it is clear that it requires a range of abilities, spanning from formal, decontextualized language to more conversational language. Literacy becomes the ability to use appropriate language forms depending on the social context. Schley (1992) studied the ability of Deaf children to modify their ASL use in contextualized and decontextualized language situations and found that the children did produce different types of language appropriate to the situations. Their literacy-related and metalinguistic skills were part of the deeper structures of ASL and knowledge of them transferred across languages in bilingual children. By expanding the definition of literacy, in this way, bilingual proficiency and literacy would be expected to develop even where one language does not have a written form.

BDE differs from both bilingual education in heritage languages and bilingual education in second language immersion programs, in that the family language background of deaf children is

not consistent. Among children born deaf, less than 10 percent come from families with even one

Deaf parent or older Deaf relative (Meadow, 1972; Trybus & Jensema, 1978). When such

relatives do exist, deaf children can acquire ASL and in this way develop relatively normal socio-

emotional family interactions. Bilingual programming for this minority of deaf children would

follow the typical approach of building on the "heritage" language, here ASL, and of introducing

English as a second language.

For the other 90 percent of deaf children, however, the situation is quite different. Here

the deaf child is the first deaf person in the family. For the child's parents, encountering deafness

in the child is generally unexpected and traumatic. The parents and siblings of deaf children

seldom have the ASL communication skills required to provide these children immediate access to

the acquisition of a natural language, a circumstance that limits access to the family's cultural

knowledge and resources. The children tend to enter kindergarten without a sophisticated

competence in any language, signed or spoken (Johnson, et al., 1989). Bilingual programming for

these children, therefore, requires that they first develop proficiency in ASL, before facilitating

acquisition of English as a second language.

The strategy of learning ASL first is supported by research with hearing bilingual children

who have not established a clear first language before entering school. The Carpinteria Spanish-

language preschool program, for example, initially consisted of a bilingual preschool in which

both English and Spanish were used concurrently, but which put strong emphasis on English skills

for children with a Spanish language background (Cummins, 1984). Kindergarten teachers

reported, however, that children from these programs often talked with a mixed version of

English and Spanish ("Spanglish"). As a result, the experimental program introduced a Spanish-only preschool with the goal of developing the children's school-readiness skills and simultaneously building their first-language skills. At the conclusion of the program, despite exclusively Spanish language programming, the children did better than other Spanish-speaking children on both Spanish and English assessments. Program developers attributed success to the use of meaningful language (i.e., Spanish), integrated into daily activities, factors which encouraged high levels of conceptual and linguistic skills in both languages. The reinforcement of the children's identity and involvement of parents in the program was also considered to contribute to the positive outcome. Cummins concludes:

> "The findings clearly suggest that for minority students who are academically at risk, strong promotion of first language conceptual skills may be more effective than either a half-hearted bilingual approach or a monolingual English 'immersion' approach." (p. 149)

What Cummins did not consider, of course, is whether the first-language emphasis might also prove helpful for bilingualism across modalities, such as experienced by deaf children. As described later, the current research explores this possibility.

Strategies for Literacy Instruction with Bilingual Children

The differences described above between BDE and other forms of bilingual education frequently create confusion and inconsistency in the implementation of programs for deaf students. In spite of differences, however, there are also aspects of orally based bilingual education which can be applied to bilingual education with deaf students. Some of these are

described in this section; they are drawn from the general literature on literacy instruction with bilingual children, but many are supported in the research regarding bilingual instruction with deaf children.

Motivation and self-concept. Developing students' motivation and self-concept is important to any teaching, but it is particularly important with bilingual students who may not feel that their skills and knowledge are recognized because they cannot easily express what they know verbally. A sense of self-worth is encouraged by accepting the student's most familiar language as equal to any other language. Having faith that second language learners will learn and maintaining high expectations for them is also important.

Literacy in two languages (also called biliteracy), often occurs in a context of unequal power relations, with one or the other literacy becoming marginalized (Hornberger, 1989). This is also true for biliteracy programs with deaf children, with English dominating ASL. Factors that contribute to the marginalization of ASL include limited and recent linguistic awareness of ASL, attitudes that deafness is disability, and the lack of a written form for ASL. Furthermore, because of the past denigration of ASL and Deaf culture, overemphasizing the value of ASL for deaf children is often necessary. In the long term, however, ASL and English should be recognized as separate and distinct languages, but valued equally. Emphasizing the value of ASL can be accomplished, for example, by inviting storytelling by members of the Deaf community (Israelite, et al., 1992), and by teachers constructing, expanding, and modifying stories in ASL. These strategies can motivate students to create their own stories, and to take pride in their stories, language, and Deaf culture. Such pride can enable them to feel more confident and ready to learn

English.

Language development. Teachers must have a thorough understanding of language development, so that they can monitor and sequence the linguistic "load" they place on the students. A key principle is that language learning is maximized by incorporating language development in the academic curriculum explicitly and systematically (Genesee, 1991).

The value of awareness of the linguistic load on deaf students is illustrated in a study by Mozzer-Mather (1990). The investigator sought to improve deaf students' writing by combining writing process and translation techniques. The students used transcribed English glosses (words) of their signed versions of stories to help them prepare written texts. Even though the students' first drafts in English deviated in many respects from conventional standard English, however, did not mean that they were unaware of the conventions. Instead, it reflected their difficulty in paying attention to these concerns while juggling concerns about content during the creation of a first draft. Second drafts, written with the assistance of glosses to remind them of content, were substantially more grammatical than the first drafts. The reduction of the linguistic constraints, with regard to vocabulary, enhanced the volume, syntactic complexity, and correctness of the subjects' writing.

Basic knowledge of child's first language. Basic knowledge of a child's first language is also necessary, in order to be aware of points of linguistic interference or conflict between the two languages. The knowledge helps teachers to identify errors that are systemic in nature and can be eliminated by emphasizing the distinction between languages rules. The strategy is especially important for teachers of deaf children. Clues to understanding deaf students' linguistic

processing may lie in their use of space, facial expression, or body shifting, even though these features are not part of written language expression and therefore can easily be overlooked. Deaf children must link new meanings in print with their existing knowledge of language, which is necessarily visual rather than auditory.

An understanding of fingerspelling and the rules for sign production, for example, can help in understanding deaf children's invented spelling (Schleper, 1994). The strategy of handshape borrowing, or writing the word based on the handshape of the sign, may result in spellings not easily understood. For example, a child may spell "in" starting with a "B"; or "cat" starting with an "F", based on the handshapes used in producing the signs for these words. Substitutions of letters may also occur based on how closely they resemble each other on the hands, not whether they sound alike.

A case study of a Deaf child by Wilcox (1994) provides another example. Wilcox documented how the child used phonology of ASL to solve the problems she faced in learning to read. The child created a three-way link between the visual phonetics of signed language, fingerspelling, and English orthography. The ASL handshape represented the meaning of the word, and the fingerspelling helped to link this meaning with the printed representation. It appeared that this Deaf child bypassed the phonological system and used a system she could understand. She did so by matching her existing linguistic knowledge of ASL constructs to print, even when her knowledge of ASL was limited, or when it conflicted with rules of English. For example, the child learned that the "-ing" ending in English represented the present progressive tense. She was also aware of the tendency for verb tense to be indicated at the beginning of

sentences in ASL. This resulted in her producing sentences which combined elements of the two languages "incorrectly", such as, "-ING ME EAT ME." A teacher without knowledge of ASL grammar might have labelled these productions as language disordered rather than recognizing them as systematic problem solving.

Speak then read. Another general strategy in educating bilingual children is to teach them the spoken form of a language before introducing reading in the language. This practice has been questioned, however, in light of studies where "write first" instructional approaches have been more effective for developing literacy in some learners (Mercado, 1991; Wald, 1987). The belief that language develops sequentially from listening to speaking, to reading, and finally to writing therefore does not seem to occur for all students. All language processes may instead develop simultaneously, and practices such as those of delaying instruction in reading and writing until there is oral mastery of what is to be read in English as a second language are of questionable value, serving to limit the learning opportunities rather than enhancing them. The shift away from requiring sequential mastery of literacy skills is promising for deaf students since many deaf children learn English through reading and writing.

Most models of second-language acquisition emphasize the importance of an internalized phonemic system in oral literacy acquisition processes (Rosner, 1986). But analogies exist for deaf children, who seem to develop an internal representation of their visual language (Brooks, 1978). The process of developing reading skills in deaf children must therefore link these internal structures to the grammatical features of written English. Ruiz (1995), in a case study of her Deaf daughter's literacy acquisition, found that the daughter did not need an orally-based, internalized

phonemic system, nor the phonemic awareness activities or direct phonics instruction which many researchers and teachers consider indispensable.

Allow translation. Bilingual children should be allowed to translate to their first language (ASL) when reading in their second language (English), and the translations should not be considered errors. This is a useful reading strategy for making print meaningful.

One method for using ASL to teach English involves making comparisons and translations between the two languages explicit (Neuroth-Gimbrone & Logiodice, 1992). The students initially express story content in ASL, and the expressions are videotaped. The production of English writing then becomes a process of transcribing these videotapes. The relationship of spoken to written language needs to be taught and translation from one language (sign language) to another (written English) can be systematic (Erting, 1992). It appears that more attention should be directed to the non-manual components of ASL (movement, facial grammar, body shifting), as these convey vital grammatical information that needs to be linked explicitly to the corresponding grammatical features of English (Marshak, 1993).

Emphasize comprehension. In teaching second language learners, teachers should try to make information meaningful and comprehensible (Hudelson, 1994). The core of literacy is the construction of meaning, whether the text is the student's own or one written by others. The construction of meaning is central whether literacy is occurring in a first or second language.

Studies have documented this principle with deaf students by showing, for example, that deaf students use semantic clues to make sense of difficult grammatical structures (Yurkowski & Ewoldt, 1986). When they process these sentences, the deaf readers appear to consider "what

makes sense" rather than analysing the grammatical relationships between words. Unfortunately, instructional practices with deaf children commonly emphasize the grammatical structures that focus on the deaf students' weaknesses (syntax) and ignore their strengths (semantics). In response to deaf students' difficulties with syntax, many educators simplify text to facilitate reading skills. Yet this response may inhibit language growth rather than promote it (Ewoldt, 1984, 1987). Without exposure to a variety of syntactic patterns, deaf children cannot use their most effective strategies (semantics) for mastering the subtleties of syntax. The emphasis on semantic processes, however, must be developed systematically through exposure to appropriate background information, real life experiences, and the use of syntactically simpler reading materials.

Use the children's first language to determine comprehension. Written text in the child's second language can be discussed in the child's first language to ensure comprehension of the textual information and to develop vocabulary knowledge in context (Swaffar, 1988). For deaf students, this means that instructional conversations can take place in ASL about written English and should also occur in written English about ASL (Erting, 1992). Formal instruction related to higher-order thinking and literary forms have been helpful with deaf students, whose problems occur not only at lexical and sentential levels but also at broader levels of context (Kretschmer, 1989), such as knowledge of genres, coherence, and author's voice and reader's perspective. Intervention with deaf students should therefore include making textual structures and connections more explicit, and stimulating reflection by providing appropriate inferential questions. Teachers should use the students' native language in teaching these broader literacy

skills that are necessary for the development of full reading comprehension (Paul and Quigley, 1987)

Incorporation of culture. Teaching bilingual students also requires having an understanding of their cultural values (Ching, 1976). Incorporating the visually-oriented features of Deaf culture is essential in teaching deaf children. Strategies can be as simple as flashing the lights to get attention and using a variety of visual aids when presenting lessons, or as complex as developing visual poetry. Besides visual strategies, ASL discourse patterns also influence the most effective method of presenting information. ASL frequently uses a "diamond" discourse strategy, where the main point is presented initially, followed by expansion and background information, and closing with a restatement of the main point (Small & Philip, 1992). This contrasts with the more typical English discourse strategy of beginning with general information and concluding with the specific point.

Deaf communities operate collectively as opposed to the more individualistic standard common in Canadian culture (Philip, 1987). In the classroom this principle means agreeing as a group on the rules and expectations for behaviour, rather than the teacher telling the students what the rules are. It also means deciding by consensus, where possible, rather than by majority rule. A belief in collectivism also fosters peer teaching. Students are encouraged to work as a group so that concepts are understood by all, and tasks are completed by everyone. Although collaboration like this may be good teaching practices with any children, interactional activities have been especially beneficial for second language learning (Genesee, 1991).

Use of native language/cultural role models. An essential element of BDE is having

teachers who are true role models for Deaf culture. In practice such teachers need to be Deaf themselves, as well as fluent signers of ASL and skilled readers of written English. Several studies have emphasized how Deaf parents and teachers naturally elicit more interaction with deaf children because they are so much more visually attuned than are hearing people (Erting, 1988; Mather, 1989; Padden & Ramsey, 1996).

The study by Mather (1989), for example, compared a Deaf and a hearing educator's presentation of a story to deaf children. The Deaf teacher's fluency in ASL allowed her to modify her register to meet the diverse language needs of all the students in the group, and to enter into truly meaningful conversation with them. Many of the strategies she used, such as asking "wh" questions rather than "yes/no" questions, were not unique to Deaf teachers, but were good teaching practices in general. They apparently proved more difficult, however, for the hearing educator, whose limited ASL skills and stronger auditory orientation may have caused her to rely on more structured activities that controlled the language interaction.

Similarly, hearing parents reading with their deaf children were found to be more structured in approach and to create fewer links between the book and personal experiences than parents reading with their hearing children (Paul and Quigley, 1987). The differences presumably limit the development of pre-reading skills in deaf children, and are presumably linked to difficulties with meaningful conversations as well. To understand how hearing parents can best facilitate the literacy skills of their deaf children, therefore, learning from Deaf families is necessary (Erting, 1992), where more natural interaction occurs.

Research Questions

   The more the learning contexts allow students to draw on the three continua of biliterate development, that is, both oral and written, both receptive and productive, both first and second language skills, the greater the chances for their biliterate development (Hornberger, 1990, p.3).

   This quotation summarizes the current trends in literacy instruction with bilingual students. The traditional progression from listening to speaking, to reading, and finally writing, is no longer considered the only path to literacy. The newer, multiple approach bodes well for deaf children, who do not have access to all the steps along the traditional path. Literacy in their first language, ASL, gives the initial tools of experience, meaningful concepts, and deeper linguistic awareness that facilitate later learning of written English.

   The newer approach to BDE, however, has only emerged recently, and has barely begun to benefit deaf children. A paradigm shift from a medical or disability perspective to a cultural perspective of deaf children was necessary to link the fields of ESL teaching and deaf education. Educators of deaf children can now take advantage of ESL techniques because research is focussed on similarities, albeit in a different mode, rather than differences. Several strategies which have been effective in bilingual educational programs with hearing children have also been successfully applied to teaching deaf students. These include encouraging motivation, developing students' self-concepts, understanding language development, knowing the students' first language, allowing translation, emphasizing comprehension and using the students' first language to do so, incorporating cultural values and the presence of native language role models.

Because deaf children have only just begun to experience the newer approaches to BDE, this study explores and describes the effects of these approaches in a setting where they are in fact being implemented. This involved systematic data collection within a bilingual and bicultural educational program for deaf children to determine the impact of the school, classroom and home environments, as well as the teaching strategies implemented by teachers, parents and peers. It is important, but difficult, to distinguish between teaching and learning strategies. Therefore, learning processes were not assessed directly, but rather inferred from the effectiveness of teaching strategies. Both learning and teaching were studied within the contexts of school and home. More specifically, I set out to accomplish the following objectives:

1. To describe the activities and instructional methods that several teachers in a bilingual educational program for deaf children use to develop students' literacy skills.

2. To describe the natural strategies used by Deaf students, whose first language is ASL, to acquire literacy in English.

3. To describe the interaction between Deaf children and their parents in an activity which links the two languages of ASL and English.

4. To explore the impact the instructional methods within a bilingual educational setting have on Deaf students' literacy development.

These four objectives were implemented within a case study design, which focussed on three Deaf students and included their parents and teachers. The case study format, together with

a qualitative approach, ensured that the descriptions of teaching and learning strategies were

detailed and contextualized. The next chapter provides further information regarding research

methodology.

Chapter Three: The Framework for Discovery

The methodology for conducting research is outlined in five areas; the methodological

approach, the research site, identifying the participants, data collection, and data analysis.

Methodological Approach

In this study I used qualitative research methods that emphasize description, induction,

grounded theory, and the study of people's understanding (Bogdan & Biklen, 1992). This

approach is naturalistic in that observations are centred on the typical activities in the everyday

lives of people. In many ways qualitative research focuses on how people produce meaning

through social interaction and how they use this understanding to guide and shape their lives and

the lives of others (Denzin, 1989). My approach was holistic in that I did not view people and

their actions out of context, but rather within the systems of family, school, community, and

society. I did not predetermine what to look for, but rather tried to see the whole picture and

make meaning out of what I was given.

An important aspect of qualitative research is gaining access to the community, group, or

individuals which are the subject of study. In this case, this represents the staff, students and

parents at the Manitoba School for the Deaf (MSD)[2]. In order to set a positive tone and ensure

the observations represented natural interactions, I was open about what I was doing and had full

permission to be there. I built trust by making it clear that I would not use what I was finding to

demean or otherwise hurt people.

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[2] The actual name of the school is used here in agreement with school administration.
Although this limits confidentiality, it was felt that since there is only one residential school for
deaf students in the province, its identity would be difficult to hide.

Rapport is an important element of the relationship between researcher and participant. Rapport has been defined as the degree to which people can understand one another's perspectives (Denzin, 1978). As a former staff member of MSD, and an educator of deaf children for many years, I share many experiences and perspectives with the teacher participants in the study. Rapport was easily established through a shared understanding of the frustrations and challenges in achieving the common goal of increased English literacy with deaf students. During observations, the teachers asked me if I knew of a better definition or way to teach particular grammatical structures or vocabulary items they were struggling to explain to the students. Also, the teachers frequently chose to spend recess time, their coffee break, talking to me about classroom activities or student behaviours. These actions confirmed that I had established a good rapport with the teacher participants.

During the classroom observations I did not actively participate in the teaching activities. One reason for this was because I was operating a videocamera, but I also wanted to keep the interactions between students and teachers as typical and natural as possible. During the first day that I was videotaping in a classroom, one student turned to me and asked me, "YOU HEARING?" (meaning, "Are you a hearing person?"). I responded by nodding. I generally refrained from interacting with the students, but I realized that when I introduced myself to them, I hadn't indicated whether I was Deaf or hearing. This is an important cultural behaviour and I should have known better, so I felt it was the student's right to know, which is why I responded to him at this time.

The key to gaining access is trust. Approaching the community with a goal of

understanding rather than judging is essential in building trust (Higgins, 1980). As a hearing person studying deaf education, I had established key contacts within the Deaf community of Winnipeg and within the staff of MSD prior to my work with this study. These relationships facilitated my gaining access. It is possible to alter and manipulate certain behaviours to increase rapport and trust. Nevertheless, some barriers may remain simply because of whom and what I represent to the participants. As members of a cultural minority and disabled group, Deaf people have historically been oppressed by members of the hearing and speaking majority. This suggests that a hearing researcher, representing the oppressive majority culture, may obtain quite different information than a Deaf researcher. Schein (1968) in a study of the Deaf community in Washington, D.C. found this to be the case. Deaf interviewers were superior to their hearing counterparts in obtaining information, having lower refusal rates and leaving a positive impression.

A qualitative approach to research, where participants are actively involved in guiding the study, can also minimize the affects of a power imbalance between the hearing researcher and Deaf participants. In many ways, whether intentional or not, research in the field of deaf education has contributed to the oppression of Deaf people. Research from the majority hearing standard has emphasized what deaf children lack rather than the abilities they do have (Erting, 1992); has supported educationally mainstreaming deaf children to maintain the role and dependency of hearing experts (Johnson, et al., 1989); has promoted a psychology of deafness to emphasize abnormality further (Lane, 1992); and has developed teaching methods and communication systems without Deaf people's involvement indicating that hearing educators

know what is best for deaf children (Paul and Quigley, 1987). The aim of research with Deaf

people, as with other communities that have been marginalised, must be liberation (Ward & Flynn,

1994; Wight Felsky, 1994). Therefore, this requires a relationship between researcher and

participants which is truly interdependent. This means that hearing researchers should share the

same value base with Deaf participants and work in partnership with them to identify research

questions, draft proposals, establish research design, and interpret research findings. This is the

model I have followed in this study. The initial research questions arose from formal discussions

within workshop settings, as well as informal conversations, with Deaf educators and members of

the Deaf community. Throughout the research process, information was discussed and clarified

with participants, both hearing and Deaf. A particular emphasis was made to involve Deaf

consultants in the administration and analysis of the assessment of the students' ASL skills. This

was to avoid any influence of a non-native signer, such as myself, on the overall results of the

testing.

Research Site

In the current study, the primary research site as a whole became the subject of description

and study. The site included an environment where deaf children were presumably viewed as

culturally different not disabled. The focus of research encompassed the school milieu, the

classroom environment, as well as the students and teachers. Fieldwork was conducted at the

Manitoba School for the Deaf, in Winnipeg, Manitoba. The Manitoba School for the Deaf (MSD)

was selected as the research site because the school adopted a bilingual/bicultural approach to

educating its students six years ago. A commitment has been made to developing bilingualism

and cross-cultural awareness among staff and students. It was expected that an environment which values the role of ASL in facilitating English literacy would provide insight into the implementation of teaching strategies.

As part of the general study of the instructional methods and strategies implemented on the site, three elementary classrooms were targeted for data collection. These included the grade four, grade five, and grade six classrooms. The teachers were selected according to the criteria of years of experience, bilingual proficiency, cultural (hearing or Deaf) status, and willingness to participate in the study. All three teachers had a minimum of 5 years teaching experience with Deaf students to ensure that they were comfortable in the classroom and to reduce the possibility that observations would cause them anxiety. A high level of proficiency in both ASL and English was required to indicate a commitment to the bilingual/bicultural philosophy and to ensure that teaching strategies were not limited due to a lack of skills. It was hoped that at least one of the three teachers selected would be a Deaf person, and one would be a hearing person so that possible differences in their approaches could be observed. However, at the time of the study there were no Deaf teachers in any of the elementary classrooms (K - grade 6) at MSD. The final criterion, that of the teachers' willingness to participate, was important to establish rapport, and to ensure the completion and success of the project.

Participants

The primary participants in this study were three elementary students at MSD. Although the decision to include "three" primary participants was fairly arbitrary, it was considered a manageable number within an in-depth case-study design. The selection criteria for the three

students included cultural (Deaf or hearing) status of parents, age/grade level, and language proficiency. It was important to include both students with hearing parents and students with Deaf parents to determine if any differences in interactions could be observed. It was particularly important to include Deaf parents, as it happened that no Deaf teachers were included in the classroom observations. For this reason, two of the students had Deaf parents and one student had hearing parents. Although all three students were beyond an emerging or initial literacy level, there was still a range of reading and writing skills between the three students, aged 9, 10, and 11 years. It was important to reflect a range of literacy levels to determine if this influenced the learning or teaching strategies implemented. All three students used ASL as their first and primary language, and were learning English as a second language in written form. This criterion was established so that the influence of ASL skills in facilitating English literacy could be explored.

Although some individual language assessments were conducted, the students were observed primarily in their classrooms and at home. As a result of these observations other students and siblings also indirectly participated in the research. The parents of the three elementary students were also participants in the research. As previously indicated, two sets of parents were Deaf, and one set was hearing.

Students and Their Families. The student selected from the grade four classroom, was Zoe[3]. Zoe was a nine year old girl, from a Deaf family. Both her parents and her fourteen year old sister were Deaf, and she had numerous Deaf aunts, uncles, and cousins. Her father, Joe, was

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[3] For the purpose of confidentiality, all participants have been given pseudonyms - these are not their real names.

a teacher at a preschool program for deaf children. He received his training through an innovative 2 1/2 year, competency-based training program for Deaf adults, approximately ten years ago. As a teacher, parent of Deaf children, and an active member of the Deaf community, Joe was very aware of the issues and concerns in the field of deaf education. Zoe's mother, Joanne, was a child care worker at a bilingual/bicultural daycare centre, using ASL and English, for deaf and hearing children. Zoe's family lived in a small, well-kept bungalow close to the city centre. Both Joe and Joanne were active members of the Winnipeg Deaf community, and as former co-workers, well-known to me. They were relaxed during our interactions and openly shared their ideas and opinions.

Zoe's language skills in both ASL and English were assessed through formal and informal measures (these are discussed in more detail under the "Assessments" section). The findings indicated that she had advanced ASL skills. She was able to understand narratives, and comprehend grammatical structures, including classifiers, time markers, and map markers. In expressing herself in ASL, Zoe effectively used a variety of classifiers, modified the meaning of signs with facial expression and movement, clearly identified spatial references and used a variety of complex sentences. The formal testing related to written English placed Zoe's skills at approximately a grade two level. A sample of her writing revealed no problems with story structure and sequence, and some difficulties with grammatical markers, particularly verb tense and prepositions. Her written sentence structures were primarily simple (Subject - Verb - Object word order), but she did accurately use some conjunctions and embedding of clauses. Zoe expressed a positive attitude towards reading and writing, indicating that she participated in these

activities for recreation and enjoyed sharing her own stories or reading books with others. Please refer to Appendix A for a complete profile of Zoe's assessment results.

The other two primary participants were both selected from the grade six classroom. It was felt by school personnel that none of the students in the grade five classroom fit the criteria for a suitable participant (one that was using ASL as a first and primary language and learning English as a second language in written form).

Nancy was one of the students selected from the grade six classroom. She was ten years old and was the second child of hearing parents. Her twelve year old brother was hearing, and she had no other siblings. Her mother, Amy, was a teacher at MSD, and was very fluent in ASL. She became involved in the field of deaf education because of her experiences with her Deaf daughter. Her father, Mike, was an avionics engineer, and he admitted that he was not fluent in ASL so his communication with Nancy was limited. Mike expressed a genuine concern and reluctance to be involved in the study if videotaping was required. As it had been difficult to find three suitable student participants, I decided that rather than exclude Nancy from the study I would conduct the parent interview with Amy and Mike by simply taking notes. Amy was willing to be videotaped interacting with Nancy for the home observations. Nancy's family lived in a large suburban home very close to MSD. Both Amy and Mike welcomed me warmly into their home and appeared to speak openly and honestly about the issues we discussed.

Nancy's language skills in both ASL and English were assessed. The results indicated that she was developing effective skills in ASL. She understood narratives and comprehended grammatical structures including classifiers and time markers, but she consistently reversed the

perspective when comprehending map markers. Nancy was able to use a variety of classifiers and

expressed herself in ASL with both simple and complex sentence structures. The results of the

formal tests of written English, placed Nancy's performance in this area at a grade level of 2.5. A

sample of Nancy's writing indicated a good sense of story structure. She tended to omit

inflections from her verbs, and used primarily simple sentences following a subject-verb-object

word order. She correctly used quotation marks to embed one clause within another. Nancy

demonstrated a positive attitude towards reading and indicated that she frequently reads for

recreation. Her attitude towards writing was that it was difficult for her; there were many rules to

learn and she still made many mistakes. For a full profile of Nancy's language assessment results

please refer to Appendix A.

The second student selected from the grade six classroom was Sue. Sue was eleven years

old and her parents were both Deaf. She had a thirteen year old, hearing brother, but no other

siblings. Sue lived in the school residence during the week and travelled home to her family every

weekend. They lived in a small community approximately 70 kilometres outside of Winnipeg. I

typically planned my visits with Sue's family for Fridays, so that I could drive her home at the

same time. Although Sue's parents were Deaf, I had not met them prior to this study as they

were not actively involved in the Winnipeg Deaf community. Her mother, Polly, attended MSD

herself as a child and currently worked in a poultry processing plant. Her father, Kurt, was born

in Paraguay but his family moved to Canada when he was five years old so that he could attend

school here. He indicated that there were no schools for deaf children in Paraguay at that time.

Kurt graduated from MSD and was currently working for a window manufacturing company

where he has been employed for 18 years. Sue's family lived in a basement apartment of a house with an entrance through a family room on the first floor which appeared to be a converted garage. Kurt and Polly were both quite reserved and seemed particularly shy on camera. I think their responses were honest and open, but they did not elaborate much on the issues. At times this also reflected some unfamiliarity with the issues and concepts related to deaf education that we were discussing.

Sue's language skills in ASL and English were assessed. Results of these assessments indicated that she was functioning at an age-appropriate level in terms of her ASL development. She was able to understand narratives, and comprehend grammatical structures including time markers and map markers. Sue had some difficulty with classifiers, both in comprehension and expression. Classifiers function similar to pronouns in English; they are more general signs which replace other more specific referents. The formal testing of written English indicated that Sue was functioning at approximately a grade four level in this area. She demonstrated good comprehension of vocabulary items and used a variety of complex sentences in her written sample. She had some difficulty with verb tense inflections and articles, but accurately used possessive markers and prepositions. Sue demonstrated a positive attitude towards reading and writing. She frequently read for recreation and enjoyed sharing her own stories with others. A full profile of the language assessment results for Sue can be found in Appendix A.

Teachers. The three classroom teachers were also key participants, as the majority of research observations occurred in their classrooms during activities that they developed and led. The most important criterion for selecting the teachers was their experience in a bilingual

approach to teaching deaf students as it was their interpretation and methods of facilitating English literacy which were the focus of observations. As previously mentioned, all three of the teachers were hearing, but had developed fluency in ASL.

The grade four teacher was Marlene. She was in her early fifties, single, and had been teaching at the school for over 20 years. Marlene had very strong views about teaching children and specifically what deaf children needed in order to learn most effectively. She believed that students should be treated as individuals and that it was the teacher's responsibility to determine where each student was at and where they were going, and to provide them with what they needed to get there. She had strong expectations that her students would learn and, in her words, she "demanded that they learn." This was reflected in the atmosphere of her classroom; she was very strict in terms of student behaviour and she did not accept students not learning to her standard. Many of Marlene's classroom activities were individualized and she allotted ample time to complete them so that students could work at their own pace and at their own level.

The grade five teacher was Doug, who had been teaching at MSD for 15 years. Doug was in his mid forties, married to a teacher of the deaf who also worked at MSD, with no children. He was in good physical condition, and an outdoor enthusiast, as was evident by his bicycle in the corner of the classroom. Doug was very well-spoken and his concise and confident comments indicated that he had previously considered many of the issues we discussed. Doug indicated that making students feel comfortable and giving them consistency and structure were the most important aspects of effective teaching. His classroom reflected these beliefs through the warm, encouraging relationships he developed with his students, the tidy and organized

environment, and the systematic presentation of worksheets and lessons.

Paula was the grade six teacher and she had been teaching at MSD for five years. She was in her early thirties, married and had a preschool-aged child. Paula easily and openly discussed the issues of teaching deaf children. She considered the role of a teacher to be a facilitator of learning; one who creates an environment where students can be involved in the learning process and construct their own knowledge. Paula frequently encouraged the students to work independently. She tended to organize the curriculum around a variety of special projects, like writing a newspaper, planning a staff lunch, or preparing a skit for the Christmas concert. Paula openly shared her own personal experiences and took advantage of teachable moments to incorporate information even if it was not directly relevant to the topic at hand.

Data Collection

The current research involved in-depth interviews, formal and informal assessment measures, and participant observations within classrooms and homes. The time frame in which these data collection activities were completed was from September 1997 to May 1998.

Interviews. I began my study by interviewing the three classroom teachers and the parents of the three primary participants. Interviews were informal in nature and, particularly with Deaf participants, followed the style of ASL discourse. This requires a conversational, rather than a questioning approach, where personal sharing serves to affirm the participant (Preston, 1994). This also follows qualitative research conventions (Bogdan & Biklen, 1992). Questions were open-ended and allowed for responses that involved lengthy, detailed explanations. The process was similar to storytelling. Interviews were conducted in the participant's first language (either

ASL or English), and were videotaped or audio taped and transcribed. It was necessary to videotape interviews with Deaf participants as taking written notes is impossible when communication is in a visual-gestural modality (Higgins, 1980).

Interviews with the teachers were conducted at the school, and interviews with parents were conducted at home. I tried to arrange for both parents to be present during the interview, and successfully achieved this with Nancy's parents, Amy and Mike. Due to unexpected work schedules both Zoe's and Sue's mothers were not home when I arrived for the scheduled interviews. I proceeded to conduct the initial interviews with Joe, Zoe's father, and Kurt, Sue's father.

Each interview was approximately 30 to 45 minutes in length, with the exception of the initial interview with Marlene, the grade four teacher, which had to be extended over two sessions and was 90 minutes in total. Questions probed the participants' beliefs about deaf children's ability to read/write English, teaching and/or parenting philosophies and strategies, and attitudes towards ASL/Deaf culture. Table 1 provides a list of the topics and questions which guided the interviews. Some re-phrasing or additional questioning was necessary to clarify and elaborate participants' responses.

The teachers were interviewed again at the conclusion of data collection. The purpose of the second interview was to clarify and discuss strategies and behaviours noted during the observation phase to ensure that the researcher's interpretation of these events was accurate. The questions asked in the second interview were specific to each teacher and focussed on materials presented and goals for classroom activities.

TABLE 1: INTERVIEW TOPICS AND QUESTIONS

TOPIC	SAMPLE QUESTIONS
Beliefs about Learning and Literacy	1. How do you think children learn best? 2. Is it hard for deaf children to learn to read and write English? 3. Can deaf children learn to read and write English as well as hearing children? 4. Is it hard for hearing people to learn ASL? 5. Can hearing people learn ASL as well as Deaf people?
Parenting/ Teaching Philosophy	1. What is the role of a teacher in helping children learn? 2. What is the role of parents in helping children learn?
Bilingual/ Bicultural Program	1. In general, what is the relationship between Deaf and hearing people? 2. What would you describe as the key (essential) elements of a bilingual/bicultural program for deaf children? 3. How do you incorporate ASL and Deaf culture in your classroom/home?

Assessments. Individual assessments of each of the students were conducted during the

study. These assessments consisted of both formal and informal measures of the children's ASL

and English proficiency. I decided to include the individual assessments to gain a better

understanding of the students' language skills in comparison to the overall picture of literacy

learning activities within their classrooms and homes. The Test of ASL and English Literacy

(Prinz & Strong, 1996) was used to formally assess ASL skills through a set of six subtests, as

well as assess proficiency in written English, through a separate set of four subtests. This test was

selected because it provides the most extensive assessment of ASL skills available, and although it

has not been standardized, it was piloted in a bilingual/bicultural education program for deaf

students.

ASL production was evaluated with the *Classifier Production Test* and a *Sign Narrative*. In the *Classifier Production Test* the student watched a five-minute cartoon movie. The movie was then presented again in ten segments, and the student was required to sign in ASL the actions from each segment in turn. This procedure minimized the effects of memory. Responses were videotaped. These responses were then scored for the presence of different size , shape, and movement markers known as classifiers. The Sign Narrative was elicited by showing the student a children's story book that had no text, and then asking them to sign the story in ASL. Stories were videotaped, and later scored, using a checklist of ASL grammatical and narrative structures.

ASL comprehension was assessed with *Story Comprehension*, the *Classifier Comprehension Test*, the *Time Marker Test*, and the *Map Marker Test*. *Story Comprehension* involved watching a videotaped story told in ASL by a Deaf native ASL signer. Ten questions about the events in the story were interlaced throughout the videotape. Students signed responses to the questions as they appeared and their responses were videotaped. In this way, memory requirements were reduced to a minimum. In the *Classifier Comprehension Test* the students were shown pictures of objects with a variety of features. They watched a native ASL signer describe each object in five ways. Using an answer sheet that contained printed video freeze frames of each description, students were required to mark the one that provided the best ASL description of the picture. In the *Time Marker Test* students were shown, on video, six representations of specific times or periods of time. Using an answer sheet containing calendars, the students were required to find the corresponding dates. Similarly, in the *Map Marker Test*,

students were shown, on video, eight descriptions of the way objects are located in a given

environment, such as vehicles at a crossroads, or furniture in a bedroom. For each description,

students selected the correct representation from a selection of photographs in an answer booklet.

The English literacy subtests assessed students' skills in the areas of vocabulary, syntax,

and written narrative. English vocabulary comprehension was tested using a modification of the

Peabody Picture Vocabulary Test (PPVT). The test was presented in written rather than verbal

form. Students were required to read a word and then select from a set of four the picture that

best matched the word's meaning. Productive English vocabulary was assessed with the

Antonyms and Synonyms subtest of the Woodcock-Johnson Psycho-educational Test Battery -

Revised (WJ-R). Written stimulus words were presented and the students were to write another

word that either meant the same or opposite to the stimulus word. English syntax skills were

assessed using the *Sentence Writing* subtest of the Test of Written Language (TOWL). This test

involves a "cloze" task where the students fill in the missing words to demonstrate their

knowledge of grammatical structures when completing sentences. A written narrative was

elicited from a children's story book without text (the same stimulus used in the *ASL Narrative*

subtest).

In addition to formal measures, each student was also interviewed regarding their attitude

toward and understanding of ASL and English, and their own evaluation of their skills in these

languages. These interviews were based on Reading and Writing Inventories developed by

Campbell-Hill and Ruptic (1994). Please see Appendix B for copies of the inventories used for

these self-evaluation interviews.

The assessment sessions were videotaped for the purpose of reviewing and verifying test scores, but were not transcribed. This process included watching the videotapes with the Deaf consultant following the assessments and making sure that the students' responses were interpreted and recorded correctly on the test forms. The assessment of students contributed to the overall description of their functioning in the area of ASL and English literacy.

Observations. Observations in each of the three classrooms were conducted approximately once a week over a period of nine weeks during the months of October and November 1997. The nine week time frame was determined by the constraints of the school year, i.e., allowing teachers and students to establish routines in September and avoiding disruptions to routines in December due to special activities and holiday preparation. Observations of the students interacting with their parents at home occurred three times for each household, at the beginning, middle and end points of data collection. More frequent observations within the classrooms than within the students' homes were scheduled as it was anticipated that a greater variety of activities directed at developing English literacy would occur in the school setting. The focus of each observation, regardless of the setting, was a "literacy activity".

Classroom Observations. A total of 17 classroom observations were conducted; six in Marlene's classroom, five in Doug's classroom, and six in Paula's classroom. These observations occurred during language arts instruction, which included both reading and writing activities. Each observation began at 9:00 am and was approximately two hours in length, including a 15 minute break during recess time. The key focus of the classroom observations was directed at how teachers, students and the activities they participated in, linked ASL and written English to

make it meaningful.

Home Observations. A total of eight home observations were conducted; three at Zoe's home, three at Sue's home, and two at Nancy's home. The literacy activities in the home setting were quite varied among the participants and their families. It was intended that the parents would be observed interacting with their child at home during a typical story reading activity with either the parent reading to the child, or the child reading to the parent. However, this type of book reading activity was only appropriate for Zoe, as both Nancy and Sue were independent readers and their parents indicated that they no longer read with their children. Alternative activities with Nancy and her mother included baking cookies and playing a computer game. As previously indicated, Nancy was observed interacting only with her mother, Amy, as her father did not feel comfortable being videotaped. Observations of Sue interacting with her parents included story re-telling, cooking, and discussion of her week at school. None of the participants' siblings were involved in the home observations.

Zoe was observed reading to her father in the first visit, reading to her mother during the second visit, and playing a word game with both her mother and father during the third and final observation.

Sue's home observations included a discussion about a book with her father during the first visit, re-telling the novel she was reading to both her mother and father during the second visit, and baking brownies and playing a board game with her mother during the third visit.

Nancy's home observations involved baking cookies with her mother during the first visit, and playing a computer game with her mother during the second visit.

Videotaping Procedures. All observations were videotaped. Classroom observations were videotaped using two cameras; one mobile camera operated by the researcher to focus on specific interactions, and the other a stationary camera allowing a wide-angle view of the entire classroom. Although some adjustment to having a camera present was necessary, in general, teachers and students indicated they were comfortable being videotaped, as this is common practice in a bilingual/bicultural classroom with deaf children. All participants were aware of the videotaping component of the study prior to consenting to be involved. Please see Appendix C for more specific information regarding the procedure for obtaining consent from participants.

Videotapes of the observations were not transcribed in their entirety, but were used to make detailed field notes. A framework of notes describing the environment, activities, and interaction of participants was written immediately following each observation. As particular emphasis was placed on describing the context, manner, and use of the two languages, ASL and English, these initial notes were elaborated by referring back to the videotape. This allowed for more detailed transcriptions of specific interactions.

Transcription of Videotapes. When data are collected in ASL, translation is a linguistic and artistic challenge. Researchers have responded to this challenge in several different ways depending on the purpose of the study. Where the primary concern is grammatical structures and linguistic features, exact replication in the transcription and translation process is required. Data collection involves videotaping participants and painstakingly reviewing these tapes to record each movement of hands, body, facial features, and eye gaze. Conventions for coding ASL in written form have been developed, such as using English glosses (words) for content signs, and

subtext and supertext markings to show direction of signs and facial grammar (Battison, 1978;

Cokely & Baker, 1980; Stokoe, Casterline & Croneberg, 1976). These details are necessary

when the goal is to describe and understand the intricacies of ASL as a language.

Delineation of linguistic features is not the goal of the present research; therefore, the

guidelines for translation followed in the present study are less rigid than in linguistic studies. In

several instances, a literal translation of ASL, using English glosses for signs and maintaining ASL

word-order, is presented. These literal translations are represented by writing the English words

in upper case letters. For example, "ME GO STORE", or "DEAF CHILDREN CAN'T READ

WHY? CONNECTION SPEECH NOT SIGN". This method of translation was used in the

current study when it was important to compare expression in ASL with expression in English.

The form of these direct transcriptions were recorded in a similar way to the above examples.

English word glosses of the ASL signs were written in upper case letters and words which were

fingerspelling were written also in upper case letters but with a hyphen between each letter. All

other grammatical features, such as facial expression or spatial referencing, if relevant, were

described in brackets following the statement.

There are several problems with using a literal translation of ASL which is why it was not

used extensively throughout this study. The first problem is that although this type of translation

maintains the original form of what was signed, it can give a false impression of ASL as

ungrammatical and disjointed. Secondly, the meaning of such "quotations" may also not be clear

to readers without any knowledge of ASL. For example, in the literal translation, "MINE

THINK-PICTURE ALL STAFF BI-BI", would not clearly be understood as meaning, "I have a

vision of all staff members being bilingual and bicultural."

Another option for translation is to use conceptual equivalents of what was signed in ASL in written English. This is similar to translation between other spoken languages. A third option, which has been adopted by some researchers, is to use a figurative writing style to convey the distinct visual and metaphoric richness of ASL (Preston, 1994; Foster, 1989). This requires artistic skill and a thorough knowledge of ASL to distinguish the grammatical features of facial expression and body movement from dramatic flair and emphasis. The current study employs this third option in terms of videotape transcription. Attitudes and experiences go beyond linguistic terms. An understanding of the cultural context in which language occurs is needed for meaningful interaction. This is particularly relevant in a study which is evaluating the significance of culture in the language learning experiences of children. An example of this "cultural translation" is demonstrated through translating the sign "INSTITUTION". The word "institution" in English generally has negative connotations related to big, impersonal, and de-humanizing centres; but in ASL this refers to the residential school which many Deaf people value very deeply because it provided them with language and a community. The difference in perspectives and meanings would need to be reflected in an accurate translation, replacing words like "institution" with words like "school family" or "school community". This method of translation is sensitive to the socio-cultural and socio-political realities of Deaf communities and the beliefs they hold. It allows for a deeper understanding of Deaf people's intentions; however, it also leaves Deaf people vulnerable to exploitation by researchers who are not fully versed in Deaf culture or have not gained the trust of the Deaf community. This again emphasizes the need to

work in partnership with a Deaf consultant and the Deaf participants to ensure and verify

translation and interpretation.

Data Analysis

The methodological process of triangulation (Denzin, 1978) was used in this study to

achieve confirmatory data. This refers to using multiple methods of data collection in analysing

the same empirical event, such as, interviews, observations, and assessments. Having more than

one source to check and confirm information, ensures that interpretations will be more accurate

and representative.

The process of integrating data collected by various methods was an essential aspect of

data analysis and interpreting the research findings. A consistency between the words

(interviews) and actions (observations) of participants was determined before conclusions

regarding their beliefs or values were drawn. Previous studies conducted with hearing teachers of

deaf children demonstrate the importance of this principle. Many hearing teachers talk about

valuing the visual skills of deaf children and their need to communicate and learn in American

Sign Language (ASL); however, observations of their interaction with deaf children in the

classroom show that they continue to emphasize sound-based, and English-based strategies to

learning (Erting, 1988; La Bue, 1995). Although there may be many different reasons for the

inconsistency between beliefs and behaviour, the first goal of research is to uncover them. It was

also important to combine interviews with other methods of data collection to validate what was

not expressed in words. People do not always tell researchers what they really think or know.

To further ensure that participants' words and actions were interpreted and translated

accurately, member checks were incorporated into the data analysis procedure. This involved

reviewing sections of the videotapes, which were confusing to the researcher, with the

participants so that they could explain and clarify what they perceived to be happening.

Throughout the process of data analysis, the information gained from participants was

considered from both personal and social perspectives. An individual's attitudes reflect a

combination of her own attitudes and those of her social group (Denzin, 1989; Foster, 1989). An

understanding of Deaf cultural values allowed me to place what Deaf people said and did within

that context. Data analysis also helped to account for apparent conflicts or variations in

behaviour which were explained by variations in settings, or a sequence of changes within the

individual.

Analysing the data involved carefully reviewing all field notes, including transcriptions of

the three parent interviews and six teacher interviews, notes for all seventeen classroom

observations and eight home observations, and the three assessment reports. Through this

process five key themes began to emerge. Initially, I marked sections of the hard copies of field

notes which supported each of the five major working themes. This information was then

transferred to computer. All field notes were previously stored in a word processing program, so

sections were blocked and moved into separate files according to the five themes.

The initial process of categorizing data was very general because of the volume of

information to be sorted. There were 611 pages of prose text data collected from the interviews

and observations. Once the data had been organized into five general themes, a more refined

process of categorizing the information could begin. A similar process of beginning with a printed

hard copy and then moving to the computer to categorize information was followed. Within each of the major themes, several sub-themes emerged. Also, throughout this process many sections of field notes were moved between major themes or sub-themes to ensure that they were categorized in a meaningful way. When evidence from the field notes suggested a particular pattern of behaviour or beliefs, field notes were reviewed to search for evidence that would contradict or negate the finding. Relationships between themes and sub-themes were also noted and explored. This organizing and structuring of the data facilitated interpretation of the information collected.

The process of analysing the data was not static. The research findings were continually assessed against my conceptual framework. In this way methods and concepts were constantly interacting with observations and theory. The discovery, or search, was active and interactive. The process began with broadly defined working concepts, and gradually progressed to the final result of clearly defined and operational conclusions.

Chapter Four: Making Connections Beyond Words and Signs

Five major themes emerged through the examination of all the data, which included field notes of classroom and home observations, transcripts of interviews with teachers and parents, reports of student assessments, and various documents regarding the school's curriculum and policies. The first theme, "Teaching Strategies", outlines the methods, materials, and technologies used by the teachers and parents to promote the literacy skills of their students and children. The theme leads into, and incorporates the second, called "Translation", which points to translation skills emphasized by the teachers. The third theme is "Learning Strategies", which describes how the students applied their knowledge of one language (ASL) to help develop their skills in the other (English). The final two themes refer to the overall context of teaching deaf students within a bilingual and bicultural environment. The fourth is the "Maintenance of a Deficit Model", and concerns teachers' continued tendency to see deaf students as lacking skills rather than possessing special resources. The fifth is "Pedagogy and Bilingual/Bicultural Philosophy", and refers to the difficulties in distinguishing between teaching that is helpful to deaf students and generally good teaching and parenting practices.

Each theme is discussed separately, although there are areas of overlap between them. The themes are also divided into sub-themes which support and contribute to the development of the concepts within each major theme. Table 2 provides a general listing of the themes and sub-themes in the order in which they are discussed.

TABLE 2:   OUTLINE OF THEMES AND SUB-THEMES

THEMES	SUB-THEMES
Teaching Strategies	1. Direct and Indirect Teaching 2. Strategies for Teaching Reading and Writing 3. Teaching Specific Language Structures 4. Other Strategies: Use of Concrete Materials, Use of Technology
Translation	1. Explicit Teaching of Translation Skills 2. Translation Activities 3. Direction of Translation 4. Defining Multiple Meanings 5. Teachers Using a Second Language
Learning Strategies	1. Interference Between ASL and English 2. Asking for Help 3. Defining Words and Creating Meaning 4. The Role of Parents
Maintenance of a Deficit Model	1. Inconsistent Attention to Culture 2. Language Deprivation 3. Additional Disabilities 4. Class Groupings 5. Hearing Model of Learning
Pedagogy and Bilingual/Bicultural Philosophy	1. Definition of a Bilingual/Bicultural Philosophy 2. Communication 3. Teaching and Parenting Practices

<u>Teaching Strategies</u>

One objective of this research was to describe the activities and instructional methods used

by teachers in a bilingual/bicultural program for deaf students. The focus was on implementation

of teaching strategies; on putting into practice a theory of using one language to assist the

development of a second language. The resulting observations shed light on three aspects of teaching strategies: 1) using direct and indirect teaching methods for developing language skills, 2) strategies for teaching reading and writing, and 3) teaching specific language structures, such as spelling, vocabulary, sentence forms, and discourse patterns. There was considerable overlap among these three categories of teaching strategies. For example, direct methods were used to teach specific language structures, or reading was taught through an emphasis on translation skills. The categories reflect an arbitrary organizational framework which I have imposed to make the amount of data more manageable, rather than methods of instruction which occurred separately.

<u>Direct and Indirect Methods of Teaching</u>

All three teachers emphasized and used direct teaching of English grammatical structures. As Marlene said, "You can't just expose them to it and because they have a first language they'll pick that up. You have to teach it." This was supported by Doug, "English really is a very predictable kind of a language if you have some basic building blocks for these kids to utilize. So those kind of sentence patterns and grammar rules need to be explicitly taught." This need was also expressed by Joe, Zoe's father. "If they just point to it and explain it briefly that's not enough. For example, my daughter when she is writing something, like for example, 'I want Dad to come see bedroom'. Then I can explain to her, you need to put 'my' bedroom, not just 'bedroom'. So she has the concept connected to English and knows what the rules are."

The following are examples of what direct or explicit teaching looked like in the classrooms. In the first example, Doug taught the irregular past tense rule in an interaction with

his student, Dylan:

>   Dylan responds with the sign "TAKE".[4]
>   "TAKE FINISH"Doug signs back and then explains, "Not T-A-K-E-D but T-O-O-K". Doug fingerspells these words to emphasize the irregular past tense construction. He then continues with the example of the word "cook". He writes it on the board and asks Dylan, "How do you write COOK FINISH?"
>   Dylan indicates, "Add 'ed'."
>   "Right." Doug adds "ed" to the word "cook" on the board. "Most normal words, yes, for past you add 'ed', but some words are different." Doug explicitly states the irregular past tense verb rule.

Doug also taught the difference between singular and plural copula verbs to his whole

class:

>   "Okay, now look at this sentence. The 'who' is 'the boy'. Does that mean one or two?" Doug is pointing to the words on the overhead as he says this.
>   "One." several students respond.
>   "So do we use 'is' or 'are' when there is one person?" Doug asks and refers to the list of "be verbs" on the board.
>   "Is!" Steve calls out and also spells "I-S". "We have to change it to 'is'."
>   "Right!" Doug says, as he erases the "are" and writes in "is". "'The boy is big', now it is a good sentence. Remember the rule about one person and two people."

At times, the direct teaching was not related to a specific grammatical structure, but to

sentence construction. When students were working on independent writing tasks, Doug did not

tell them the words to write, but he continually reminded them of the pattern - "first 'who' or

'what', then 'what they are doing'". Paula made the following analogy between verbs and sign

posts. "A street sign tells you where you are. The verb does the same thing. What is before the

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   [4]The transcription technique I am using throughout this document is to capitalize words which represent English glosses of ASL signs. Hyphenated capital letters represent ASL fingerspelled words. This method was first described by Cokely & Baker (1980).

verb is the 'subject', and what comes after the verb is the 'object'. The same way that a sign

helps you to find your friend's house, the verb helps you to find parts of the sentence."

Marlene taught her students about "be verbs":

"Do you know what a 'be verb' is?" Marlene sees what they know. There are a variety of guesses using some form of the word "be", like "been", or "bet".
"No, it's not with the word 'be', it means a verb that is not an action word. Okay, so you have verbs with actions, like, 'jump', or 'run'. But 'be verbs' are 'am', 'is', and 'are'."

Paula gave the following response to a student who wrote "Diana was died":

"You don't need the 'was'. You can just say 'Diana died'." She writes this under the first sentence. "Or you can use 'was' and use the word 'dead'. You need to use the word 'dead'. That is an adjective - describing - not the action of 'dying'." Paula then changes the sentence on the board to read "Diana was dead".

Teachers frequently drew charts on the board with the headings of "past", "present", and

"future" to illustrate and compare the different verb tenses. Here is an example of how Paula

used this technique:

She then goes on to write three headings "present", "future", and "past" beside the sentence "I write the letter".
"If you were going to write this letter in the future then you need to say 'will write'." She writes this under the heading "future". "If you had finished writing the letter, then you say 'I wrote'."

Another strategy that was associated with direct teaching of grammatical structures, was

to use a comparison of how the concept was marked in English and in ASL. This essentially was

a type of translation activity. Doug related the possessive marker in ASL to the use of possessive

pronouns in English with the following explanation, "All those words, 'H-E-R-S', 'H-I-S', 'I-T-

S', mean it belongs to them. You sign it the same way, but use a different word if it's a girl, boy,

or thing."

Marlene compared the two languages and their use of verb tense markers in the following

way:

> "ASL verbs do not have endings like in English." Marlene explains, "In ASL you use time at the beginning of the sentence to show if it is happening now, in the past, or will happen in the future. For example, you start the sentence with 'YESTERDAY ME GO STORE', and you know it is past. But in English you must add to the verb, even if the sentence starts with 'yesterday'. Each verb is marked when you write."

In one class, Marlene even made the purpose of reading explicit to her students.

> "When you read it must make sense. It's not just that you know each word. I don't think you really know what you are reading. You can't pretend like you read and know what it is all about, if you don't understand. If you don't understand, then there is no point in reading." Marlene signs this as "FOR-FOR READ". She is quite emphatic in expressing this with the students.
> "It's the same idea if you are signing and someone doesn't understand. Should you just keep signing?" Marlene asks them, drawing an analogy with ASL.
> The students shake their heads.
> "Okay, so I know that reading is different than signing ASL, but both need to make sense. You sign to communicate and understand the story, and it's the same for reading. You need to understand the story in the book."

At times, some of the explicit explanations given by the teachers seemed very detailed and

complicated. It made me question whether these direct teaching interactions were really

meaningful to the students. Doug made a comment about this idea to his class, "I know that the

rules are complicated and a lot to remember. It's okay to make mistakes. When you get used to

them and study them, it gets easier and you understand better."

The teachers appeared to have an expectation that the grammar rules would need to be

explained and presented repeatedly to the students before they would learn them. In one lesson,

Paula was referring to a structure she had taught during the last lesson but the students did not

remember it at all. It was necessary for her to repeat the same information. In another example,

Paula was asking the students what the word "subject" meant:

> "Math, science, social studies, and so on." Jeremy responds.
> "Yes, that's right. Those are called subjects," Paula says, "but I mean part of a sentence. What is the subject of a sentence?"
> Both Sue and Jeremy look at each other and shrug.

I was surprised that the students did not retain this information, as I had observed Paula

discuss the parts of sentences - subject, verb, object, and so forth - numerous times. These were

also terms the other teachers used, so I would expect that they had been exposed to them

throughout their education. This raises the question of how much direct teaching of grammar

rules is really retained by the students, and if not very much, is there a more effective way to teach

these concepts?

Naturalistic or indirect teaching activities were also incorporated into the classrooms. All

three teachers presented written novels in ASL to their students as a way of exposing them to

literature beyond what they could read on their own. This allowed for learning about character

and plot development, facilitating prediction skills, and enhancing the ability to re-tell and

summarize stories. The teachers tended to let the students re-tell the story, but they added some

guiding questions to elicit some of the details. The teachers used the students' summaries

following the reading to make sure they understood what was read.

In Marlene's classroom, the novel reading also provided content for writing activities.

The students were required to re-write what Marlene had read to them. I noticed that the students were provided with lots of time for writing - usually 30 to 40 minutes daily. This eliminated the feeling of being rushed or that a certain amount must be completed. There was simply an expectation that all the students should be writing as best they can during that time. As Marlene put it, "I really enjoy seeing the confidence develop in terms of writing - accuracy is not the point."

An indirect teaching strategy that Paula used was to pick up on the students' interests and incorporate these into her classes. She seemed to enjoy these little tangents and saw them as an important part of the educational process. An example of this occurred when one of the pictures on her bulletin board was smeared and no one knew how it happened. The students all thought that maybe there was a ghost in the classroom. Paula developed this theme for several weeks before Halloween, by leaving mysterious notes or clues around for the students to find. This also aroused the interest of students in other classrooms, and generated much discussion in the halls and at recess time. This was an excellent activity to stimulate discussion and problem solving. It also tapped into their natural curiosity about the topic of "ghosts".

Reading for pleasure was also encouraged by the teachers. Each student was provided with a box of pre-selected books, which were considered to be at the student's reading level, and they could work their way through them whenever they had free time during the school day. Marlene emphasized that these must be "books that they can read."

Although a variety of indirect teaching strategies were observed in the classroom, the interactions between students and their parents provided great insight in this area. Kurt, Sue's

father, recalled early book experiences with his daughter, "But when she was about four years old I'd tell her stories in ASL and we'd look at the pictures and maybe even talk about some of the words, and I'd explain what they'd mean."

Joe, Zoe's father, gave the following examples when asked about the role that English played in their home:

> Like, my in-laws, who are hearing, or my mother, who is hearing, if they write notes back and forth, that's another good way of practicing. Not for a long time - two or three minutes or five minutes - we'll write back and forth using English.
> Well, I find that a real benefit comes from captioning on TV. For example, if we are watching TV, then during the commercials I might ask the kids, "What's going on? Do you know what's happening?" And we discuss that. What is really great is if it's a rented movie where there are no commercials, because then you can go back.

These kinds of activities could easily be adapted for use within the classroom. Communicating by writing notes is essentially what goes on in journal writing between students and teacher. I did not, however, observe this to be an activity in any of the three classrooms. I also did not observe the use of television or videotapes with captioning as an instructional activity. I know that several of the classes watched movies of the novels they studied once the reading was completed, but this was not applied in any other context.

The nature of reading activities also differed between home and school. The emphasis was on comprehension. Parents did not wait for their children to figure out what words meant, but provided them with the information they needed to make the text meaningful and to accomplish the task. In other words, reading was a means to an end - the purpose was not simply to be meaningful but to use and apply that meaning in some way.

This is illustrated in the following interaction between Nancy and her mother, Amy, as

they were baking cookies:

> "I don't understand." Nancy says after reading the recipe.
> "Well, what does it say?" Amy asks.
> "C-O-M-B-I-... I don't understand!" Nancy says, trying to figure out the word.
> "C-O-M-B-I-N-E means mix together." Amy explains.
> "Okay, mix together D-R-Y I-N-G-R-E ..." Nancy spells the words she doesn't know.
> "I-N-G-R-E-D-I-E-N-T-S means things you put in." Amy explains, "So, what are the dry things?"
> "Flour, soda, salt" Nancy tells her.
> "Right, okay what do you do with them?" Amy asks.
> Nancy reads and looks puzzled, she tries to fingerspell a word. Amy reads and spells "F-I-R-S-T what does that mean?"
> Nancy knows, and signs "FIRST".
> Then Amy guides her to the next word and spells M-I-X. Nancy knows that one, too.
> Amy then explains the concept of first mixing together the dry ingredients - flour, salt, and soda - and then adding it to the other mixture.

Similar behaviour was noted when Amy and Nancy were playing a computer game together. Although it was an educational activity, Amy did not try to make Nancy figure out the words and language she did not understand. She let her work through the messages, but readily explained, or even translated, anything that Nancy was not clear about. This again emphasized comprehension and meaningful use of the reading and writing tasks within the framework of the game.

Similar interactions were noted between Sue and Zoe and their Deaf parents. When Zoe was reading a book to Joe, on several occasions he seemed to know intuitively that Zoe was not sure how to sign what she was reading. He responded by giving her the signs to express the concept in ASL. The following interaction between Sue and Kurt emphasized how even when Sue gave the right answer, Kurt followed up with an explanation to ensure that the answer was

meaningful to Sue. Again, the emphasis was on meaning and comprehension:

> Sue then finds a picture of the person with the longest hair in the Guinness Book of World Records.
> "How many feet long?" asks Kurt.
> "10 feet." Sue answers, after finding the answer in the book.
> "Right, 10 feet and how many inches?" Kurt continues.
> "Three" Sue tells him. He nods.
> "That would be from the wall almost to the window." Kurt points out the length in the room to indicate to Sue how long ten feet would be.

The emphasis in the classrooms tended to be that reading for deaf children was always a language learning activity. Yet, the focus of reading between parents and children was much more on meaning.

Strategies for Teaching Reading and Writing

The teachers viewed teaching reading as a form of teaching English. For this reason, they felt it necessary to present various grammatical structures in a consistent and controlled way. This supported their use of a reading program for deaf students titled Reading Milestones (Quigley & King, 1982). Paula explained her use of the program this way:

> It's not a reading program, it's more of a language program. So it helps kids build some of the reading skills they need in order to read trade books, because it has controlled language. I use Reading Milestones intermittently with novel studies. So I don't use it as my total reading program, it's only a component of it. It's kind of like if you don't do one avenue then you're missing pieces of it. So if I only did Reading Milestones they miss the complexity of reading books, and if they only read Reading Milestones, I truly believe they don't ever learn to read trade books. And if they are only reading trade books, sometimes they miss some of the fundamental language parts of it, because they skip over that, that the Reading Milestones provide.

This was supported by Doug, "The thing is that I have yet to run into anybody who can give me an option that I can use with lower language level kids, that has the structure and the

predictability and the consistency of vocabulary that Reading Milestones has. I know that it's not

the greatest program in the world, but to expect these children to read other things, like trade

books, etc., at their level and comprehend them, and at the same time get a sense of structure, and

repetition of vocabulary - I don't know of anything that's available."

Marlene also agreed, "And all those beginning English books that are so much fun for little

kids - have all this nonsense stuff in it and rhyming and silly words - is totally meaningless to the

deaf kid. Just totally meaningless. You just couldn't find enough things in print that they could

read. You couldn't give them enough practice in reading something that they could read - to be

successful. So that's what the Reading Milestones provides - limited structures focusing on one

concept at a time."

In the Deaf community, a common criticism of the Reading Milestones program is that it

controls language and vocabulary so carefully that meaning, context, and overall story structure

are sacrificed. The language the students are exposed to is drilled and not natural, and as a result,

may not be very motivating or appealing. Marlene responded to this argument, "People say,

'Yes, but they need to learn for fun.' Yes, they do, but they have to learn the language before

they can do it for fun." The feeling here is that language learning for deaf children is clearly not

fun - it is a lot of hard work. Would the same attitude be present in teachers who teach English as

a second language to other children, or is it specifically related to the fact that these children are

deaf? I would think that precisely because deaf children have additional challenges in learning to

read and write English that particular emphasis should be placed on making it "fun".

Reading instruction in the classrooms took several forms. Frequently, the students'

reading was closely monitored by the teacher. For example, Marlene established a pattern of letting the students read one sentence of the story to themselves, and then one student would tell what it meant. Some discussion would follow to make sure all the students in the group understood. A similar pattern was noted in Paula's classroom; however, she tended to ask the students to read longer passages, like a paragraph or entire page, before getting them to re-tell what happened. They would also discuss any misinterpretations or specific words or phrases that the students had trouble with.

Other types of reading practice observed in the classrooms included; 1) reading in pairs - where students would take turns "reading" (translating the written English into ASL or a signed form) either sentences or paragraphs from the same story to each other, 2) reading in pairs (as above), but monitored by the teacher, 3) reading out loud to the teacher - for oral students this meant using their voice, but with most students it was translating what they were reading into ASL, and 4) reading silently and independently.

The teachers used a variety of methods to make written text meaningful. In one example, Marlene presented a short paragraph in written form on the board. She then translated it and presented it to the students in ASL form. To further explain the story she illustrated what was happening by drawing pictures of the scene, characters and actions on the board. She continued to reinforce the meaning and the students' understanding of the story by asking them comprehension questions.

These kind of multi-modal (written, signed, illustrated) explanations were typical in all three classrooms. The teachers did not appear to be frustrated with needing to explain the story

again or elaborate on certain details. Multi-modal presentations also included using the movie

version of a book. The teachers consistently studied the book first, either read by the students

themselves or as a read aloud novel, and then reinforced this with the movie. Paula explained to

the students why she felt it was important for them to read the book first:

> As you read you should have a picture in your head, you know, see what the characters
> are doing and what is happening in the story. One problem with the movie is that while
> we are reading, you see the movie instead of the picture that the book is describing. There
> may be a conflict between the two. Often the book and the movie are not exactly the
> same. So it is best to make a new picture in your head.

The activity of "reading" books to the class occurred in all three classrooms. Although

this was primarily a translation activity, it allowed the teachers to present literature to the students

that they would not be able to read on their own. As Paula stated, "Because if they are always

struggling through the text, they don't get the bigger picture of what the story is all about, and

how the characters are developed and all the kind of complexities that pop up in the plot.

Because they are working so much on the language and how to read through the material. So it

gives them the broader framework of what story actually is."

In the read aloud activity the teachers were able to develop students' prediction skills, and

help them understand inferential information. They frequently paused during the reading and

questioned students about the characters' feelings, their own reactions, or simply to ensure that

they were comprehending the plot. Paula indicated why she felt it was important to stop and

explain often during the read aloud process, "That is what Deaf readers are said to do, so that's

why I do that." I observed this kind of contextualized reading when Joe was reading to Zoe. He

presented a very clear ASL version of the argument between the two characters:

"Those are my clothes! Take them off! He's mad!" Joe emphasizes the point. He refers to the book again and provides more of an explanation. "TWO-OF-THEM (referring to the picture of the teacher and the principal in the book) TEACHER 'MY CLOTHES'. PRINCIPAL 'MY CLOTHES'. NO (two-handed pointing towards each other)." This last sign is using spatial referencing to indicate that the two characters are both saying "no" to each other at the same time.

In a more literal translation, the nature of the interaction between the teacher and the principal would not have been conveyed as accurately. In another example, Paula stopped to explain the characters' comments in order to clarify information that the readers were expected to infer. Paula was reading "Harriet the Spy" and the characters, Harriet and Sport, were inventing a town and Harriet wanted one man to be a TV person and Sport wanted the other man to be a writer. Paula stopped to tell the students that this indicated that Harriet's father was a TV person, and Sport's father was a writer. In this way, Paula was making inferential information explicit.

I did not observe the use of any videotaped ASL materials in any of the classrooms. Marlene talked about presenting the students with several different written versions of the same fairytale, "Then when they really know the story well they can appreciate the ASL version on videotape and start to use what they see." I found it interesting that she felt it was better to show the ASL version after they studied the English versions. This is not generally the order suggested in bilingual/bicultural teaching (Mahshie, 1995).

In Doug's and Marlene's classroom, but not in Paula's, students' exposure to text was almost exclusively through the Reading Milestones program books, the read aloud novel, and some pre-selected trade books. Students in Paula's classroom, however, were also introduced to magazines, newspapers, and other reference materials. This may again reflect the concern the teachers expressed regarding the difficulty in finding materials that the students could read

independently and successfully.

One of the strategies used for facilitating the students' writing skills was to reduce the burden of content, to free students to concentrate on the form. One way to do this was to have students re-write a story they were familiar with, or that had been read to them. Both Doug and Marlene used the read aloud novel in this way with their students. Marlene described another way to reduce the burden of content, "So, I have some wordless books. He can't, he's not coming up with a plot. So he picks out a wordless book and sits down and sees what is happening and writes a story. And he's written with increasing output."

Doug adapted a similar method for use on the computer. He scanned the pictures of a story and entered them into the computer. The students then typed their own sentences to provide the text to accompany these pictures, thereby writing their own stories. These were then easily printed and bound to produce professional-style books.

Marlene very much believed that students learn to write by writing. She provided the students with daily periods of time for uninterrupted writing. "My basic thing is, can you write, can you get stuff on paper, can you put the pen on the paper with any kind of confidence? And I don't care what it is. Just put it on paper."

I observed a change in students' writing behaviours over the three months of observations in Marlene's class. Initially, students were continually raising their hands and asking Marlene for the written words for their signs, but gradually they became much more independent writers. It was at this point that Marlene also began to emphasize editing skills. "Check if you have to add any question marks, or periods at the end of your sentences." Marlene would explain when they

were ready to hand in their work. "Check your spelling, your capital letters at the beginning of sentences, and make sure it makes sense, and nothing is missing." It appeared that Marlene felt they were ready for this.

The teachers geared their explicit teaching of written language structures to the errors they observed in their students' writing. They tended to address these errors on an individual basis with each student. In one situation, Marlene gave Zoe an extensive and complicated one-to-one lesson on using progressive verb forms. At times I thought this lesson was beyond her understanding, but Marlene obviously felt it was necessary and something that was coming up in Zoe's writing. Doug also gave explicit feedback to his students about their writing, "Remember, if you are writing exactly what someone is saying you need quotation marks. So you write, 'Billy said, quotation marks, no'."

Even the creative element of writing was explicitly explained by Marlene as a way of teaching students where stories come from. "He sat down and thought about this story. He imagined how it would happen. Then he started to write it. Then maybe changed what he wrote." Marlene explains. "Okay? You have to come up with the ideas from your head."

The goal of providing students with explicit feedback appeared to be that eventually they would be able to edit their own writing, identify any errors and make the necessary corrections. Paula explained this process to the students in the following way, "Every time you write something, you must read it again and make sure it makes sense. I have to do that, too. If I don't, I can miss many mistakes. So if you write it quickly or not carefully, just to get your ideas down, that's fine. But then, you go back and read carefully and make sure it is clear and makes

sense."

Strategies for Teaching Language Structures

Although each of the teachers had their own routines during language arts instruction, the same kinds of lessons were observed in each of the classes. For example, all three classrooms used word lists for spelling and vocabulary practice, and a designated time for grammar lessons. A school curriculum indicated the developmental sequence of grammar structures appropriate to each grade, but the teachers used their own discretion in following this guide. As Paula indicated, "We have to put in an outline for the year. So I decide what language concepts I want to work on with these kids. Now that changes through the year because I might find that they are weak in some area and I need to do a unit on that." This approach was supported by Doug, "So, I really don't get through the entire book in the course of a given year, but I kind of hit on the kind of places I think they need the most assistance with." Within these broad limits, I observed a variety of strategies. The following are examples related to spelling, vocabulary, sentence structures and discourse patterns.

Spelling. Spelling practice was a regular part of every school day in each of the three classrooms. In Doug's classroom, all five students studied the same set of ten words weekly which were selected from standardized lists based on frequency of word use. In Paula's classroom, the three reading groups worked on separate spelling lists based on formal spelling textbooks. In Marlene's classroom, each student was given five words daily which were taken from their Reading Milestones books or the read aloud novel.

Despite the differences in terms of programs used and number and frequency of words

presented, initial presentation of spelling words in all three classrooms involved pairing the written

words with a sign. This was generally all that was needed to make the words meaningful for

students; occasionally, however, a more in depth definition was necessary. In several instances,

the words were not easily translated into ASL, and the teachers would use a combination of signs

or an ASL adaptation, which they would explain was not really appropriate usage. For example,

when Doug signed "DO FINISH NOT" for the written word "didn't" he indicated that this

signing is not ASL. Then he also said the word for the sake of the oral students.

The following observation of Doug introducing a new spelling list to his class, was

representative of strategies used by all three teachers:

> When the students have finished copying the new list of spelling words, Doug goes
> through them, one at a time. First, he let's them try to "read" (sign or say) it. If nobody
> knows the word, he signs it for them. When he comes to the word "call", he indicates two
> meanings - using your voice to call or calling someone on the phone. When they finish
> going through the list as a group (with Doug primarily reading the words), he then makes
> each student read the list by themselves to make sure they each know all the words on the
> list. He permits them to use signs or spoken form or both.

Much of the focus with teaching spelling words was visual; however, the teachers did use

auditory and verbal strategies with the students that had skills in these areas. These included

saying the words out loud as well as signing them, encouraging students to sound out the word,

pointing to their mouths when they were producing the word, or giving the letter in error extra

emphasis when saying the word.

The teachers also used a variety of visual strategies to assist the students with spelling.

These included giving the first letter of the word, indicating the number of letters, either by

holding up the equivalent number of fingers or drawing a series of dashes on the board, and

directing the students' attention to where the word might be written in the classroom. The following sample interaction between Doug and his student, Bill, illustrates the use of several strategies in succession in order to help him be successful:

> As Doug is working with Bill, he indicates that he has forgotten the "NAME" for "LIGHT". Doug gives him the following series of cues to help him spell the word: 1) gives him the first letter, when this is not successful he 2) tells him to ask Dylan, when this is not successful he 3) tells him to look at his list or in the story, when this is not successful he 4) shows on his fingers how many letters are in the word, and eventually (with some help), Bill spells the word. Doug points out the pattern of "ght" and how often words end with that group of letters. He gives the example of "night". This is a way of identifying visual patterns in spelling and the kind of letters that often go together.

Doug described a computer program he developed to support his spelling lists, "What it does is it uses context clues as well as a cloze passage for them to figure out where those words are to be inserted. Then there is also a program that prints up worksheets that use context and definition, as well as just a general word search, so it's reinforced that way, too."

In many ways, there was overlap between spelling and vocabulary development. Many students may have understood the concept and knew the sign for it, but needed to link the written word to the concept as well. Other students were learning the concept, the sign, and the written word together. As a result, teachers often varied their expectations of students within a single lesson. Some were expected to read the lists only (associate the words with signs), some were expected to read and define the words, some were expected to read and spell the words, and some were expected to use the words in a written sentence.

Spelling practice was naturally incorporated into a variety of activities in each of the classrooms. Teachers would frequently ask students to spell words as they were writing them on

the board, even when the focus of the lesson was not spelling. For example, Doug was discussing

the use of capital letters with his class and in the categories of "days of the week" and "months of

the year", Doug encouraged the students to try spelling all the days and months as he wrote them

on the board.

Fingerspelling was used during spelling practice, but expressive use by the students was

emphasized over their receptive reading of fingerspelled words. In other words, when the

teachers gave the students a sign to spell, the students were expected to respond by fingerspelling

the word; however, when the students gave the teachers a sign for which they wanted the written

word, the teachers tended to write it on the board rather than fingerspell it. This may be because

the teachers wanted to provide a more permanent model that the students could copy. The

exception to this was when the classes were working in the computer room and a board to write

on was not available. In this situation I noticed the teachers fingerspelling to the students more

frequently. I also noticed that even when the teachers needed to repeat the fingerspelled words

several times for the students to catch them, they maintained a normal fingerspelling speed. On

one occasion I noticed Doug separate the word "insult" into two syllables to assist a student in

understanding the fingerspelled version. First he spelled "I-N", and then "S-U-L-T". Doug

continued to give the student the entire final syllable, not one letter at a time, even when he

needed to have this repeated three times. Maintaining the speed of fingerspelling makes it more

natural and facilitates comprehension.

One difference between Paula and Marlene that I noticed with regard to fingerspelling

involved the names of characters in the read aloud novels. I noticed that Marlene fingerspelled all

the names in the story and expected the students to do the same, whereas Paula had students

make up name signs for the characters. Paula indicated that when she is interpreting the story it is

too long to always spell the names each time. Marlene saw this fingerspelling of the names as

good practice in spelling for the students.

Vocabulary. The strategies that the teachers used when teaching vocabulary involved

highlighting phonetic, semantic, morphological, syntactic, and contextual clues. The strategies

were often adapted to fit the visual mode of written English and signed ASL.

When Steve did not know the word "person", Doug gave him a clue by starting to make

the sign (he made the handshape "P" with both his hands, but did not include the motion for the

sign). This helped Steve remember and sign "PERSON". This kind of a clue is a visual parallel to

the phonetic clue of providing the first letter or initial sound of a word.

Morphological clues involve using an uninflected form of the word to help the student

understand the inflected form. For example, when Dylan did not know what the word "made"

was, Doug asked him if he knew what the word "make"was (writing it on the board). Dylan did

know this word and signed "MAKE". Then Doug explained that this was the past tense and

signed "MAKE FINISH".

When Bill could not read the word "light", Doug used a semantic clue, or expanded on the

meaning of the word, to help him. He indicated that it is something you need when you are

reading. This helped Bill to get the sign "LIGHT". In another situation, a student was reading a

story about birds and did not know the word "legs". Doug used a semantic clue by telling the

student, "You have two" and also "Birds have two." Marlene expanded on the semantics of the

word "pig" by providing the students with several other related words and their meanings. She explained that "hog" also means pig and it is a male pig. There are other words for female pig - "sow", and baby pig - "piglet". Marlene wrote these words on the board.

An example of using semantic clues occurred quite spontaneously when Paula referred to another literacy source to help explain the meaning of the word "fairest". The students were discussing the sentence "The fairest days of the year" from the novel "Charlotte's Web". Paula asked the students what "fairest" meant. This was their response:

> "FAIR" Jason signs the ASL word that means "equal" or "fair".
> "No, this is a different meaning. It's spelled the same, but it has a different meaning." Paula explains. "You know the story of 'Sleeping Beauty'?"
> Both Jeremy and Sue nod.
> "Okay, do you remember the part when the Queen says to her mirror, 'Mirror, Mirror on the wall, who's the F-A-I-R-E-S-T of them all'?"
> Sue nods and signs, "Beautiful, beautiful!"
> "Right!" Paula confirms. "It means the most beautiful days of the year."

This example suggested both that Paula was able to make a connection between literary sources, and that students proved able to understand the association in a meaningful way.

Marlene used syntactic information to clarify the verb and noun forms of words. "'Invent' and 'imagine' are verbs." Marlene explained. "This means the action, what you do. If you are talking about what Fern has, not what she is doing, then you use the noun - 'imagination'. You say, 'children have a good imagination'." The need to emphasize the grammatical use of words was also expressed by Joe, Zoe's father. He stated, "And if I say 'in your bedroom', it doesn't mean like the sign 'in', but it means going 'into' your bedroom. So understanding the different usage of words and signs and how they relate is important."

The teachers also encouraged the students to go back to the story and use context to help them determine the meanings of words they did not know or recognize. Paula emphasized the importance of context when she told her students, "I don't know how to explain some of these words without knowing the sentence. You need to put down the page number when you pick the vocabulary, so we can see how it is used. It is easier to understand if we read the sentence."

A typical classroom activity involved discussing several vocabulary items selected from a reading passage or story, by either the teacher or the students themselves, writing definitions of these terms, and then reading them within the context of the story. This was done both as a pre-reading as well as a follow-up activity.

The teaching of vocabulary or concepts was often incorporated into other teaching. As students had questions about what they were reading or words and signs they did not recognize, the teachers would take these opportunities to explain what the words meant. An example occurred in Paula's classroom when an announcement from the office came over the television screen. It was an announcement for the senior high students to sign up for an ASL test to obtain a course credit. The students did not understand what it was about, and had particular difficulty with the word "credit". Paula took the time to explain the announcement in great detail. She spelled the word "C-R-E-D-I-T-S" and used the ASL sign "POINTS", when she was providing this explanation.

Another example came from an announcement over the television, but this time it was a student in Marlene's class. The announcement explained that they would be testing the fire alarm system throughout the day and that teachers and students should ignore it. Joe asked Marlene

about the sign "SYSTEM" that she used when she was explaining the announcement. "It means all the lights throughout the whole school." Marlene said. "You know how each classroom has flashing lights for the fire alarm. Okay, they are all connected together in the building and that is a system."

Marlene signed "O Canada" with her class every morning. This was not an English-based version, but an accurate ASL translation which included the formal sign "THEE". One of the students asked her about it. "It means 'this land here'. It does not mean 'sky' or 'day'. It means we value our country, here, around us." Marlene explained as she gestured with a flat hand at the area around her. (All these signs "THEE", "DAY", and "SKY" are made with a similar handshape, but the movement and direction of the palm are different.)

Sentence Structures. Strategies for teaching sentence structures were generally part of teaching writing skills. A typical pattern was observed in how teachers facilitated students writing sentences. The general sequence tended to be as follows: first the students asked if what they were trying to write was the right idea, then the teacher confirmed it or helped them expand on the idea, and finally the teacher helped them to construct the sentence. The teachers did this by asking questions about what students needed to include, such as, "Who tells?", "Ran where?", or "Give what?" When the students answered these questions, the teacher said, "Write that down!"

This was demonstrated in the following interaction:

> "It's a big tree, right? So, he can't what?" Doug asks.
> "He's stuck!" Sylvia replies.
> "Why is he stuck?" Doug persists, "What does he want to do?"
> "Climb the tree." Sylvia answers.
> "Yes! Write that!"Doug successfully gets her to the full sentence.

In a similar example, Marlene asked the student to first tell her in ASL what happened, and then she helped him to focus on the print:

> Marlene asks "What did BFG do?"
> Joe answers "Go".
> She continues, "How did he go? Fly?"
> Joe responds, "No, walk"
> Marlene answers, "Walk, right. Okay, write that down." Marlene follows this
process to get Joe to write "BFG walk". She continues like this for each sentence.

Discourse. Discourse strategies are important to implementing the bilingual and bicultural philosophy because they support students' learning of pragmatics - of how, why, and when language is used in ASL or English. Yet the only classroom where I noticed any attention to discourse strategies was in Paula's class at the grade six level. These students were independent readers and were expected to write a variety of longer pieces, including newspaper articles, book reports, and short stories. Paula drew the students' attention to the organization and discourse structure within the books that they were reading. For example, when she introduced a new chapter in the novel they were reading Paula explained how the first three paragraphs all explain different things about the meeting. "The first paragraph explains who is there; the second paragraph explains what they discuss; and the third paragraph explains what they decide. You see how the author uses three paragraphs to explain that event?"

Paula also helped to provide organizational frameworks for the students' writing. "Before you write I want a clear set up. Don't just start writing. You need to say 'who came', 'what did he bring', and 'who was watching'." At this point Paula went to the board and drew three large boxes. "The first part is the introduction." Paula said and wrote "Introduction" in the first box.

"You need to say who came, when, what did they bring." Then she wrote "What Happened" in the second box and said, "In the second part you explain what happened."

Paula helped Jeremy and Sue create a large "story mountain" which depicted the events of "Charlotte's Web". The initial events were described rising up one side of the mountain to the climax ("Zukermann will kill Wilbur") at the peak and then the resolving events down the other side. This graphic display helped to make the overall structure of the novel more explicit.

Paula also demonstrated and encouraged the students to practice a variety of different types of writing. In one activity, she showed them, on the board, how to use point form to summarize the information they were learning about the story. She specifically told them how to use dashes for each point and short phrases, and told them not to use full sentences. When they were preparing the skit for the Christmas concert, Paula explicitly emphasized how to set up the writing to differentiate between "scene" and "dialogue". She explained this as "describing the action or setting" vs. "what the people will say". When Nancy was reading her part in the script from what Paula had written on the TV screen, she included the word "Grandma" at the beginning. "Don't say that," Paula told her, pointing to the word "Grandma". "That shows you who is talking."

Another activity which reflected the value Paula saw in teaching overall discourse patterns and structures, was her consistent use of the "Question of the Week". She explained the purpose of this activity to the students in the following way, "We do the question of the week because it is important for you to learn how to approach people, and then communicate clearly. It is important for you to listen and make sure you understand them. If you don't understand them, ask them,

and then put down the information."

Other Strategies: Use of Concrete Materials

In addition to the strategies already discussed, the teachers used several teaching strategies

which appeared to be unrelated to language arts in particular. Three were noticeable in particular:

1) the use of concrete materials (objects, pictures, or personal experiences), 2) the use of

technology, and 3) the use of translation between ASL and English. This last teaching strategy,

translation, will be discussed separately later, as it requires more extensive analysis.

In each of the three classrooms, there were occasions where the teacher brought in actual

physical objects to help make the lesson and the written text more meaningful for the students.

Doug asked his students about the things that the character in their story had put in his sack. As

the students made suggestions, Doug brought out a sack full of items and either shook his head,

or pulled out the object that the student named. Similarly, when Marlene's class was reading

about "Schools of Long Ago", she brought a variety of old school supplies, such as a bell, a slate,

a fountain pen and an ink bottle. The use of actual objects was very helpful in Paula's class when

the students were trying to solve a written problem about how sugar cubes could be placed in

coffee and then removed later. Paula used the objects, including sugar cubes, a spoon, and a jar

of coffee powder to demonstrate and explain how the sugar cubes could be put in the coffee cup

with the dry coffee powder, and then retrieved later without being dissolved. She then allowed

the students to interact with the objects - look at them, touch them, and try it themselves.

Another concrete strategy that was incorporated into all three classrooms and in a variety

of activities was the use of pictures, or more specifically, drawing. Frequently, when teachers

were defining words or concepts for the students they would draw a picture on the board. For example, Doug explained the concepts of "river bank", "animal hide", and "treeing a raccoon" by drawing pictures on the white board. Paula indicated to her students that they were to write down the words and what they mean, and then added, "If you want you can draw a picture to show the meaning."

A third strategy which helped to make abstract information more concrete was the incorporation of personal experiences. Marlene indicated that it was important to share personal stories with the students. She referred to this as the "emotional hook". I noticed that during the classes when Marlene shared some personal stories, she used much more expressive signing than her general classroom interaction. The students were very interested and attentive to these stories. The students tended to remember and imitate this expression in their own versions of what Marlene had told them. The use of personal experiences and emphatic expression was helpful in making the information meaningful and memorable for the students. The teacher that regularly discussed personal experiences was Paula. She frequently talked about her family or her life and this seemed to help the students open up and also relate to her more readily.

Other Strategies: Use of Technology

Although the use of concrete materials, such as objects, is not unique to the education of deaf students, the use of technology, and particularly computers, had some features unique to the Manitoba School for the Deaf and to its use with deaf students in general.

As I indicated previously, each of the classrooms was equipped with a television monitor, a video camera, and at least one computer. The computer was also linked to the television

monitor, so that what was on the computer screen could be projected onto the television. In this way, Marlene was able to type a story onto the computer and project it onto the television screen so that the entire class could read it together. This also allowed her to use the cursor to identify specific words or refer the students to particular places in the text.

A similar procedure was used by Paula by projecting transparencies of the actual pages of the book onto the white board with the overhead projector. Again, the purpose is to enable them to read selected passages, or entire stories, as a group. I did notice that in Paula's class the students also followed along in their own books. With the large image in front of them, Paula could make sure they were all looking at the same word, sentence, or page.

As well as using technology to help the class read together, the computer linked with the television also helped the class write together. Paula used this when her class was writing a skit for the Christmas concert. This reflected a more natural writing process because all stages of writing were saved and then could easily be edited or changed in future sessions.

The classroom computer also provided a resource for information. Paula assigned Nancy and Maria to research "bonsai" and "Japan" in the computer encyclopedia to help them understand what their next story would be about. Students were also comfortable using the thesaurus or dictionary programs on the computers.

Another unique function of the television monitors in the classrooms was the link to the school office in a "visual" public address system. I observed this on several occasions. If the class was using the television monitor for another purpose, such as reading or writing as described above, the signal from the office would automatically override the image from the computer. The

one problem with this system that I observed was when no one was attending to the television

screen, an announcement could be missed. This happened in Marlene's class where Zoe caught a

glimpse just as the announcement was ending. She let Marlene know that there was an

announcement on the television and Marlene contacted the office by phone to find out what it was

about. It would be better if there was some kind of a visual signal to indicate that an

announcement was about to be sent out.

Data collected through classroom observations and interviews with teachers suggested

three general strategies for teaching literacy skills. These were, 1) direct and indirect teaching of

language, 2) specific strategies for teaching reading and writing, and 3) specific strategies for

teaching language structures, including spelling, vocabulary, and grammar. Other strategies, not

specific to literacy instruction were also noted. These included the use of concrete materials, such

as objects, pictures, and sharing of personal experiences, and applying technology.

The use of concrete materials is not unique to teaching deaf students. Hands-on teaching

methods are frequently used to transfer learning from a sensorimotor level to a cognitive level.

The use of technology, particularly computers, is also not unique to the teaching of deaf students.

Technology provided staff and students with an accessible communication link throughout the

school. It was also used to read and write cooperatively, and served as a source of reference

material.

The teachers viewed the deaf students as learning English as a second language, and for

this reason emphasized the importance of teaching grammatical rules and structures explicitly.

Although some indirect teaching activities were incorporated into the classrooms, significant class

time focussed on the systematic presentation and repetition of grammar rules. Teaching reading

and writing skills tended to involve multi-modal strategies. Information was initially signed

(presented in ASL), as well as illustrated and presented in written English form. The goal was to

make print meaningful to the students in whatever way possible.

The observations of parents and children at home and the interviews with parents provided

data to describe the nature of parent-child interactions. The most significant observation was that

parents employed indirect teaching strategies when reading with their children. The teachers

tended to view reading as a language learning activity, whereas the parents viewed reading as

making print meaningful.

Translation

Strictly speaking, translation between ASL and English is another teaching strategy and

therefore should be discussed in the previous section. It was used so much, however, by all three

teachers, that it deserves a fuller discussion in a separate section. Although some degree of

translation between the two languages is inherent to any bilingual program, the prominence of

translation for these particular teachers and their students quickly emerged as a major finding of

this research. The primary reason for its importance was stated by one of the teachers:

> It's not like a French/English bilingual program where you can teach French through
> French. With deaf children you can't teach English through English, you have to teach it
> through ASL. This makes the constant translation and switching between the two
> languages an ongoing part of the school day.

Was the need for constant translation between the two languages contrary to the principles

of bilingualism, or was it merely a necessary adaptation to the practicalities of teaching deaf students from a bilingual perspective? With these questions in mind, the observations relevant to translation were organized into five major areas: 1) the explicit teaching of translation skills, 2) the classroom activities involving translation, 3) the direction of the translation (written English into ASL or ASL into written English), 4) the defining of words and signs with multiple meanings, and, 5) how translation is influenced by teaching in one's second language.

Explicit Teaching of Translation

"Because what you're basically doing, is teaching them translation. You're not teaching them reading, you know." This point made by Marlene indicates how she viewed the task of translation as essential for deaf students to gain meaning from print. Although the point was not stated as explicitly by the other teachers, their comments and actions did support the principle that in order for print to be meaningful for deaf students, it must be connected to signs. They emphasized that translation skills were the key to successful reading and that it was their goal to teach those skills to their students. As Paula indicated, "Some kids read the English and just sign it back in ASL, no problem. Other students need to learn how to do that. If I can teach all children how to do that, then they will be successful."

The emphasis that the teachers assigned to translating written English into ASL is related to the difference between "decoding" and "comprehension" skills in reading. The following comment by Paula to one of her students emphasized the point: "That [signed form] is still English. I don't understand. I want you to read, not word for word, but change it to ASL." Paula appeared to be motivated by knowledge that deaf students are able to map signs word-for-

word onto the written text and appear to be "reading", but have no understanding of the material read. She and the other teachers used the translation process as a way to assess whether students comprehended what they read.

The teachers recognized that decoding is still essential in the overall reading process. This was particularly so for Marlene, "So you have to learn to recognize something in English and then you have to learn how to put it into ASL. If you don't recognize the words that are in there, you can't translate them."

The initial step in teaching translation skills explicitly was to ensure that students understood that they were using distinct languages. "You have to be very specific - this is English and it is not ASL, it is very different. And this is ASL and it is not English. You can't write down ASL." Such comments were made by the teachers directly to the students. Similar comments regarding specific grammatical structures were also made. For example, "This is an English word, it's 'the' and it means that we are talking about this person here, and in English you have to say 'the'."

Once a basic understanding of the distinction between the two languages is established, practice in translation is incorporated into reading activities. Paula explained, "Sometimes we'll take English phrases and change them into ASL. Not read - take what it means, the actual meaning of the sentence, and change it into ASL and how you would interpret that in ASL." Marlene also emphasized this next step, "What does it say in English? What does it mean? Can you take that and put it into ASL - you have to do that. You have to teach them that - this is English, this is what it says in ASL. This is how it works - back and forth."

Translation Activities

An activity common to all three classrooms was the presentation of "read to" novels, an activity that becomes a translation demonstration by the teacher. Doug and Paula used a tape recorder for this activity. As they listened to the spoken English reading of the book on tape, they signed the story to their students in ASL. Marlene simply read a passage from the book silently, and then signed it to the class.

Spelling lists were also part of all three classrooms and involved translation. Signs were associated with the written forms of the words so they could be "read" and presented to students for testing purposes.

Writing activities frequently involved translation when the students would know the sign but not the word for what they wanted to write. They would present the ASL sign or sentence to their teacher, who would then give them the written English version. For example, one of Marlene's students signed "EVERY YEAR CHANGE CHANGE CHANGE WILL". Marlene wrote "Fern will change every year" on the board for him to copy.

The teachers also used questions to elicit the information from the students in ASL, and then gave them the English word for what they signed. For example, Marlene asked Carl, "Bring pig where?" He responded with "House". Then Marlene spelled the word "house" for him to write. Similarly, Doug first asked Sylvia in ASL, "You want to say, 'HOW USE (INDEX)'?"looking at what she had written. Sylvia nodded. "Okay, then you need to write 'HOW D-O YOU USE THAT?'" Doug signed it and included the fingerspelled English word ("do") and used English word order.

There were also times when the emphasis of the lesson was more related to content than sentence structure, as when Paula stated, "I will do the writing for you, but you need to think of the ideas." This also occurred when students were practicing vocabulary or appropriate word usage. The students signed their sentences using the target word and Paula wrote them on the board. The students were required to think of an appropriate context for using the word, but Paula was really doing the grammar and sentence structure for them.

It is clear from the types of classroom activities that involve translation that the translation process is developed and encouraged to flow in both directions. Students and teachers are constantly moving from ASL into written English or from written English into ASL.

Direction of Translation

When I began the observations, I wondered if the teachers being hearing meant they would mostly be translating into their first language - written English. Doug, for example, made the following comment: "I think periodically you point out that this is how it is in English, and this is how you might sign it in ASL. But I find that I have a tendency to go the other way. Like this is the ASL structure you gave me and this is how it is presented in English."

One-way translation, however, was not supported by the classroom observations. In retrospect, Doug's comment may have been related to the difficulty in distinguishing "reading" from "translating" in a Deaf bilingual classroom. All activities that involve reading "aloud" were seen as translation activities, including novel reading, spelling lists/tests, and reading comprehension tasks. The translation process within these reading activities appeared to be second nature to the teachers; perhaps therefore, they did not consciously consider it translation in

the same way that they did when changing ASL into written English. This was evident in a situation where Marlene had "read" (translated) a passage from a book to the students. The students were then writing summaries about what Marlene had read. Zoe wanted to know the English version of the ASL expression "RED RISING FACE" (becoming flushed with rage). Marlene struggled to think of the correct translation of this expression, and wrote several versions on the board, including "purple with rage". This was the same ASL expression she had used herself while "reading" the book, but she did not refer back to what was written in the book for a translation.

In addition, the fact that the hearing teachers may not have considered themselves to be ASL or Deaf cultural role models did not affect the direction of translations - there were many examples of the teachers moving from discussing the English written forms, to also discussing the signed forms. In a discussion about the word "every", Paula explicitly told the students not to sign "EVERY" when they mean "every week" because there is a more appropriate sign - "WEEKLY" - to express this concept. The overriding purpose for moving between the two languages, whatever the direction, was to make information, either printed or through the air, meaningful and connected to the students' conceptual framework. The numerous examples of clarifying words or signs with multiple meanings illustrated this purpose most effectively.

Defining Multiple Meanings

All three teachers effectively used ASL signs to clarify English words with multiple meanings. Doug explained two different meanings of "off" using different signs; he put one hand on top of the other to sign physically "ON" and "OFF", and with one hand he touched all his

fingertips together and then opened them to indicate turning the lights on and off. Marlene used the signs "COUNTRY" and "FARM" to make the distinction for the two meanings of the English word "country". Paula explained that the word "water" can be a noun and a verb and used two different ASL signs to show this difference in meaning.

The meanings of English words which are altered when they appear in a phrase were also clarified through the use of conceptually accurate signs. Marlene translated the phrase "save me" using the sign "RESCUE ME"and indicating that it did not mean saving up something (using the sign "SAVE"), like money. Paula asked her class, "Do you know what 'at last' means? It doesn't mean 'last'." She spelled the phrase "A-T L-A-S-T" in the first question, and then used the ASL sign "LAST" to make the distinction. She then translated the phrase "at last" with the ASL sign "FINALLY".

The teachers helped the students to avoid misunderstandings by anticipating words which they might translate incorrectly. Prior to reading the sentence in a story which described "the dirt floor", Marlene explained to the students that this did not mean "dirty floor", but that the floor was made of dirt - there was no wood, or tile or anything - just mud. When a student used the ASL sign "EARLY", meaning "early in the morning", as he was reading, Marlene immediately stopped him. She explained that "early" meant "first" in that sentence - the first schools, a long time ago.

The teachers explained multiple meanings to the students and indicated that these did not always correspond between the two languages. Comments like, "There may be only one sign, for example 'WONDERFUL', but many different words that mean the same thing, like 'T-E-R-R-I-

F-I-C' or 'G-R-E-A-T'. Marlene used a very interesting graphic of drawing "steps" to represent

the rising intensity to explain a series of English words and their relationship to ASL signs. One

of her students asked her the word for the sign "CALL" Marlene drew several "steps" on the

board. Then she wrote "calls", "yells", and "screams" on each of the steps from the bottom to the

top. She explained to the student that each is an increase in volume, and modified the sign

"CALL" to reflect this. In a similar example, Marlene wrote "hated, loathed, detested"in a

column on the board. She explained that there is only one ASL sign (using the sign "HATE"), but

you change your facial expression to show the meaning of these words. She demonstrates this,

very effectively using expression. She again pointed to the word "hated" and signed "HATE",

then pointed to the word "loathed" and signed "MORE HATE", and then signed "HATE" with

expression to indicate loathing. She did this a third time, pointing to the word "detested" and

signed "HATE" even more emphatically.

A similar demonstration of multiple meanings was observed in the interaction between Joe

and Zoe, but in this situation a single English word was matched with different ASL signs:

> "There are two signs for 'nervous'." Joe explains, using the sign of a bent "2"
> handshape contacting the back of the hand for "NERVOUS". Then he asks, "What's the
> other sign?"
> Zoe shakes her head, she doesn't know.
> Joe shows her the sign of both hands shaking.

Zoe and Joe then discussed the meaning of the word "upset". Joe presented Zoe with another

ASL version of the word, "Can you use the sign 'U-P-S-E-T'?" Joe asks her, using the

fingerspelled version of the sign. Zoe nods and adds, "If you spell it, then you feel worse."

These types of translations, which take into account the features of both languages, are

essential in effective bilingual teaching. From a bicultural perspective, however, the danger in linking concepts to single words or signs is that students limit their understanding and expression and are not able to be creative or flexible and contextualize their learning.

To some extent this problem was overcome when the Deaf students' parents made efforts to make terms and expressions meaningful. Frequently they defined English words in a way that Deaf children would understand. For example on one occasion the word "quiet" was being discussed by Zoe and her parents, who were also Deaf. Zoe defined this word as keeping still, lying down and not moving. Joe explained that in the context of "a quiet town" it would mean there were no people or traffic around, like at their cottage. These definitions presented the perspective of "quiet" separate from the concept of noise, as it is perceived by Deaf people. It emphasized how everything can be made visual, even noise-related concepts and words. To Deaf people quiet is not represented simply by noise, but by the activity-level. I know this is an overlap with a "hearing" definition, but it takes the insight of a Deaf family to help us think in those terms.

I also noticed that when there were multiple English words which corresponded with one ASL sign, Joe and Joanne, Zoe's Deaf parents, tried to distinguish them in some way, usually by the intensity of their meaning. For example, Joe asked Zoe the following question, "Which is better 'P-R-E-T-T-Y' or 'BEAUTIFUL'?" And Zoe responded with, "BEAUTIFUL." In this case, the comparison is conceptually accurate, but in other examples it was not as clear. Joe made a distinction between two signs, indicating that "STUPID" is worse and more embarrassing than "DUMB". I was not clear when he said this if he was referring to the use of the ASL signs, or if he was meaning the English words. If he did mean the English words, I'm not sure if I would

agree with this distinction. In another situation the ASL sign "SCARED" was discussed in terms

of the two English words, "scared" and "afraid". Joe and Joanne both indicated to Zoe that

"afraid" was a stronger emotion than "scared". Here there was no doubt that they were

discussing the meaning of the English words, not the signs, as both have the same sign. Again, I

am not sure I agree with this definition. I would say that the word "fear" is stronger than either

"afraid" or "scared", but the latter two are fairly equivalent to me. In these examples, the

perspective of Deaf people is helpful in understanding the need to make multiple meaning words

distinguishable in some way and to ensure that translations between the two languages are

conceptually accurate.

Translation was also used to help explain figurative language to the students. Paula

discussed the sentence "The days grow warm and soft" with her students. "Why 'grow' warm?

The day is not really "GROW"ing, right?" Paula asked using the ASL sign for the concept of

plant or vegetation growth. "What other word can you use for G-R-O-W?" One of her students

suggested the sign "BECOME", indicating that she had understood the concept. Paula continued

the discussion, "You can say 'HARD' winter, right?" Paula used the ASL sign which expresses

both the concept of hard, as in "solid", and hard, as in "difficult". "So this is the opposite -

summer is 'SOFT', meaning easy and laid back." In this way, the conceptual translation of written

words facilitated the meaningful interpretation of print. Comparing the languages and pointing

out the impact of context on meaning taught students not to associate a printed word with only

one sign.

Teachers Using A Second Language

The teachers indicated that developing fluency in ASL was an ongoing process for them because it was not their first language. As Marlene commented, "I mean I have been working here for over 20 years and I don't think in ASL, I think in English." This was reiterated by Paula, "I've heard that many times, when a language is your own you stop the translation process. But for me, I still find I'm translating things."

Some translations were influenced by the teachers' knowledge of English and were not conceptually accurate in ASL. Paula was teaching a lesson about pronouns and when she was referred to the objective pronoun "her" she used the ASL possessive sign "HERS". If this is the way she signs both "her" and "hers" then these concepts may be confused by the students. Doug explained "chips" of wood using the sign for "POTATO CHIP" which is a derivative of the sign "POTATO". Doug pointed out the similar spelling, but that "chips" in this story was referring to pieces of wood. Conceptually the sign is related to the concept "potato" not the concept of "small bits chopped off" as is the written word "chip". Marlene signed "SMART U-P" which is based on the English expression "smarten up", but the "SMART" sign means "skilled" or "intelligent", which does not convey the same meaning or intention.

There were also some inconsistencies among the three teachers and the signs they used. Both Paula and Doug used the sign "REST" for recess, but Marlene used the sign "BREAK". Paula indicated the "ed" or past tense of verbs by signing "PAST", whereas Doug used the sign "FINISH" to indicate this. I think that consistency is important, but if these different signs refer to the same concept then perhaps this kind of variation is normal. It may also be good in the

sense that it teaches the concept that different symbols can represent the same idea or meaning.

Just as the teachers were learning ASL as a second language and using it to teach the students, the Deaf parents were learning written English as a second language and also helping their children learn reading and writing. There were also examples of parents representing written English in ways that were not conceptually accurate. When Zoe was reading with her mother, she signed, "A-T FINISH". Joanne, her mother, interrupted and signed, "LAST". Really, both Zoe and Joanne interpreted the text "At last" literally rather than conceptually. The conventional translation of the English phrase is the ASL sign "FINALLY" (Stokoe, Casterline, & Croneberg, 1976). In the same situation, Zoe pointed to a word and then signed "PICTURE, RIGHT?" Joanne confirmed with a nod and also signed "PICTURE". The word was "picture", but the concept in this sentence was "MENTAL PICTURE" or "VISUALIZE", as in "they can picture Frosty's magic smile and feel his warmth." The overall meaning was lost.

In general, the teaching of translation and incorporation of translation activities appeared to be essential for the teachers (and parents) in teaching Deaf students to read and write English. The goal within all the activities was to make English print meaningful. The teachers and parents sought to ensure that one-to-one mapping of words and signs did not result in limiting the students' understanding. Although they did not always succeed, they also sought conceptually accurate translations and encouraged students' active involvement in generating rules to compare the two languages. The ultimate goal was to have the written English link directly to the underlying concepts without being mediated through signs.

Learning Strategies

Observations showed a number of ways that students' responded to teachers' strategies as they worked toward making sense of the curriculum. For convenience, I have grouped these into four categories: 1) transfer and interference between ASL and English, 2) techniques for asking for help, 3) ways of defining words or creating meaning, and 4) the role of parents.

Transfer and Interference Between ASL and English

One of the ways that we can gain insight into the thinking patterns of students is to observe and analyze their errors. This can help determine which rules they are or are not applying appropriately or in an overgeneralized manner.

Some of the students' errors in written English reflected an interference from their knowledge of ASL. For example, one student was asked to write the word for the sign "PARENTS". She began to spell the words "mother" and "father". It is important to explain that the ASL sign for "PARENTS" is a compound sign made up of the two signs for "MOTHER" and "FATHER", so it made sense that the student thought of this sign as simply being the two words.

The influence of ASL was also noted in the word order of sentences. Typically, adjectives follow rather than precede nouns in ASL, and students maintained this order in their written sentences. A word order error occurred when Nancy typed the following command while playing a computer game with her mother - "through the fall water". Amy responded with, "In English it is reversed. You say 'through the waterfall'."

Reading miscues and spelling errors indicated that many of the Deaf students were relying on visual patterns and visual similarities between words to identify them and make them

meaningful. For example, Nancy read a sentence and signed "CEREAL" for "creative". Paula

responded with, "That word 'CEREAL' doesn't make sense in the sentence." She then told

Nancy the word was "CREATIVE". Although these words are phonetically very distinct, from a

visual perspective the error is more understandable.

Similar errors occurred when students were writing as well as reading. The following

interaction between Doug and his student, Sylvia, demonstrates this:

> "No, that word is 'under'. How do you write 'use'?" Doug asks. He holds up
> three fingers on one hand, and makes the letter "U" with his other hand on the first finger,
> and looks at her with raised eyebrows, indicating, "what's the next letter?".
> She does not respond, so he spells the other two letters - "S" and "E" - in
> connection with the remaining two fingers.

This example also demonstrates how Doug used a visual strategy to help her with the

spelling of the word. Words that were visually similar, but had very different meanings were often

distinguished by associating them with the appropriate signs. Paula pointed out to Maria that she

had written "bought" not "brought", by using the conceptually and visually distinct signs of

"BUY" and "BRING".

Students also used a strategy of trying to identify parts of words to help them understand

the meaning of the word as a whole. In some situations, such as separating prefixes from the root

word, this was helpful. In other situations it was misleading. For example, when Marlene's class

was discussing a book with a character who's name was "Avery", one of the students signed this

as the letter "A" and then the sign "VERY". Marlene immediately interrupted him and explained

that it was one word, his name, and it did not mean "very".

I did not observe the students correcting themselves in terms of the interference from ASL

very often. When Zoe was reading with her mother, she began a sentence with the sign "ONCE",

and then shook her head and signed, "SICK" (the slang for "that's wrong" or "that's stupid" and

corrected herself signing, "ONE DAY CHILDREN BRING OLD S-I-L-K HAT".

On another occasion Nancy responded with the appropriate corrections when her mother

provided some indirect feedback. Nancy and Amy were playing the video game and Nancy typed

the command "over steam" into the computer when she wanted her character to cross the water.

"That means 'STEAM' from something hot - is that what you mean?" Amy asked her. Nancy

shook her head and self-corrected her spelling entering "over stream". The computer did not

respond to this command. "How will he go over?" Amy asked. "Walk!" Nancy responded.

"Okay, write that." Amy told her, and Nancy entered "walk over stream".

I noticed during the individual assessments with each student that none of them appeared

to feel comfortable with the self-evaluation tasks. I asked the teachers if they had experience with

evaluating themselves and their work. Paula said, "They don't have that ability to kind of self

evaluate themselves and think, well I want to become better at this or that." Doug and Marlene

also indicated that they had not done self-evaluation tasks with their students. Paula admitted,

"I'm not sure that I do enough of that, that self evaluation. A few years ago I was interested in

doing portfolios with the kids, and them selecting pieces of work that they wanted to do. I found

it was too time consuming, so we kind of dropped it for a while. And the kids weren't able to self

evaluate like that."

I did observe an activity in Marlene's classroom where two students were told to read

each the stories they had written and give each other feedback. The students seemed excited

about the task, but did not appear to know what to do. They both just said they liked the other's story - "It's good", but they didn't provide any critical feedback or evaluation.

I wonder if developing self-evaluation skills would be a helpful learning strategy for them in that they could be more aware of when their knowledge of ASL is influencing their written English.

Techniques for Asking For Help

The most frequently used strategy by all three students was simply to ask for help when they did not know something. They asked parents, teachers, and peers, depending on the information needed and the situation.

During classroom observations peers often asked each other how to spell words or what words meant. In one instance, Nancy asked Maria how to spell "boring" and knew it started with "b". Maria told her the remaining letters. In a similar situation in Doug's classroom, Jason asked Steve, "How do you spell 'green'?" Steve spelled it for him.

Questions about word meaning sometimes generated more discussion among peers. Sheldon asked Zoe, "Does it really mean a red face?" Zoe responded with, "Not red - purple. It means 'mad'." Or the following interaction in Doug's class:

"What does 'H-E-A-T' mean?" Dylan asks Jason.
"HOT" Jason responds.
"No, I think it means 'COOK'." Dylan says, "Or boil."
"No, it means that it's hot." Jason insists.

Peers were very willing to help each other. Only once did I observe some hesitation. This occurred when Sheldon asked Zoe for help and her initial response was a rather exasperated "You

know!" Sheldon responded with, "I forget, I forget fast!" Then Zoe helped him.

The students also appeared to feel comfortable asking their teachers for help, as this behaviour occurred frequently in the classrooms. The students' questions also helped the teachers to be aware of which concepts were difficult for the students or which they hadn't yet explained clearly enough. For example, when Paula was teaching a lesson about the prefix "re", she indicated that it can only be added to verbs. Nancy then asked, "Can you add 're' to all verbs?" This helped Paula to narrow her explanation further. In another situation, Nancy had a question for Paula about the sentence - "'I like fish.' Ronnie shouted, 'Today I will go fishing.'" Nancy was not sure who was saying the last sentence. Paula was then able to teach a lesson about using separate lines to indicate dialogue between characters which was relevant and meaningful to the students.

Marlene mentioned an important point about how asking questions was an important part of building the students' confidence in their writing skills. "Sometimes it takes me awhile to realize that they are not asking me for a specific word in English, but they just want to know if it's okay for them to write it that way." This behaviour was also observed in Doug's classroom. Sylvia asked Doug to confirm a sentence she was writing, "Is this right?" Doug read it and signed, "The dog sees the raccoon. Yes, that's fine."

Asking questions was something that Joe, Zoe's father, encouraged and role-modeled in his home. "If they are reading something and they don't know what it means, they will ask me. I might not know, so I refer them to the dictionary and then we discuss it. Sometimes we have to put it on hold until I can ask a hearing friend or co-worker to explain it to me. Then I come back

and explain it to the kids."

Definitions and Creating Meaning

The strategies for defining words employed by the students included using fingerspelled words, using context, and using a dictionary. These strategies were also modeled and supported by teachers and parents.

Fingerspelled words were used when there was not an appropriate ASL sign to represent the meaning. For example, when Sue was retelling the story of "Charlotte's Web" to her parents, she fingerspelled the word "R-U-N-T". "Runt, means small?" her father, Kurt, asked. "Runt means he is small, not the appropriate size. So, the father wants to kill him." Sue responded.

In the same situation, Sue was telling about the words appearing in the spider web. She signed "SOME PIG" (using the sign for "PART" to mean "some"), and then she fingerspelled these words as well. She may have provided both the signed and fingerspelled versions to clarify the meaning of "some" and also to indicate that the letters were spelled in the web.

When reading a story with her father, Zoe specifically asked about spelling the word "snowsuit", because she knew this was an appropriate strategy for words which did not have a corresponding sign but required a description using several signs.

Another strategy which the students used to create meaning was to use context and associations with their prior knowledge. Paula was defining the word "indirect" with Sue and Jeremy. "For example, I can give information directly to Sue or I can tell another person and that person tells Sue. The first way is direct, and the second would be indirect information." Jeremy immediately related this to his own experience and came up with the example of the Message

Relay Service (the telephone operator system which allows voice calls and teletype calls to be interfaced) as being indirect communication. Similarly, when Paula was defining the word "port" as "a place to enter - like a place to enter the country", Sue responded with, "You mean like 'airport'?"

During a group reading activity in Marlene's class, Marlene explained that the phrase, "build a fire", does not mean "build" like building a house. Zoe waved her hand in the air. She knew it meant to make a fire by putting sticks and paper there and then lighting it with a match. This reflected her own experience with camping and building fires.

In some situations, prior knowledge was misleading. For example, when Nancy was baking cookies with her mother, she asked about "baking soda" and used the sign for "SODA POP". "It's the same word, but it doesn't mean pop." Amy explained. Also during an interaction between Nancy and Amy when they were playing a computer game the following information was presented on the screen, "Hugo hears the faint cries for help and rushes to their rescue". Nancy asked Amy for clarification of the word "faint". "Does it mean to faint?" Nancy asked, using the ASL sign "FAINT". "No, it means quiet, not loud, calling from far away." Amy explained.

As well as using fingerspelling and context, the students were also observed to use a dictionary to determine the meaning of words. This strategy, however, was only regularly used by the students in Paula's classroom. During independent reading, the students kept lists of words they did not understand, and then looked up the meanings in the dictionary. Again, I wonder if this strategy requires a certain level of reading competence and therefore, would not be as effective with lower functioning students.

The Role of Parents

During the interviews, parents were asked what they perceived their role to be in helping their children to learn. Mike, Nancy's father, said, "Well, I think mainly showing a good example." Joe, Zoe's father, also agreed with this, adding an emphasis on culture, "I also think I'm a role model, in that I am Deaf and they are Deaf and we're the same in that way. They can look up to me as being the same as them. I know sign and I teach them that." Amy, Nancy's mother, saw her role as providing a positive and safe environment where learning was accepted and encouraged. She further indicated, "It is different for Nancy because she does not have access to general society. So, as a parent I need to find or develop programs for her. This results in me taking on different roles than just a parent - I am an interpreter, I have to make special arrangements, or I have to set up new programs."

There did appear to be times when the fact that two of the parents, Amy and Joe, were also teachers, influenced their roles as parents. When Zoe was reading with her mother, Joanne, she tended to sign the story quite literally and follow the English of the text. She also signed without looking up from the page and did not make eye contact with Joanne. This seemed different from how she read with her father who frequently interrupted her reading to ask questions or re-phrase what she had read. Joanne may have been hesitant to interact or discuss the story with Zoe because she was being observed and videotaped.

Amy's role as teacher also appeared to have an influence during the cooking activity with Nancy. Amy frequently told Nancy to refer back to the recipe when she asked a question, rather than giving her the answer. Also, when Nancy gave incomplete answers, Amy prompted for more

information. For example, Nancy often indicated incomplete measurements, and Amy followed

up with "1/2 what?" Or "1/4 what?" This type of interaction was in contrast with the interaction

between Sue and her mother, Polly, when they were cooking together. The focus was much less

on "teaching" Sue about reading recipes, measurements, and cooking, and much more on getting

the job done. I also noticed a difference in how Amy encouraged Nancy to do everything herself,

including referring to the recipe when she did not know what to do, whereas, Polly did many of

the cooking and reading tasks for Sue. The difference in the impact on learning in these two

situations is more difficult to quantify; Sue and Polly were performing a functional household task

together, whereas Amy was, in many ways, providing Nancy with a lesson.

Another issue involving parental roles is that as Deaf students continue to develop their

literacy skills they may begin to exceed the literacy levels of their Deaf parents. There was

evidence of this trend observed during interactions with both Zoe and Sue and their parents. Sue

was talking to her parents and tried to fingerspell the word "miracle" a few times, but she was

incorrect each time. Both of her parents did not seem to know what word she was trying to spell,

as they did not help her out. Then to get the meaning across she signed "MAGIC THAT", to

mean "it's like magic". Her parents seemed to understand this idea, but still did not know the

word she was looking for.

When Zoe was reading a book with Joanne, she struggled with the phrase "Once upon a

time." Zoe asked Joanne, "What does 'U-P-O-N' mean?" - fingerspelling the word "upon".

Joanne looked at the page and signed, "ONCE" and nodded. Zoe signed "ONCE TIME"

skipping the "upon". Then Joanne seemed to understand the concept and signed "ONCE PAST,

PAST", meaning "a long time ago" which is the typical translation for "once upon a time".

Joe, Zoe's father, seemed well aware that the gap between his literacy skills and those of his children, was narrowing. "I mean, I tell them I need to improve my written English, too. So we do that as a family. I don't want her [Zoe] to depend on - and I don't want me to depend on - her older sister." Joanne, Zoe's mother, was also conscious of her limited English vocabulary. After I had videotaped her reading with Zoe, she asked me about the word "gleam" and what it meant, explaining that she thought maybe she had told Zoe the wrong meaning. I was impressed that it was not hard for her to admit this lack of knowledge, and also that she provided Zoe with the model that it is okay to ask other people what words mean when you do not know yourself.

A frequently suggested strategy for improving reading skills is simply to spend more time reading (Braun & Froese, 1977; Goodman, 1995; Harris & Sipay, 1980). Similarly, a strategy to improve writing would be to write. All three students, Zoe, Nancy, and Sue, indicated that they enjoyed reading books outside of school. They were also observed reading "pleasure" books, not books that they were studying in their reading class, at school. Writing, on the other hand, appeared to be linked to more functional activities for these students, rather than something they would choose to do for enjoyment. The kinds of writing activities which reportedly occurred outside of school included using the teletype device to communicate by telephone and writing notes to converse with hearing friends or family members who did not know sign language.

The students effectively used strategies to create meaning by asking for help, relying on context and prior knowledge, and referring to available resources, such as a dictionary or other reference material. In order to be more active in their own learning, skills of self-evaluation need

to be developed to facilitate their knowledge of the influence that ASL competence can have on their development of English literacy.

Maintenance of a Deficit Model

A bilingual and bicultural philosophy of education implies viewing deafness as a difference rather than a deficit. In a system which has operated with a deficit model for over a hundred years, however, such a shift will not be immediate or straightforward. How this shift can be implemented therefore became a major leading question of the research.

At the Manitoba School for the Deaf, the shift from a deficit to a difference model has expressed itself through choice of language, and specifically through an emphasis on American Sign Language. Teachers, both hearing and Deaf, developed fluency in ASL and adopted it as the language of instruction in their classrooms. Although incorporating ASL is a significant change, it appears that other aspects of a deficit perspective remain and continue to influence the teaching and learning of deaf students. In particular, teachers paid attention to culture only inconsistently, thought of students as deprived of any language at all, viewed students as having disabilities in addition to deafness, focused on whole-group instruction, and used teaching strategies based on a hearing model of learning.

Inconsistent Attention to Culture

The teachers all indicated a general awareness that language and culture are related and often cannot be separated. But they considered their focus to be language teaching rather than cultural exposure. When I asked about incorporating Deaf culture into the classroom, all three

teachers indicated that there was a Deaf Studies curriculum available but that they did not use it, and all gave similar reasons as to why not. Doug said, "I do not do as much of that as I probably should, just because I feel so many pressures of trying to get through the regular curriculum in any given year." Paula's comment was, "Sometimes that just falls by the wayside when you have math and reading and all the other things that have to be taught." Marlene stated, "One of the problems of doing stuff like that is developing a curriculum that can fit in with the Manitoba curriculum that you're supposed to teach."

The teachers also indicated that although Deaf culture was not a formal part of the curriculum, the students were exposed to aspects of it informally throughout the school day. As Doug stated, "I feel that they are exposed to enough of that stuff around the school on a more informal basis that I don't have to go into great detail in the classroom itself." Marlene suggested that cultural behaviours were most effectively taught informally, "I find it doesn't really work if you sit down and teach it like a course. You have to know enough about it, so that when something happens, then you sit down and address what's happening, when it's happening. Because if you try and teach it, it's kind of like, poof, right over everybody's head."

The visual access to information made available through technology and devices within the school building also supported Deaf culture and a philosophy of equal access. All the classrooms were equipped with television monitors and cameras connected to the office and to each other, which functioned like a visual public address system. Light switches were located outside the classroom doors so they could be flashed instead of a doorbell or knock. Each classroom had a teletype device as well as a telephone, although there did not appear to be a visual indicator, such

as a flashing light, when the phone was ringing.

The teachers effectively used visual attention bids, such as tapping shoulders or desks, hand waving and eye gaze. The students also demonstrated these behaviours when interacting with each other and the teachers. The teachers also demonstrated an awareness of Deaf cultural values. Doug explained the value of "consensus" in the following way:

> But I think it's easy to forget that they do have certain cultural values that are different than ours and certain things that they do differently than what we would do. The one that comes to mind is like, consensus. You know, to ask a Deaf person to speak on behalf of everybody else, they just won't do that. I mean they have to say, okay, I understand the questions you're asking me, but I have to go and I have to (signing a random distribution of "ASK") query everybody else. Then when we've come to an agreement, I'll come back and give you that answer, but I can't tell you right now, what that answer is going to be. That's just one thing that comes to mind. So I think cultural differences are one of the things that comes up.

This was supported by Paula's statement, "You know, at times where I don't know a sign or I'm confused about the way a certain Deaf person would do something - asking a Deaf person that information, valuing their opinion, and that sharing of information back and forth is important as well."

Several comments by the teachers clearly supported the necessity of incorporating culture within the learning process in order to become fluent in a second language as adults. In referring to hearing teachers learning ASL, Paula stated, "...because it's also not your first language. You're not using it everyday. You're not using it in social situations or other situations where you would get that full exposure." Marlene supported this, "I don't think people can really learn it [ASL] unless they're immersed in it, and they're right in it - I'm talking about with Deaf adults."

Despite the understanding that without cultural exposure full language fluency cannot be

obtained, and an awareness of Deaf cultural values, the teacher's incorporation of Deaf culture

within the classrooms was limited to specific behaviours - its visible features, such as language,

technological devices, and rules for interaction. More reflective, cognitive aspects of culture,

such as values and world view, were rarely addressed, if ever. This was particularly evident when

the teachers were asked about whether or not they saw their students as being involved in the

Deaf community after graduation. I expected that in a bilingual/bicultural program this would be

an important goal for all students. The teachers were not so definite. Doug stated, "You know,

right now, the one kid I can think of out of those five, that it seems like it would be important,

automatically I think of Bill." Marlene indicated that it depended on where the students lived. "If

they live out in the country, and after they graduate they go home, because that's all they've got.

They're isolated, and never quite get out of that."

This comment, and others made by the teachers, suggest that although the school takes

some responsibility of exposing the students to cultural values, ultimately this must be fostered by

parents and the student's home life. As Marlene said about her students, "Like some of them

know so much about it [Deaf community], and some of them don't know anything about it at all.

It depends, sometimes their parents just protect them from everything."

Language Deprivation

Another principle of bilingual education, is to use the first language as a foundation for

building the second. The assumption is that students in fact "have" (or speak or sign) a first

language. This assumption was not universally shared by the teachers in this research. Marlene

stated it this way, "But everybody just totally ignores the fact that most deaf kids come to school

without a language. You get very few deaf kids who arrive here who have a good solid language base, in any language, whether they've been in an oral program or, you know, in a sign program. And they arrive at school without having a good language base."

There was no disagreement that a language base in ASL facilitated students' development of written English. Marlene indicated, "The kids who have ASL when they arrive at school, they learn English much better than anybody else. Much better than anybody. Because they have a language, and once you have a language then you can learn another one. ... You have to have this internalized idea of what language is and how it works. Then if you know how it works instinctively in one language - you just know it - then you can apply it to something else." Paula also supported this comment, "Because some kids will be able to change American Sign Language into English easier, because they have American Sign Language as their first language. They have a big, a strong base of language."

The teachers' concern was that most deaf students did not arrive with a "strong base of language" in ASL. In Marlene's words, "Well, if they come to school and they have nothing, where do you expect that extra is going to come from? And, um, well, people say they should just be doing this, and they should .... but it doesn't happen like that because it's not real. You get one kid every three years that you can do that with, but the rest of the kids can't do that." Marlene went on to say that this puts unfair demands on students, "If a kid goes into a public school and they don't have a spoken language, they don't learn to read and write. They can't! So, the trouble is that they're trying to learn two languages."

The problem, as the teachers saw it, was not caused only by the lack of language exposure

prior to beginning school, but also by limited exposure to language outside of school throughout

their school years. Doug said, "And a lot of the kids that we have, who go home on weekends,

they may have absolutely no stimulation whatsoever, as far as the further development of that

language." This was supported by Paula, "Some kids have no language at home, some have ASL

at home, and are reading captioning, are using the TTY, and are using various forms of English in

other ways. And so they are using it in an ongoing basis, and that's the important thing.

Whereas, some kids I've had in other years, they do nothing but watch TV and play Nintendo and

in those type of instances they are not getting language, in general, and they are not getting

English language as well."

The teachers believed that language deprivation in students' "first" language (ASL),

accounted for their difficulties in learning written English (their "second" language). The belief

was in effect a deficit model, and justified remedial, structured approaches to teaching language.

Paula indicated, "Our kids are, need more specific skills. A lot of things are layered. So they do

verbs one year and then they need to do it again, and again, and again. Because it just doesn't

sink in sometimes after one year, or they get one piece of it but they miss another piece of it, so

then we have to do more and add a little bit to it each time." Doug suggested, "They don't get

that natural exposure to English because they don't get it until they can read. So you have to, I

feel, you have to present it in a very structured fashion." Marlene's comment, "Well, you never

thought somebody would have to teach, 'This is reading, and if you read and you don't

understand, it's not reading'. You have to very clearly teach those things."

Several incidents in the classrooms suggested that, although the teachers felt that the

students needed this kind of structure, they also realized that it also had the potential to restrict

their learning. In order to emphasize the importance of reading comprehension with her students,

Marlene wrote the following short, simple story on the board:

> Mom and the dog walk on the street. The dog runs to a small girl. Mom chases the dog. The girl goes into a store. Mom gets the dog. The girl comes out. The small girl says, "Thank you" to Mom.

She controlled for vocabulary and grammatical structures to keep it at an appropriate level for

them. I must admit that I found the story confusing and had to read it several times before I

understood the situation. The vocabulary and grammar were controlled and structured, but as a

result the language was not really natural. The story referred to the woman as "Mom" to make it

a word that they could read, but this confused the fact that it was <u>not</u> the girl's mother. The girl

in the story was running into the store because she was afraid of the dog, but none of the verbs

used in the text (and there are no adjectives except for "small") convey a feeling of fear or

anxiety.

In another situation, Paula indicated to her students that the only prefixes they needed to

learn this year were "re-" and "un-". Her intention was to control how much they needed to learn

in the lesson, but the approach also suggested an overly regular picture of English. Students who

might want to use prefixes other than "re" and "un" would have trouble doing so. Similarly, when

one of the students knew the answer to a question because she had read ahead in the story, Paula

chastises her for it saying, "You're not supposed to do that!"

Additional Disabilities

> With deaf kids there's always - well, they are deaf and then you get past that and you find something else. And you get past that and you find there's another layer, and there's

always another layer down underneath that. You don't just get somebody that's just straight deaf and that's all that's wrong with them.

The presence of additional disabilities among the deaf students appeared to influence the teachers to become more directive in their approach. Paula commented, "When you're involved with a classroom that have multiple handicaps or learning problems as well, you can't do that [create an environment to facilitate learning] because every step they need you by their side helping them, guiding them every step along the way." Marlene said, "You have to expect that they are going to learn. Demand that they do something.." This gives the impression that the children do not learn spontaneously and must be made to learn.

Although statistics are not available, the number of deaf students with additional disabilities may be increasing at segregated schools for deaf children because these are the students whose needs can often not be met in integrated settings. Also, the overall population of segregated programs for deaf students continues to decline. As a result, the classes at the Manitoba School for the Deaf are small but include a wide variety of learning levels and needs. This influences how students are grouped into classes and groupings within the classes, as well.

<u>Class Groupings</u>

A significant aspect of an educational program based on a deficit model is small class size. A difference model, if fully implemented, implies no need to use anything other than "usual" or "normal" teaching practices, including usual class sizes. Despite an official change to a bilingual/bicultural philosophy, however, MSD has maintained very low teacher-student ratios. In the three classrooms I observed, two had five students each, and one had six students. The classroom with six students also had a teaching assistant designated to work closely with one of

the students.

Although the small classrooms allow for very individualized programming, they also limit opportunities for learning, cooperating, and interacting with peers. The three primary activities I observed in all three classrooms were similar; 1) the teacher addressing the entire group to present a lesson, 2) students working independently on assignments with the teacher making the rounds to help them individually, and 3) the teacher addressing one or two students, at the same level, to present a lesson. The only exception to this was that occasionally students worked in pairs to complete assignments together. On one occasion in Paula's classroom, Jeremy and Sue were working together and this resulted in more interaction between them. Jeremy would sign and tell Sue what to write. Sue would write it down and then he would check what she had written. I also observed some peer interaction and cooperation in completing work during a worksheet activity in Marlene's class. Although Marlene did not tell the students to work together on their worksheets, she allowed them the occasional questions and interaction. This appeared to be very beneficial and made me wonder why it was not regularly incorporated into classroom programming.

Interactions between students to help each other spell words were encouraged in Doug's classroom. In one situation, in a matter of minutes, Dylan who had to help Sylvia spell "BECAME", was then helped by her in spelling "BLUE". This kind of peer teaching did occur frequently and reciprocally among all students in Doug's class.

In general, there was not much peer interaction, either for completing school tasks, or even with regard to off-topic chatting, in any of the three classrooms. In the few observations of

informal interaction among peers that did occur in the classroom, I noticed that the discussions were very animated. This type of discourse, with a social focus, may also be beneficial to include more frequently in a learning environment.

I also noticed how it was possible for different conversations to be going on in an ASL classroom at the same time, and not really be distracting as long as they were not in the other students' visual fields. Judging by these incidents, ASL lends itself to peer interaction and peer-led discussion. Yet these were not used very often by the teachers, at least during observations. Given the small size of classes, of course, whole-class activities became identical with small-group activities - but with the teacher always participating.

In each classroom, students were separated into different levels and remained in the same groups throughout the year. Paula discussed a concern she had regarding a student in the higher level group looking down on those in the lower level group, "I don't know if it's part of being separated - because her and Jeremy are doing harder work, there's no question about it, the kids see it, she sees it! She sees that she's been given extra work, she sees that she's been singled out with Jeremy. How do you change that, I don't know? Because that's the dynamics of this classroom. Maybe through the way this classroom is set up, she's developed that attitude. I don't know."

Diversity of skills tended to be managed by individualizing the programming, with the teachers taking the responsibility to work with students at their own levels. Larger class size might have allowed diversity to be managed in more complex ways, with students of various levels sometimes also working together. Paula indicated that separation into more homogeneous

groups was an important way to manage the variety of skill levels among the students, "I think that's the diversity in this class - huge diversity. Once they move upstairs [high school] there is no question that this group will be split. In order to survive as a group they can't be taught as one unit."

The maintenance of low teacher-student ratios supports the deficit model by limiting opportunities for peer interaction and managing diversity through teacher-directed rather than cooperative solutions. Another aspect of the deficit model which requires a shift when implementing a bilingual/bicultural approach is to move from a hearing model of learning and consider alternative ways of developing literacy which are not speech- or sound-based.

Hearing Model of Learning

The three teachers all expressed a belief that the reading process in deaf children is different from the process in hearing children. Perhaps because they did not understand the difference, however, they continued to teach reading from a hearing perspective. Marlene said, "I believe that if they do not have some kind of inner voice when they are reading that they will not ever get past that [grade four reading level]. Most of the research, things that I have read, if you don't have that inner voice, you don't get past it." Doug and Paula were not so definite, but expressed similar ideas. Doug wondered, "Do they have a little speaker in there that's reading this as they go along, and then when they are going to think and then write it, is that speaker still going, or how does that whole process work?"

Paula emphasized how learning to read without mediating through speech would seem very difficult, "Sometimes I'm amazed at how well these kids actually do. To think of myself, if I

had to memorize every word and what it meant, never have heard that word before but have to memorize it and then attach it to a signed meaning. I think that would be very difficult." The analogy of attaching a word to a signed meaning, compared to attaching the word to a previously heard spoken form was not apparent when the teachers' focus was from a hearing perspective.

"Most of the Deaf adults that I have met that have good reading and writing skills, really good skills, also have extremely good lipreading skills, even though you never hear them speak." This comment, made by Marlene, is partially supported in the research. Her assumption that the development of lipreading skills facilitates reading and writing skills is based on a hearing model of learning. Yet the correlation of these skills does not prove causality. Research has also found that as deaf students become more fluent readers, they begin to make more sense of lip movements and the entire concept of speech is more meaningful because they have a greater knowledge of the language (Mahshie, 1995). In this way, the development of reading and writing skills, or knowledge of English, facilitates the student's lipreading and speech abilities.

The inconsistencies between a cultural model and a deficit model observed within the classrooms, suggest a state of transition in teachers' beliefs and practices. It is important to examine at an indepth level the policies and principles of a program to ensure that all the aspects and remnants of a system dominated by a deficit model for so many years have been addressed. Systemic change is needed, as well as change at the level of each individual involved in the system. Positive changes have occurred in language use and fluency, and the incorporation of cultural behaviours. More emphasis needs to be placed on incorporating cultural values, naturalistic teaching strategies, taking advantage of diversity, and alternative ways of literacy

learning which are not speech-based.

Pedagogy and Bilingual/Bicultural Philosophy

There is limited information about how to implement a bilingual/bicultural approach to

educating deaf students, and conceptions of the approach may therefore vary. Because of the lack

of information, I felt it important to determine what the participants in this study thought the

approach consists of. In looking for clues about their beliefs, however, it proved difficult to

distinguish which elements of teaching (or parenting) were qualities of a bilingual/bicultural

approach, and which were simply good teaching (or parenting) practice in general. The ambiguity

existed in three areas. The first focuses on the definition of a bilingual/bicultural approach, the

second considers the role of communication, and the third examines the values reflected by the

observed teaching and parenting practices.

Definition of Bilingual/Bicultural Approach

When participants were asked to explain the essential elements of a bilingual/bicultural

program for deaf students, their responses were quite general. Doug stated, "Well, I think it's

very important that both groups respect the other's. Like, if you have hearing and Deaf people

working together, that they both respect each other equally." Along the same lines, Joe said,

"Okay, to me bi/bi means equality (sign "EQUAL"). Means that things are more equal......for

Deaf and hearing - they get the same kind of access to that information. It means that the

environment has to be adjusted." Amy suggested, "Well, basically it means including two cultures

and two languages. The two cultures are hearing and Deaf, but there also seems to be something

in the middle - hearing people that know sign! It's like the same culture with a slightly different accent!"

I noticed a distinct, yet subtle, difference between how hearing participants and Deaf participants defined the concept of a bilingual/bicultural approach to educating deaf students. Although both groups agreed and stated that the common goal was to develop fluency in both languages and adjustment to both cultures, their actions indicated slightly different interpretations of this goal. Hearing parents and teachers saw the implementation of a bilingual/bicultural approach as a means of improving deaf students' written English skills; whereas Deaf participants saw it more as emphasizing ASL, providing access to information, and fostering their culture and community.

This point was illustrated by Amy's comment, "The only time Nancy was not interested in reading and writing was when she was in grade two, because her teacher did not think it was important." Nancy's grade two teacher was Deaf. I do not believe this reflects that Amy does not value Deaf teachers, but rather that English learning is more important than ASL in the classroom. Amy did not talk about how Nancy's ASL skills developed at this time and if that was important for her overall education. The importance of ASL in education was emphasized by Polly, Sue's mother, when she discussed Sue's experience of being mainstreamed in a hearing school. "Well, okay, first she had an interpreter that was very skilled. When that interpreter left or was laid off, then they got a new interpreter and she was not very skilled. That's when we decided she should go to MSD - to the school for the deaf." Even though Kurt, Sue's father, had never heard of the term "bilingual/bicultural", he was able to articulate the following goals for his

daughter, "Well, I want her to learn to read and write English, I want her to develop her math skills, and I want her to sign well. And, I want her to have Deaf friends, and interact with Deaf kids." Although most of these goals are shared by all parents of deaf children, the particular emphasis on interaction with Deaf friends and building a connection to the Deaf community is what distinguished the Deaf parents perspective from that of hearing parents and teachers.

It is important to clarify that in the published literature, the bilingual/bicultural approach does encompass both of these definitions - it is a means both to acquiring better literacy in English and to develop ASL skills and involvement in the Deaf community. But the hearing and the Deaf perspectives value alternative aspects of this common approach differently. This difference is illustrated by Padden and Humphries (1990) with the example of the term "a little hard of hearing". When "normally hearing" is central to your perspective of the world, then the term "a little hard of hearing" refers to people who are slightly off that centre - they can hear almost normally, but have a little difficulty at times. Compare that to a person whose norm or centre is "Deaf". Their understanding of the term "a little hard of hearing" again refers to people slightly off that centre - in this case, primarily Deaf with a little bit of hearing. This emphasizes how culture contextualizes people's understanding of the world and different concepts.

It is also important to emphasize that one culture's interpretation is not better or worse, or right or wrong compared to the other's. It simply reflects a different priority, or a different set of values and norms. An understanding of these cultural biases is essential in the effective implementation of a bilingual/bicultural approach with deaf students.

Communication

In general, a key element in implementing a bilingual/bicultural program is to establish a communication policy. Such a policy emphasizes the importance of keeping the two languages separate and recognizing and defining the various situations that make that task challenging; examining equal access to information within the context of trust; and determining whether language use limits or enhances a program depending on the levels of the users' competence. Each of these issues will be discussed within the framework of data collected in this study.

The emphasis by participants in this study was to keep the languages, of English and ASL, separate and distinct; however, classroom observations indicated that the individual needs of the students sometimes took priority over strict implementation of the policy/guidelines. As Doug put it, "I think the one thing that we do for the students here is that if you can provide them with the environment that they are the most comfortable in, if that happens to be strictly a signing environment for some kids or if it happens to be a combination of a signing and an auditory environment for other kids, then I think that's what you have to provide."

Each of the classrooms had at least one student whose spoken English skills were more advanced than their ASL skills. It was interesting to observe how the teachers maintained ASL as a language of instruction, but also tried to meet the needs of these oral students. I noticed that when the students addressed Doug in spoken English in one-to-one situations, he also responded with speech; however, when he addressed the class as a whole, he consistently used ASL. He would occasionally use his voice to call their names and get their attention in the larger group, but would then follow this with a signed message. If the oral students spoke to Doug within a class

would then follow this with a signed message. If the oral students spoke to Doug within a class discussion, he would respond in ASL as a way to encourage them to interact in this language. I also observed him state this explicitly to one student who repeatedly spoke during a full class discussion. Doug turned to the student and motioned "Shhh" with his finger to his lips, and then signed to him, "Sign, okay?".

A situation which was particularly challenging for keeping the languages separate occurred when oral and signing students worked together and the teacher needed to explain something to them, or even interpret information that they wanted to communicate to each other. I noticed that when Paula was working with two students in her class, one Deaf and the other oral, she used some voicing while she was signing. She did separate the two languages at times, but it seemed there was some carryover from having to switch between the two so quickly and repeatedly.

Language separation also seemed to be influenced by the teaching activity. During the writing of the Christmas drama, I noticed that Paula was whispering and mouthing words while she was signing. This appeared to be influenced by the process of discussing what they should write. The influence of an English-focused activity, such as writing, appeared to make it harder to keep the languages separate. Another activity which influenced language use was when students were working at the computer. It is not possible to attend to the computer screen and take in visual language at the same time; however, it is possible to simultaneously attend to a computer screen and take in linguistic information auditorily. I noticed that the teachers used more oral communication (speaking) with the oral students when they were sitting at a computer, as the

students' visual attention was preoccupied with the screen.

Three of the five students in Doug's classroom were able to communicate in spoken English. It was interesting to note that although they frequently communicated with Doug through speech, they very rarely interacted with each other in this way. They tended to sign to each other. This may have been influenced by the fact that ASL was generally the language of interaction among students, or simply because it was a more effective way for them to communicate.

A behaviour exhibited by all three hearing teachers - one critical to the bilingual/bicultural approach - was ignoring auditory information when it distracted from the visual focus of the task. I noticed during numerous class discussions that Doug did not respond to the oral students as they shouted out the answers, or called his name, when it was not their turn. He kept a balance between taking ideas from verbal and signing input. In a similar situation, Marlene initially did not respond to the student who asked a question orally without raising his hand. The student continued to talk to her and Marlene called his name loudly as a reprimand, but continued to sign with the others as she did this.

The ability to ignore this "auditory pull", helped the hearing teachers to appreciate the visual input that their deaf students were receiving. This quality of being visually attuned is generally beneficial in teaching deaf children (Mather, 1989). The behaviour was also reflected in Paula's response to the telephone ringing in her classroom. Paula first told her class that the phone was ringing, because there was no visual signal (flashing light), and then she answered it.

The function of a communication policy for any bilingual program is also to ensure equal

access to information for everyone involved. This is a particularly sensitive issue with Deaf

bilingual programs, because typically Deaf people, students, teachers, and staff, have rated second

to hearing people with regard to information/communication access. A specific example, which

tends to trigger negative emotions in many Deaf people, is the situation where hearing people are

talking to each other in their presence. There were, however, very few such incidents which

occurred during my observations. Occasionally teachers spoke to people who came to the door,

or to another hearing teacher or teaching assistant in the classroom, but generally all three hearing

teachers appeared to be comfortable signing with other hearing people even if they were both

using their second language.

There were a couple of times where I found myself in the awkward situation of talking to

another hearing person in the presence of deaf students. One of my interviews with Marlene was

arranged at a time when she and Doug teach art to both of their classes together. Marlene and I

sat at the side of the classroom and conversed, while Doug worked with the students. The

situation was rather awkward, and I felt bilingually and biculturally inappropriate because we

were talking in front of the students. They had no access to our conversation.

A similar situation arose when I was interviewing Nancy's parents, Amy and Mike, in their

home. We began our interview in spoken English and they continued to speak to me even when

Nancy was in the room. I felt extremely uncomfortable with this, but they did not appear to share

that feeling. I thought perhaps it was typical for Nancy to be excluded from conversation

between her parents and other adults as most of them would not know ASL. At a later home

visit, I observed Amy speaking to Nancy's hearing brother, Bob, in front of Nancy, which seemed

to reflect typical household interaction.

Although this behaviour appeared to be a blatant violation of a Deaf cultural rule, it requires closer examination. The issue of trust is a key factor in understanding the behaviour. The reason why talking in front of Deaf people is usually offensive is because it conveys the message of disrespect and that Deaf people are not worth including in the conversation. If the relationship between the hearing and Deaf people is a trusting, loving one, such as that between parents and child, perhaps the message conveyed by this behaviour is different and not so harsh. This idea was expressed by Amy when she described an article she had read in a Deaf newsletter about a young hearing woman who was interested in becoming a teacher of the deaf and wanted some advice about how to break into the Deaf community. Amy explained, "The Deaf editor's response was that being involved with the Deaf community was not so much about learning a language or the cultural rules, but rather it was about friendship. She should start by making a friend and then her journey would be a much easier road. So, I really agree with that advice. I mean, there are cultural barriers, but in a one-to-one situation all the rules change! It really starts with a friendship."

Joe, Zoe's Deaf father, also emphasized the importance of a hearing teacher's "attitude" with regard to her ability to build a relationship with deaf students and the Deaf community. "What I find is the most important, is the key, is attitude. Yes, hearing teachers who have good skills in ASL, then they have a good relationship. So, again, it really depends on attitude and communication skills. If they are not patient, and they don't kind of get involved with the students, then, no, it's not a good relationship."

Joe also brought up the point of communication skills which emphasize the issue of language competence within a bilingual program for deaf students. As Amy said, "So the concept [bilingual/bicultural approach] is all related to language skills and language use." The issue of language competence includes the language skills of parents and teachers, as well as the students.

The comments made about hearing people's abilities to develop fluency in ASL were varied. Amy said, "If a hearing person learns ASL as their first language as a child, then yes, I think it can be the same [as a Deaf person]. But if they learn it as an adult, as a second language, then I don't think they have the same level of skills as Deaf people. It also depends on their learning style - visual learners can sign more like Deaf people."

Joe suggested, "They can't get the in depth kind of knowledge and really learn the concepts. You know, how to include the awareness and understanding of the community and that kind of thing. I mean, if they are completely immersed in it, yes, they'll know. And the more Deaf people they meet the easier it is."

Both Amy and Joe suggested that very intense exposure and involvement with Deaf people is required to develop the kind of fluency in ASL that most Deaf people possess. Doug and Marlene indicated that sometimes even this is not enough. Doug stated, "Some people can be in that environment for years and years and still never be really smooth and fluent. It doesn't mean that they can't read it, it just means that they'll have difficulty expressing themselves, because of, it might be fine motor skills that are hard for them or something." Whereas Doug refers to expressive skills being the problem for some hearing people, Marlene refers to the development of receptive skills in her comment. "Lots of people learn how to use the signs and

make the signs, but they have a much harder time figuring out what people are saying - their reading of ASL is very difficult."

These are some of the comments that participants made regarding the development of ASL skills, and the observations showed some very positive examples of second language fluency as well as some conceptual errors. When Paula and Doug were "reading aloud" (translating) the novels to their classes, they both effectively used body shifting to indicate the dialogue between characters in the story. Examples of appropriate ASL discourse patterns were also noted. Paula told a story about a girl with a peanut allergy and used the "diamond discourse" pattern. She started off by telling the students the main point - that the girl died. Then she elaborated on this event, and closed by emphasizing the same main point at the end that she used to open the story.

There were occasions when the teachers' first language, English, influenced their signing. Sometimes this was simply signing in English word order, or using English conjoining words/signs, such as "AND-THEN". At other times it involved grammatical concepts. Paula was discussing objective pronouns with her class and I noticed that she used the ASL sign for a possessive form, indicating "hers", not the objective pronoun "her". It is an understandable error, given the phonetic similarity between the two words in English, but conceptually it could be quite confusing for the students if she usually signs both words the same way.

Just as the hearing teachers and parents were using their second language when communicating in ASL, the Deaf parents were also using their second language, written English, when they were reading with their children. Joanne, Zoe's mother, did not give a specific explanation when Zoe asked her what the word "skipping" meant. Joanne did not appear to know

this word, but from the context explained that the group of children were happily going towards the town.

"My signing changes depending on the students in my class." This comment by Paula reflects how the level of signing skill among the students can influence classroom communication. Paula further indicated that when she had students with Deaf parents in her class, she felt that she was challenged to develop her ASL skills. In general, however, there did not seem to be much emphasis put on developing the students' ASL skills beyond a functional level within the classroom. There was remedial instruction in ASL for students, usually transferring from programs that focused on oral (speaking and listening) skills, which was provided in a pull-out, one-to-one or small group, tutoring format. Curricular goals focused on development of English skills, not enhancing literacy in ASL.

I noticed a different type of interaction in ASL during the occasional times when the students would talk informally amongst themselves. This interaction seemed quite different from the signing I had seen from the students during classroom activities. There was much more expression and energy. The register was also different - more casual, more "slang" and including signs that were unique to this group of friends. Joe, Zoe's father, indicated that this kind of interaction was normal and a valuable part of development. "It's their private kind of slang and teenage talk, and that sort of thing. I think it's important for them to have their own way and invent their own things. They know that, yeah, they use that in school, but people outside of that don't know what they mean. I think that's okay."

Communication issues help to define and clarify the philosophical underpinnings of a

bilingual/bicultural program for deaf students; however, a bilingual/bicultural program is more

than just communication. Other elements of teaching and parenting also need to be considered.

Teaching and Parenting Practices

Some of the teaching strategies observed which appeared to reflect a bilingual/bicultural

influence included the use of visual or concrete aids, peer tutoring, and decision-making by

consensus. When the teachers were questioned about these strategies, they generally did not

associate them with a bilingual/bicultural approach. This is reflected in Doug's comment:

> I think it's just kind of the way that I do operate generally. So maybe it's more naturally
> that it happens rather than by design specifically. I guess a lot of those cultural values that
> they happen to have, are a lot of things that I just have, not necessarily because I am in
> deaf education, but that's just the way that I happen to teach. And I've always taught like
> that.

This was supported by Marlene, "For me it's the same kind of elements that's in any program you

teach. You have to have acceptance."

In contrast to this idea that the implementation of a bilingual/bicultural approach was

simply the process of applying good teaching practices, was Marlene's comment:

> This is a hard place to work. This is a real hard place to work. For hearing people this is
> a foreign environment - you are in a foreign culture and it's all foreign. If you're really
> doing well.... If you are feeling well, and you have lots of energy, then it's not bad, but
> it's always a strain. It's always a strain, I think, to be in a different culture.

This view was not as strongly expressed by Paula and Doug, but it emphasized the ambiguity

between teaching procedures which flow naturally from one's own beliefs and having to make a

conscious effort to teach within two separate sets of rules and value systems.

Since the use of concrete or visual aids, peer tutoring, and decision making by consensus

were not considered unique to a bilingual/bicultural approach, the kinds of teaching strategies the

express similar information. Doug explained it this way, "Well I think it has a lot to do with the bi-bi philosophy where they'll see it in ASL and then a lot of the follow-up work is done in written English format. Or they can re-tell in ASL as well." Paula also supported this idea, "I think the key element is taking those two languages and having the kids identify them as separate languages and being able to transfer between the two. Or using one to help learn the other." Again, with this emphasis on the transfer of information between the two languages, it was not surprising that the major teaching strategy implemented within a bilingual/bicultural program was teaching translation skills.

The concept of bilingualism and biculturalism is in itself inherently ambiguous. It implies two languages and two cultures, and as such, two very different perspectives of the world. The concept can be viewed with an emphasis on "nationalism", which is generally the view of the Deaf community. They want to strengthen and build their language and culture. It can also be viewed with an emphasis on "foreign policy", which tends to be the view of hearing educators and parents. They want their students and children to live within the hearing world. Although these goals are not incompatible, they can lead to differences in language use, communication, and teaching (parenting) practices. The perspectives meet at the "border" between the Deaf and hearing worlds. It is from this vantage point that Deaf students can see both worlds - a perspective equally supported by the Deaf community and hearing teachers and parents. The students' ability to make it to this point depends on how successfully they have learned to translate, both linguistic and cultural information, between the two worlds.

Summary

In order to summarize the information gathered through the process of data analysis, the research findings can be linked with each of my four initial objectives.

My first objective was to describe the activities and instructional methods used by several teachers in a bilingual educational program for deaf children. These descriptions were organized into the general categories of direct and indirect instruction, strategies for teaching reading and writing, and strategies for teaching language structures. Other strategies were also discussed including the use of concrete materials and the use of technology. However, the primary strategy employed by teachers throughout all literacy activities was to teach translation skills. Although directly teaching translation is not usually part of spoken language bilingual programs, it was considered a necessary modification in implementing a bilingual program with deaf students. Since the conversational form of English is not fully accessible to deaf students, "talking" about written English, in English, was not possible. Written English was discussed in ASL and "read" out loud in ASL, resulting in a constant switching between languages within classroom activities. The learning of another language through translation can only be effective if an emphasis is placed on translation of concepts, rather than making one-to-one correspondences between words and signs. The teachers addressed this issue by providing conceptually accurate translations, and discussing more than one meaning for words and signs.

My second objective was to describe the natural strategies used by Deaf students, whose first language was ASL, to acquire literacy in English. The data collected during classroom observations, home observations, and individual assessments with the three students, was helpful

in providing information about the strategies the students used to help them acquire English literacy. All three students employed the strategy of spending time reading to improve their reading skills. They enjoyed reading books outside of school. Writing outside of school was linked to functional activities, such as using the teletype device to communicate by telephone and writing notes to converse with hearing friends or family members who did not know sign language.

The students effectively used strategies to create meaning by asking for help, relying on context and prior knowledge, and referring to available resources, such as a dictionary or other reference material. Development of the students' self-evaluation skills would increase their awareness of how their ASL competence could facilitate English literacy.

My third objective involved describing the interaction between Deaf children and their parents in an activity which linked the two languages of ASL and English. The observations of parents and children at home and the interviews with parents provided data to describe the nature of these interactions. The most significant observation was that parents employed indirect teaching strategies when reading with their children. The teachers tended to view reading as a language learning activity, whereas the parents viewed reading as making print meaningful. The parent-child interactions also reflected mutual participation in learning - both parents and children were learning together. For the hearing parents this referred to their need to improve their skills in ASL and their awareness of Deaf culture. Similarly, Deaf parents openly shared their limitations and desire to develop their English literacy skills with their children.

My fourth and final objective was to explore the impact the instructional methods within a

bilingual educational setting had on Deaf students' literacy development. All sources of data -

school and home observations, teacher and parent interviews, student assessments, and school

documents - contributed to the assessment of this objective. The implementation of a

bilingual/bicultural approach at the school was primarily characterized by a change in language

use. Specifically, ASL became the language of instruction within the classrooms.

Data suggested that the implementation of a bilingual/bicultural approach with deaf

students has some inherent limitations. Firstly, the primary assumption of such an approach is

that students enter school with an established language base in ASL. This is the foundation

upon which English literacy is built. It is fundamental to the program; however, many

students have limited or confused language input during their preschool years and do not

develop strong ASL skills prior to entering school. Secondly, students' learning and

development of literacy skills can be influenced by the presence of other disabilities in addition

to deafness. Thirdly, the majority of Deaf students are not "born" into the culture - they have

hearing parents. In an effort to provide consistent exposure to ASL and Deaf cultural values,

hearing parents and teachers are forced into roles that they cannot appropriately fill.

The factors of language acquisition, additional disabilities, and cultural transmission

can account for some aspects of the limited implementation of a bilingual/bicultural approach;

however, another factor also played an important role. This is the attitude which continues to

view deaf students as having a deficit. Such an attitude results in limiting the size of classes,

which reduces opportunities for peer interaction and increases individual programming; using

structured teaching methods, which reduce exposure to natural forms of language; and

maintaining a teacher-centred approach, which does not actively involve students as

participants in their own learning.

The data suggest that teachers, parents, and students are using strategies which are

effective in building the literacy skills of deaf children. The data also reflect some limitations

to the implementation of these strategies and to establishing a bilingual and bicultural learning

environment. The reasons for both the successes and the limitations must be considered.

These reasons, and particularly the implications they have in the application of a

bilingual/bicultural approach to educating deaf students, will be discussed in the final chapter.

Chapter Five: Finding Common Ground

The primary purpose of this study was to reduce the gap between theory and practice;

between the theoretical understanding that Deaf students are learning written English as a

second language, and how to actually facilitate that process. Findings that present the effective

strategies employed by teachers, parents, and students, as well as findings that uncover the

limitations to the program, both contribute to the goal of putting theory into practice.

Effective Teaching Strategies

The things that the teachers were doing well included consistent use of ASL as the

language of instruction, using both direct and indirect teaching strategies, providing

conceptually accurate translations between the two languages, and presenting language in a

multi-modal way, through signs, words, print, and pictures, to make it meaningful.

The teachers clearly expressed and demonstrated their respect for the role that ASL

played in Deaf culture and in their students' cognitive and linguistic development. They

recognized ASL as a sophisticated language worthy of study and fitting for daily

communication and instruction. In their comparisons or translations between English and ASL

the languages were presented as equal but different. An essential element of a bilingual/

bicultural program for deaf students is that the teachers value and believe in ASL as a bona

fide language (Hanson & Mosqueira, 1995). The teachers' use of spoken English, which was

not accessible to all the students, was limited to one-to-one situations with individual students.

In these situations, it was used to provide additional information, usually about print, rather than to develop their auditory or oral skills.

The teachers were generally consistent about keeping the languages separate and distinct in that they did not sign and talk at the same time. Some mixture of the languages occurred in the form of mouthing words or whispering which accompanied signing. These behaviours tended to occur during activities where the two languages were closely linked. For example, during discussions of a specific written sentence or passage, when the class was writing a composition as a group, or when the teacher needed to interpret information between a signing student and an oral student. The tendency to mix languages in these situations appears to reflect the mental difficulty of talking about one language in another, rather than any disrespect towards keeping the language distinct. Although the use of mouthing or whispering in conjunction with signing also did not appear to reduce overall comprehension and communication between students and teacher, this issue does require further investigation.

A true respect for ASL goes beyond simply developing competence in using the language and extends to an appreciation of its visual nature. The teachers were attuned to the visual needs and attention of their students. They used eye gaze to direct classroom interaction and to ensure a shared focus. In particular, the visual and linguistic emphasis of incorporating ASL as the language of instruction was reflected in all three teachers' ability to ignore irrelevant or inappropriate auditory information. This included students calling out their

names or the answers, rather than signing or raising their hands. This resistance to the strong

"auditory pull" spoken language has on most hearing people, reflected the teachers'

competence in ASL and that they had truly learned to see (Erting, 1992).

Another thing that the teachers were doing well was the use of both direct and indirect

teaching strategies. Language learning typically occurs in meaningful contexts, through

natural interactions and experiences with other speakers of the language. Although indirect

teaching did occur through exposure to books and story re-writing, many classroom activities

were focused on teaching and learning specific structures. It may be that more direct teaching

methods are necessary when instructing students who are learning English as a second

language or who have had limited exposure to language (Kelly, 1998). It appeared that the

primary emphasis continued to be on direct methods, when possibly more of a balance between

both direct and indirect teaching was needed. Teachers could benefit from observing parents

interacting with their children to see the kinds of indirect teaching that occurred in those

situations. These emphasized the importance of reading for comprehension, meaning-guided

rather than task- or achievement-guided literacy activities, providing context, and being

motivated by a need to communicate.

When children do not learn language, or other concepts, from natural exposure and

stimulation, there is a tendency among educators to teach it more directly (Rhodes & Dudley-

Marling, 1988; Stires, 1991). The direct teaching process involves imposing structures,

incorporating drill and practice, and breaking down the information into smaller, but also less meaningful, chunks. Is it possible that through this process we take away precisely what they need to help them complete the task? The more direct the teaching, the less actively involved the student becomes in the learning process. Although the students have not been able to figure out the rules through natural exposure, teaching must continue to keep them involved in trying to figure them out. This could involve altering the exposure and stimulation provided to the students, rather than telling them the rules directly. Given that the students were not always retaining what was taught explicitly, the effectiveness of using this method so extensively must be questioned. Whether the direct teaching of specific grammatical structures was meaningful to the students must also be considered. What is positive is that the teachers were using both direct and indirect teaching methods. What must be further investigated is whether the most appropriate, and most effective, balance between the two methods has been reached.

Translation skills, or methods for comparing the languages of ASL and English, are necessary strategies in teaching deaf children within a bilingual/bicultural context (Hanson & Mosqueira, 1995; Mahshie, 1995). It is important to distinguish between "literal" and "conceptual" translation. Literal translation involves establishing a one-to-one correspondence between words and signs. This is similar to the manual codes for English that were established to make spoken and written English visual (in the air). The problem with such codes, is that

in many instances they did not link the written or spoken words to signs that were meaningful to the students. One code (manual) simply linked with another code (spoken/written), but neither was linked to the underlying concept. The purpose of linking print to signs is to mediate a link between the printed form and the concept. This is conceptual translation, and it is also something the teachers were using in their classrooms. Methods such as giving multiple translations for a word or phrase (either in print or in ASL), or explaining the importance of context, were used effectively by the teachers to avoid a limited, one-to-one correspondence between signs and print. The ultimate goal is not to mediate through signs, but to have the print link directly with the readers' internal meaning. The translation strategies observed in the classrooms were focused on establishing the link between signs and print, therefore, the process of teaching translation to arrive at this ultimate goal, needs to be further examined.

The teachers effectively presented information to their students through multi-modal methods. This included the use of pictures, print, spoken words, and signs to illustrate the same message or meaning. The presentation of multi-modal information allowed the teachers to tap into whatever aspect of the information was helpful for each particular student. This ensured that students of varying language levels would find the information meaningful. It also provided many opportunities for students to explore and discover the relationships between the various languages and communication modes. This supported learning strategies which were meaning-driven and gave the students an active role in their own learning.

The effective strategies of using ASL, direct and indirect teaching, conceptual

translation, and multi-modal presentation, provide useful information regarding the

implementation of a bilingual/bicultural program for deaf children. However, I also observed

teaching strategies and classroom activities which did not appear to be consistent with a

bilingual/bicultural approach. A discussion of these observations also provides insight into the

practical application of this philosophy.

Inconsistencies Within a Bilingual/Bicultural Approach

The observations which were inconsistent with a bilingual/bicultural approach to

educating deaf students included an emphasis on direct teaching methods, as well as an

emphasis on word-based rather than discourse-based language structures, small class sizes, and

inconsistent incorporation of culture in the classroom.

The teachers' use of direct instruction has been previously discussed. As indicated,

direct teaching does have a place in any classroom, and particularly a classroom where

students enter with a wide range of language levels and experiences. The problem with direct

instruction is that it reduces the students' active involvement in their own learning. Students

must be allowed to participate in deciphering the "code" of learning a language. They must

form their own hypotheses about how the structures relate, try them out, and make

modifications to these hypotheses depending on the feedback they get. In this way, the

knowledge becomes internalized. If the students are simply told what the rules are, their

understanding may be limited to a superficial level. A compromise can be reached between direct teaching and natural exposure. Teaching can provide guided instruction so that students know what to look for within the language they are exposed to; however, they continue to be actively involved in forming and evaluating their own hypotheses about the rules. Further investigation into how these practices can be specifically applied to developing the literacy skills of deaf students is required.

Another observation, which is related to the emphasis on direct teaching, was the emphasis on teaching word-based skills, such as spelling and vocabulary. Traditionally programs for teaching deaf students have emphasized the mechanistic features of language because they are easier to teach (Livingston, 1997). In some ways, they are also easier for deaf students to learn due to their visual sensitivity to the analysis of orthography and morphology in written English (Hirsh-Pasek & Freyd, 1984). Typically, deaf students' spelling skills far exceed their reading comprehension skills (Grushkin, 1998). This difference can be partially accounted for by the visual nature of spelling, but it may also be related to how deaf students are taught.

The reasons for continuing to emphasize the mechanistic features of English, rather than more global, discourse structures, need to be examined. Do the teachers consider these skills as basic building blocks such that until the students master them they cannot move beyond the letter, word, or sentence level? The type of instruction students receive may also

determined by their overall language level. Students with limited language skills were not

considered to be able to work beyond the level of spelling, vocabulary, and simple sentences.

This seemed to be reflected in the fact that the students in the grade six classroom did more

work at the discourse level than the grade four or five students. The reason for an emphasis

on basic structures may also reflect the teacher's philosophy that learning to read is a bottom-

up rather than a top-down process. It was expected that the implementation of a bilingual/

bicultural approach would allow teachers to free themselves of the traditional methods used in

educating deaf students, and employ more individualized programs that incorporated a balance

of mechanistic and discourse-based strategies at all grade levels.

Another inconsistency observed in applying a bilingual/bicultural approach was the

small number of students in each class. Although the small class size allowed for more

individualized teaching, it again emphasized that teacher-directed instruction was what was

needed and most beneficial for the students. Observations indicated that the small class sizes

limited interaction among peers, which in turn, did not integrate the students of diverse

language levels within the learning activities.

The teachers in Sweden and Denmark, where they have been implementing a

bilingual/bicultural approach for almost two decades, believe that large classes are an essential

component in their program (Mahshie, 1995). Larger classes allow students to be placed in

different working groups based on learning styles or skills in different subject areas, rather

than static groupings based on their speech or reading skills as typically occurred in the past.

Larger classes also allow the students to learn from each other, rather than depending on the

teacher for all information and control, and this also fosters their problem-solving skills.

Teachers can get a better sense of what each student's needs are, academically and socially,

because there are more students to serve as a norm.

Despite these stated advantages, teachers of the deaf in North America have been

resistant to increasing class size due to the varying competence in ASL among students. A

solution to this issue was suggested by Johnson et. al. (1989); combining two classes but

keeping both teachers. This solution also emphasized the values of a bilingual/bicultural

approach by suggesting that one teacher be hearing and one teacher be Deaf. This would

provide the students with native language models in both ASL and English. Given the

advantages of larger classes, and the benefits of hearing and Deaf teachers working as a team,

it is surprising that this model has not been incorporated more extensively. One key issue is

the availability of Deaf teachers. At the time of my study, none of the teachers from

kindergarten to grade six were Deaf, indicating that there is a need for training and

development in this area.

The lack of Deaf teachers also influenced the final observation regarding the limitations

in applying a bilingual/bicultural approach. This observation was the inconsistent

incorporation of culture within the classroom. The elements of Deaf culture which were

consistently represented in all three classrooms were the more technical or materialistic

features. These features are easier to implement because they are the things you can see, such

as the TTY (teletype device for the deaf), captions, flashing lights, tapping, and use of ASL.

It is more difficult to incorporate Deaf cultural values and beliefs. The question arises,

however, of whether it is appropriate for hearing teachers to be teaching or modeling these

values and beliefs if they are not their own. The appropriate behaviour for them to model,

would be as allies and supporters of Deaf people. Indirectly, the teachers did this; they were

respectful towards their Deaf students and colleagues, and discussed cultural influences as they

arose. I expected that since the hearing teachers were aware they were not native language and

cultural role models for the students, they would try to include these in their classrooms in

some way. This could be by inviting community members or parents to participate, or by

using more ASL videotapes of Deaf signers and storytellers.

Although a Deaf studies curriculum had been established at the school, the teachers did

not formally implement it, as they felt academic subjects took precedence in the classroom.

The teachers felt that the students received exposure to Deaf culture within the school

environment, through informal interaction with Deaf peers and staff in the hallways, lunch

room, and on the playground. Perhaps this is all that is needed, or perhaps learning culture

within these natural settings is more effective. The role of a Deaf studies curriculum, and the

questions of who, where, and how Deaf culture is most effectively taught, continue to require

further investigation and discussion.

The strategies that were used effectively, and also the strategies that were inconsistent with implementing a bilingual/bicultural approach have been summarized. The reasons for both the successes and the limitations must also be considered.

Reasons for Success

The reasons for the successful implementation of bilingual/bicultural teaching methods with deaf students all stem from one significant factor. This is the effective use of ASL as the language of instruction. Firstly, ASL in the classroom makes information accessible to the students, which is the first step in learning. Secondly, when students and teachers share the same language it allows them to truly converse and be active participants in learning. Traditionally, teachers of deaf students followed rigid lesson plans to control the language within the teaching interaction, to accommodate their students' limited English skills and their own limited signing skills (Erting, 1992; Livingston, 1997). The ability to communicate comfortably allows teachers to take advantage of teachable moments, pick up on students' interests, and incorporate their comments.

The third reason for success which stems from the effective use of ASL in the classroom, is the influence language has on culture. The impact of learning another language goes beyond simply the technical aspects of that language, such as grammar and vocabulary. When you learn another language, it is impossible not to also develop an understanding of the

culture and the community whose language you are learning. This understanding influences a change in attitude as well. It allows you to see the world from a different perspective, which can develop into an appreciation and respect for values and beliefs that are different from your own. By being bilingual and bicultural themselves, the teachers bring bilingual and bicultural elements into the classroom (Grosjean, 1992). They cannot separate themselves or their teaching methods from the languages they speak or the cultural values they possess.

Reasons for Inconsistencies

The reasons for the limitations in applying a bilingual and bicultural approach are essentially the same reasons that maintain a deficit model of deaf students. These include the inconsistent acquisition of ASL as a first language, the presence of other disabilities, and the transmission of culture through peers and community rather than parents. These reasons are presented as arguments for why a bilingual/bicultural approach to educating deaf students should not be implemented. The argument maintains that a bilingual/bicultural approach is like other methods for teaching deaf children proposed in the past; they make sense in theory, but are not feasible in reality. A comparison would be the use of manual English systems, which theoretically were to provide English input in an accessible mode, but physiologically and psychologically were impossible to produce and perceive (Johnson, et. al., 1989).

The difference between the limitations of implementing a bilingual/bicultural approach and the limitations of other educational approaches, is that they are not related to physical,

psychological, or technological constraints which cannot be overcome. They are limitations imposed by political and educational systems, which are difficult, but not impossible, to change.

Here again, the examples of Sweden and Denmark provide ways to overcome the obstacles of implementing a bilingual/bicultural approach to teaching deaf students. These educators acknowledge that the one prerequisite for the effective implementation of a bilingual/bicultural approach is a strong first language in a natural sign language (Mahshie, 1995). Rather than focus on the fact that this does not occur in most deaf children because they have hearing parents or live in remote communities, they make it a priority to accomplish this task. Professionals and members of community and parent organizations work together to link the families with other parents who have deaf children, and to provide opportunities for children and parents to interact with Deaf people using sign language. This required a widespread restructuring of the early intervention system and re-education of professionals in the fields of medicine, social work, and preschool. This implies a huge investment of energy and resources; however, it is considered to be well worth it because no amount of excellent teaching later can make up for losing the crucial learning that occurs between children and parents during this early time (Mahshie, 1995).

Conclusion

This study has provided descriptions of effective strategies and reasons for their

effectiveness. It has also provided descriptions and reasons for the limitations and

inconsistencies in implementing a bilingual/bicultural approach. Through these descriptions

many questions have been answered; however, many continue to require further investigation.

In particular, this includes finding the most effective balance between direct and indirect

teaching methods; examining the process of teaching translation skills to determine how print

can link directly to internal concepts; studying the practice of Deaf and hearing teachers

working in teams with larger classes; determining the role, place, and teachers of Deaf Studies

curricula and Deaf culture in general; and challenging the process of transition in deaf

education - "change the system, not the children" (Mahshie, 1995, p. 179).

The ultimate goal in a bilingual/bicultural approach to educating deaf students is to

maximize the student's potential for participating in both the Deaf community and society as a

whole. The implementation of this goal can be viewed from different perspectives. Deaf

people emphasize the need to develop fluency in ASL and an awareness of Deaf cultural values

so that students know their identity within the community. Hearing people emphasize the need

for competence in reading and writing English in order to be successful in the world. Both

views are valid and important, and gradually, through the implementation of bilingual teaching

strategies we are moving closer to finding the common ground.

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Appendix A:

Student Assessment Profiles

LANGUAGE AND LITERACY ASSESSMENT REPORT

NAME: Zoe
D.O.B.:   June 1988
AGE: 9 years, 6 months
DATE OF ASSESSMENT: December 2 and 11, 1997, January 15, 1998

BACKGROUND INFORMATION:

Zoe is a Deaf child of Deaf parents. She also has a Deaf, older sister and numerous Deaf relatives. She has been attending MSD since kindergarten and is presently in grade 4. The English testing was conducted over two sessions of approximately 45 minutes each in December 1997. The ASL testing was conducting during one 45 minute session, one month later, in January 1998. All testing was conducted at MSD in a private room outside of Zoe's classroom. Zoe was cooperative throughout the testing sessions, and appeared to complete all the tasks carefully and to the best of her ability.

ASL SKILLS:

Zoe's production and comprehension in ASL was assessed through the administration of the ASL and English Literacy Tests. ASL production was evaluated with the *Classifier Production Test* and a *Sign Narrative*. In the *Classifier Production Test* the student watches a five-minute cartoon movie. The movie is then presented again in ten segments, and the student is required to sign in ASL the actions from each segment in turn. This procedure minimizes the effects of memory. Responses are videotaped. These responses are then scored for the presence of different size , shape, and movement markers known as classifiers. Zoe used a total of 35 classifiers, including all eight types described in the assessment. Zoe used Body Part Classifiers (using different body parts as verbs of motion) the most frequently, but also tended to use Semantic Classifiers (indicating motion or location with an abstract classifier).

The Sign Narrative is elicited by showing the student a children's story book that has no text, and then asking them to sign the story in ASL. Stories are videotaped, and later scored, using a checklist of ASL grammatical and narrative structures. Zoe clearly indicated role shifting in her story when different characters were talking. She added emotional components to the story which were not evident from the pictures. For example, she attributed feelings of curiosity or relief to the dog which made the story more interesting. Zoe used complex grammatical structures including verbs within verbs and facial expression to indicate sentence topics. The overall structure of her story was sequential and logical, however, she did not clearly introduce the topic of the story at the beginning of her narrative.

ASL comprehension was assessed with *Story Comprehension*, the *Classifier Comprehension Test*, the *Time Marker Test*, and the *Map Marker Test*. *Story Comprehension* involves watching a videotaped story told in ASL by a Deaf native ASL signer. Ten questions about the events in the story are interlaced throughout the videotape. Students sign responses to

the questions as they appear and their responses are videotaped. In this way, memory requirements are reduced to a minimum. Zoe answered 8 out of 10 questions correctly, indicating good comprehension of the story facts.

In the *Classifier Comprehension Test* the students are shown pictures of objects with a variety of features. They watch a native ASL signer describe each object in five ways. Using an answer sheet that contains printed video freeze frames of each description, students are required to mark the one that provides the best ASL description of the picture. Zoe scored 6/10 correctly, indicating average comprehension of classifiers. Her difficulties with this task may also reflect an adjustment to the test task itself - it required attending to videotaped signing, printed illustrations, and printed still photographs of signs. Although two practice items were included, she may have needed more time to feel comfortable with the activity.

In the *Time Marker Test* students are shown, on video, six representations of specific times or periods of time. Using an answer sheet containing calendars, the students are required to find the corresponding dates. Zoe correctly responded to 7 out of 10 items, with errors reflecting dates involving years not days of the week or months.

In the *Map Marker Test*, students are shown, on video, eight descriptions of the way objects are located in a given environment, such as vehicles at a crossroads, or furniture in a bedroom. For each description, students select the correct representation from a selection of photographs in an answer booklet. This task is a complex skill which requires the student to take the perspective of the person signing rather than viewing the pictures from their own perspective. Zoe received a score of 2/10 indicating that she is still developing this skill.

ENGLISH SKILLS:

The English literacy subtests of the ASL and English Literacy Tests assess students skills in the areas of vocabulary, syntax, and written narrative. English vocabulary comprehension is tested using a modification of the Peabody Picture Vocabulary Test (PPVT). The test is presented in written rather than verbal form. Students are required to read a word and then select from a set of four the picture that best matches the word's meaning. Zoe received a raw score of 53 which has an age equivalency of 4 years, 7 months. However, it must be emphasized that this is comparing Zoe's ability to read vocabulary with other children's listening vocabulary scores.

Productive English vocabulary was assessed with the *Antonyms and Synonyms* subtest of the Woodcock-Johnson Psycho-educational Test Battery - Revised (WJ-R). Written stimulus words are presented and the students are to write another word that either means the same or opposite to the stimulus word. Zoe received a raw score of 15, giving her a grade equivalent score of 2.5.

English syntax skills were assessed using the *Sentence Writing* subtest of the Test of Written Language (TOWL). This test involves a "cloze" task where the students fill in the missing words to demonstrate their knowledge of grammatical structures when completing sentences. Zoe received a raw score of 8, which placed her at the 37th percentile for her age.

A written narrative was elicited from Zoe using the same children's story book without text as in the *ASL Narrative* subtest. Zoe's written story was 136 words long, including 26

sentences. She requested help in spelling some words, including "kitchen", "careful", and "upstairs". She used primarily uninflected verbs, omitted articles, and overused the preposition "to". She accurately used the possessive marker and the modal verb "must". Most of Zoe's sentences were simple, subject-verb-object constructions, but she did attempt a few complex structures, including the correct use of the conjunction "and". In general, she included all the main story events and accurately maintained the sequence of the story. She appropriately titled her written narrative and elaborated on the information given to make the story more interesting.

SELF-EVALUATION:

In addition to formal measures, Zoe was also interviewed regarding her attitude toward and understanding of ASL and English, and her own evaluation of her skills in these languages. These interviews were based on Reading and Writing Inventories developed by Campbell-Hill and Ruptic (1994). Zoe indicated that she enjoys reading, prefers to read scary stories, and tends to ask the teacher for help when she encounters a word she doesn't know. She also expressed that she feels she is a good writer, she does most of her writing at school, and that practice is what makes a person a good writer. She felt she was also good at drawing and science, but that math is difficult for her.

SUMMARY:

Zoe's language skills in both ASL and English were assessed through formal and informal measures. At the present time, the results of testing indicate that she has advanced ASL skills. She is able to understand narratives, and comprehend grammatical structures, including classifiers, and time markers. She continues to develop her skills in comprehending map markers. In expressing herself in ASL, Zoe effectively used a variety of classifiers, modified the meaning of signs with facial expression and movement, clearly identified spatial references and used a variety of complex sentences. The formal testing related to written English placed Zoe's skills at approximately a grade two level. A sample of her writing revealed no problems with story structure and sequence, and some difficulties with grammatical markers, particularly verb tense and prepositions. Her written sentence structures were primarily simple (Subject - Verb - Object word order), but she did accurately use some conjunctions and embedding of clauses. Zoe expressed a positive attitude towards reading and writing, indicating that she participated in these activities for recreation and enjoyed sharing her own stories or reading books with others.

Charlotte Evans
Examiner
(In consultation with Christine Spink-Mitchell and Kyra Zimmer, ASL Specialists)

LANGUAGE AND LITERACY ASSESSMENT REPORT

NAME: Sue
D.O.B.:   April 1986
AGE: 11 years, 8 months
DATE OF ASSESSMENT: December 2 and 11, 1997; January 15, 1998

BACKGROUND INFORMATION:
     Sue is a Deaf child of Deaf parents. She has an older, hearing brother. She has been attending MSD and living in the school residence during the week since grade 2. Prior to that she attended her local school with an interpreter in her home community. Sue is presently in grade 6. The English testing was conducted over two sessions of approximately 45 minutes each in December 1997. The ASL testing was conducting during one 45 minute session, one month later, in January 1998. All testing was conducted at MSD in a private room outside of Sue's classroom. Sue was cooperative throughout the testing sessions, and appeared to complete all the tasks carefully and to the best of her ability.

ASL SKILLS:
     Sue's production and comprehension in ASL was assessed through the administration of the ASL and English Literacy Tests. ASL production was evaluated with the *Classifier Production Test* and a *Sign Narrative*. In the *Classifier Production Test* the student watches a five-minute cartoon movie. The movie is then presented again in ten segments, and the student is required to sign in ASL the actions from each segment in turn. This procedure minimizes the effects of memory. Responses are videotaped. These responses are then scored for the presence of different size , shape, and movement markers known as classifiers. Sue used seven different types of classifiers for a total of 23 all together. Sue used Semantic Classifiers (indicating motion or location with an abstract classifier) the most frequently, but also tended to use Instrument Classifiers (using her hands as the agents of the action).
     The Sign Narrative is elicited by showing the student a children's story book that has no text, and then asking them to sign the story in ASL. Stories are videotaped, and later scored, using a checklist of ASL grammatical and narrative structures. Sue did not begin the story with a clear opening topic. She did not take on the roles within the story or indicate dialogue between the characters. She did use classifiers effectively and the overall structure of her story was sequential and logical. Sue used the complex sentence structure of verb chaining, indicating several actions with the same classifier. In general, her signing lacked facial expression and she did not elaborate on the basic story events.
     ASL comprehension was assessed with *Story Comprehension*, the *Classifier Comprehension Test*, the *Time Marker Test*, and the *Map Marker Test*. *Story Comprehension* involves watching a videotaped story told in ASL by a Deaf native ASL signer. Ten questions about the events in the story are interlaced throughout the videotape. Students sign responses to

the questions as they appear and their responses are videotaped. In this way, memory requirements are reduced to a minimum. Sue answered all 10 questions correctly, indicating excellent comprehension of the story facts.

In the *Classifier Comprehension Test* the students are shown pictures of objects with a variety of features. They watch a native ASL signer describe each object in five ways. Using an answer sheet that contains printed video freeze frames of each description, students are required to mark the one that provides the best ASL description of the picture. Sue scored 4/10 correctly, indicating some difficulty with the comprehension of classifiers. Her difficulties with this task may also reflect an adjustment to the test task itself - it required attending to videotaped signing, printed illustrations, and printed still photographs of signs. Although two practice items were included, she may have needed more time to feel comfortable with the activity.

In the *Time Marker Test* students are shown, on video, six representations of specific times or periods of time. Using an answer sheet containing calendars, the students are required to find the corresponding dates. Sue correctly responded to 6 out of 10 items, with errors reflecting dates involving days of the week not years.

In the *Map Marker Test*, students are shown, on video, eight descriptions of the way objects are located in a given environment, such as vehicles at a crossroads, or furniture in a bedroom. For each description, students select the correct representation from a selection of photographs in an answer booklet. This task is a complex skill which requires the student to take the perspective of the person signing rather than viewing the pictures from their own perspective. Sue received a score of 1/10 indicating that she is still developing this skill.

ENGLISH SKILLS:

The English literacy subtests of the <u>ASL and English Literacy Tests</u> assess students skills in the areas of vocabulary, syntax, and written narrative. English vocabulary comprehension is tested using a modification of the <u>Peabody Picture Vocabulary Test (PPVT)</u>. The test is presented in written rather than verbal form. Students are required to read a word and then select from a set of four the picture that best matches the word's meaning. Sue received a raw score of 96 which has an age equivalency of 8 years, 6 months. However, it must be emphasized that this is comparing Sue's ability to read vocabulary with other children's listening vocabulary scores.

Productive English vocabulary was assessed with the *Antonyms and Synonyms* subtest of the <u>Woodcock-Johnson Psycho-educational Test Battery - Revised (WJ-R)</u>. Written stimulus words are presented and the students are to write another word that either means the same or opposite to the stimulus word. Sue received a raw score of 19, giving her a grade equivalent score of 4.0.

English syntax skills were assessed using the *Sentence Writing* subtest of the <u>Test of Written Language (TOWL)</u>. This test involves a "cloze" task where the students fill in the missing words to demonstrate their knowledge of grammatical structures when completing sentences. Sue received a raw score of 14, which placed her at the 37th percentile for her age.

A written narrative was elicited from Sue using the same children's story book without text as in the *ASL Narrative* subtest. Sue's written story was 69 words long, including 7

sentences. She wrote the story independently and did not requested help in spelling any words. She used primarily uninflected verbs, except for two irregular past tense verbs, and omitted articles. Sue accurately used the possessive marker on five occasions. Most of her sentences were complex structures, including conjuntions and embedded clauses. She showed some creativity in using the phrase "box with clothes pile" to describe "laundrey chute". In general, she included all the main story events and accurately maintained the sequence of the story. Sue did not appear to be very motivated by the story, which was perhaps too juvenile for her.

SELF-EVALUATION:

In addition to formal measures, Sue was also interviewed regarding her attitude toward and understanding of ASL and English, and her own evaluation of her skills in these languages. These interviews were based on Reading and Writing Inventories developed by Campbell-Hill and Ruptic (1994). Sue indicated that she enjoys reading on her own, prefers to read mystery stories, and tends to ask the teacher for help when she encounters a word she doesn't know. She also expressed that she feels she is a good writer, and enjoys sharing her writing with others. Sue felt she was also good at sports and science. Sue frequently responded to questions with "I don't know", and it was difficult to try to elicit more elaborate answers.

SUMMARY:

Sue's language skills in ASL and English were formally and informally assessed. At the present time, results from these assessments indicate that she was functioning at an age-appropriate level in terms of her ASL development. She was able to understand narratives, and time markers, but had some difficulties comprehending grammatical structures including classifiers and map markers. Sue also had some difficulty expressing herself with classifiers. Classifiers function similar to pronouns in English; they are more general signs which replace other more specific referents. The formal testing of written English indicated that Sue was functioning at approximately a grade four level in this area. She demonstrated good comprehension of vocabulary items and used a variety of complex sentences in her written sample. She had some difficulty with verb tense inflections and articles, but accurately used possessive markers and prepositions. Sue demonstrated a positive attitude towards reading and writing. She frequently read for recreation and enjoyed sharing her own stories with others.

Charlotte Evans
Examiner
(In consultation with Christine Spink-Mitchell and Kyra Zimmer, ASL Specialists)

LANGUAGE AND LITERACY ASSESSMENT REPORT

NAME: Nancy
D.O.B.:   February 1987
AGE: 10 years, 10 months
DATE OF ASSESSMENT: December 2 and 11, 1997; January 15, 1998

BACKGROUND INFORMATION:

Nancy is a Deaf child of hearing parents. She also has an older, hearing borther. She has been attending MSD since kindergarten and is presently in grade 5. The English testing was conducted over two sessions of approximately 45 minutes each in December 1997. The ASL testing was conducting during one 45 minute session, one month later, in January 1998. All testing was conducted at MSD in a private room outside of Nancy's classroom. Nancy was cooperative throughout the testing sessions, and appeared to complete all the tasks carefully and to the best of her ability.

ASL SKILLS:

Nancy's production and comprehension in ASL was assessed through the administration of the ASL and English Literacy Tests. ASL production was evaluated with the *Classifier Production Test* and a *Sign Narrative*. In the *Classifier Production Test* the student watches a five-minute cartoon movie. The movie is then presented again in ten segments, and the student is required to sign in ASL the actions from each segment in turn. This procedure minimizes the effects of memory. Responses are videotaped. These responses are then scored for the presence of different size , shape, and movement markers known as classifiers. Nancy used a total of 26 classifiers, including all eight types described in the assessment. Nancy used Instrument Classifiers (using her hands as agents of the action) the most frequently, but also tended to use Body Part Classifiers (using different body parts as verbs of motion) and Locative Classifiers (indicating motion or location with a clear classifier).

The Sign Narrative is elicited by showing the student a children's story book that has no text, and then asking them to sign the story in ASL. Stories are videotaped, and later scored, using a checklist of ASL grammatical and narrative structures. Nancy clearly indicated role shifting in her story when different characters were talking. Nancy used complex grammatical structures including verbs within verbs, verb chaining, and rhetorical questions to combine clauses. She used appropriate and enthusiastic facial expressions to make the story more interesting. She effectively used classifiers to describe objects, such as the laundrey chute, and the baby riding on the dog's back. The overall structure of Nancy's story was sequential and logical, and she clearly introduced the topic of the story with a title.

ASL comprehension was assessed with *Story Comprehension*, the *Classifier Comprehension Test*, the *Time Marker Test*, and the *Map Marker Test*. *Story Comprehension* involves watching a videotaped story told in ASL by a Deaf native ASL signer. Ten questions

about the events in the story are interlaced throughout the videotape. Students sign responses to the questions as they appear and their responses are videotaped. In this way, memory requirements are reduced to a minimum. Nancy answered 9 out of 10 questions correctly, indicating excellent comprehension of the story facts.

In the *Classifier Comprehension Test* the students are shown pictures of objects with a variety of features. They watch a native ASL signer describe each object in five ways. Using an answer sheet that contains printed video freeze frames of each description, students are required to mark the one that provides the best ASL description of the picture. Nancy scored 7/10 correctly, indicating good comprehension of classifiers.

In the *Time Marker Test* students are shown, on video, six representations of specific times or periods of time. Using an answer sheet containing calendars, the students are required to find the corresponding dates. Nancy correctly responded to 8 out of 10 items, with errors reflecting dates involving days of the week not years.

In the *Map Marker Test*, students are shown, on video, eight descriptions of the way objects are located in a given environment, such as vehicles at a crossroads, or furniture in a bedroom. For each description, students select the correct representation from a selection of photographs in an answer booklet. This task is a complex skill which requires the student to take the perspective of the person signing rather than viewing the pictures from their own perspective. Nancy received a score of 1/10 indicating that she is still developing this skill.

ENGLISH SKILLS:

The English literacy subtests of the ASL and English Literacy Tests assess students skills in the areas of vocabulary, syntax, and written narrative. English vocabulary comprehension is tested using a modification of the Peabody Picture Vocabulary Test (PPVT). The test is presented in written rather than verbal form. Students are required to read a word and then select from a set of four the picture that best matches the word's meaning. Nancy received a raw score of 81 which has an age equivalency of 6 years, 11 months. However, it must be emphasized that this is comparing Nancy's ability to read vocabulary with other children's listening vocabulary scores.

Productive English vocabulary was assessed with the *Antonyms and Synonyms* subtest of the Woodcock-Johnson Psycho-educational Test Battery - Revised (WJ-R). Written stimulus words are presented and the students are to write another word that either means the same or opposite to the stimulus word. Nancy received a raw score of 15, giving her a grade equivalent score of 2.5.

English syntax skills were assessed using the *Sentence Writing* subtest of the Test of Written Language (TOWL). This test involves a "cloze" task where the students fill in the missing words to demonstrate their knowledge of grammatical structures when completing sentences. Nancy received a raw score of 8, which placed her at the 37th percentile for her age.

A written narrative was elicited from Nancy using the same children's story book without text as in the *ASL Narrative* subtest. Nancy's written story was 144 words long, including 25 sentences. She requested help in spelling some words, including "kitchen", "crib", and

"behaviour". She used primarily uninflected verbs, and inconsistently used articles and prepositions. She accurately used a present progressive verb and irregular past tense verbs. Most of Nancy's sentences were simple, subject-verb-object constructions, but she did attempt a few complex structures, including the correct use of embedded clauses with quotation marks and the conjunction "and". In general, she included all the main story events and accurately maintained the sequence of the story. She appropriately titled her written narrative and elaborated on the information given to make the story more interesting.

SELF-EVALUATION:
    In addition to formal measures, Nancy was also interviewed regarding her attitude toward and understanding of ASL and English, and her own evaluation of her skills in these languages. These interviews were based on Reading and Writing Inventories developed by Campbell-Hill and Ruptic (1994). Nancy indicated that she enjoys reading, prefers to read mystery stories, and tries to figure it out herself when she encounters a word she doesn't know. She also expressed that she feels she makes many mistakes when she is writing, and that knowing many words and all the rules makes a person a good writer. She felt she was also good at science and sports, but that social studies is difficult for her.

SUMMARY:
    Nancy's language skills in both ASL and English were formally and informally assessed. At the present time, results indicate that her ASL skills are age-appropriate. She understood narratives and comprehended grammatical structures including classifiers and time markers, but she consistently reversed the perspective when comprehending map markers. Nancy was able to use a variety of classifiers and expressed herself in ASL with both simple and complex sentence structures. The results of the formal tests of written English, placed Nancy's performance in this area at a grade level of 2.5. A sample of Nancy's writing indicated a good sense of story structure. She tended to omit inflections from her verbs, and used primarily simple sentences following a subject-verb-object word order. She correctly used quotation marks to embed one clause within another. Nancy demonstrated a positive attitude towards reading and indicated that she frequently reads for recreation. Her attitude towards writing was that it was difficult for her; there were many rules to learn and she still makes many mistakes.

Charlotte Evans
Examiner
(In consultation with Christine Spink-Mitchell and Kyra Zimmer, ASL Specialists)

Appendix B:

Self-Evaluation Reading and Writing Inventories

Writing Attitude Survey

How do you feel about writing?

When and how did you learn to write?

What kinds of things do you write about at school?

What kinds of writing do you do at home?

What kind of writing do you enjoy most?

What makes a person a good writer?

Why do you think it's important to be a good writer?

How do you feel when you are asked to share your writing with others?

How do you feel when others share their writing with you?

Are you or are you not a good writer?

What are your strengths as a writer?

What do you need help with?

Reading Attitude Survey

How do you feel about reading?

When and how did you learn to read?

What kinds of things do you like to read at school?

What kinds of things do you like to read at home?

What kind of reading do you enjoy most?

What makes a person a good reader?

Why do you think it's important to be a good reader?

How do you feel when your teacher reads aloud?

How do you feel when you read aloud to others at school?

How do you feel when someone gives you a book for a present?

Are you or are you not a good reader?

In what ways have you improved as a reader? What do you do well?

What do you need help with?

Myself as a Learner

**Please circle the words YES, SOMETIMES, or NO to tell your feelings
about each of these statements about learning:**

1. I wonder about things and like to find out about them.   **YES   SOMETIMES   NO**

2. I like to read on my own. I like books and read a lot.   **YES   SOMETIMES   NO**

3. I like other people to read to me.   **YES   SOMETIMES   NO**

4. I like to share my ideas by talking (signing).   **YES   SOMETIMES   NO**

5. I like to share my ideas by acting things out.   **YES   SOMETIMES   NO**

6. I like to share my ideas by drawing.   **YES   SOMETIMES   NO**

7. I like to share my ideas by writing.   **YES   SOMETIMES   NO**

8. I keep working at things even if they seem hard.   **YES   SOMETIMES   NO**

9. When I am reading or writing and I don't know a
   word, I try to figure it out myself and keep on going.   **YES   SOMETIMES   NO**

Use your words to finish these comments:

I especially like to read, write, and learn about

I am really good at

One thing that I find difficult is

Anything else?

Appendix C:

Procedure for Obtaining Consent

Procedure for Obtaining Consent

The Participants and Research Site:

Four groups of participants were included in the study; 1) three elementary-aged students at the Manitoba School for the Deaf, 2) the parents of the three students, 3) the teachers of the three students, and 4) the classmates of the three students.

The primary participants in the study were three elementary students at the Manitoba School for the Deaf. The students were recruited based on their use of ASL as a first language, their classroom placement (each student was from a different grade level), and their parents' hearing status (two children with Deaf parents, and one child with hearing parents were included).

In addition to the three students, participants also included the parents of the students and the three classroom teachers of the students. The teachers were recruited based on their experience implementing a bilingual approach in teaching Deaf students and on their willingness to participate in the study. The classmates of the three students were also participants in the study, as they were part of particular observations due to their involvement in common classroom activities.

Access to the research site, the Manitoba School for the Deaf, was gained by obtaining the Principal's support for the study and then providing general information to teachers at a staff meeting, and to parents at an Advisory Council for School Leadership meeting. When specific participants were recruited informally, their consent to participate was obtained in written form. Please see the attached Letters of Consent related to; a) parents of primary participants, b) parents of indirect participants, c) students, d) teachers, and e) principal/administration.

Expectations of Participants:

The primary participants (three elementary students) participated in an individual assessment of their ASL and English language skills at the beginning of the study. Each assessment took approximately two hours and was conducted by myself and the ASL Specialist from the Manitoba School for the Deaf. The students were also observed during regular classroom activities six times over a nine week period. Each classroom observation was no longer than two hours. Each student was also observed three times in their home during a typical literacy activity with a parent over the same nine week period. These observations were no longer than one hour each. The parents of the primary participants, in addition to being involved in the three home observations, were interviewed at the beginning of the study. Each interview was approximately 45 minutes in length.

The teachers of the three elementary classrooms were interviewed twice, and these interviews ranged from 45 to 90 minutes in length. Each teacher was also observed as part of the six classroom observations planned for each of the children.

Information Distribution:

Participants were fully informed of the objectives of the research study from the outset. Deceptive techniques were not part of the design or methodology of this study. Interviews were conducted informally in a conversational, rather than questioning, style in order to encourage full responses. Any confusions in the analysis of behaviours during observations were resolved in cooperation with participants.

Findings were shared informally through discussions with participating teachers and parents during the course of the study. Upon the conclusion of the study, written documents and formal presentations will be provided to participants as well as to other parents, teachers, or Deaf community members who may be interested.

Sample Letters of Consent:

Please find attached samples of the letters that were discussed and signed by the following participants in the study:

- a) teachers
- b) parents of primary participants
- c) parents of other student participants
- d) students (primary participants)
- e) principal/school administrators

Teacher Letter of Consent

Dear (Teacher):

     I am a student in the doctoral program in Educational Psychology at the University of Manitoba. One of the requirements of this program is to complete a research study. I have chosen to complete a study at the Manitoba School for the Deaf (MSD) involving several elementary classrooms. The goal of this study is to learn more about how Deaf children learn to read and write in a bilingual program that uses American Sign Language (ASL) and English.

     I am writing to ask you to be a participant in the study. If you agree, my study will involve individual assessment of one selected student, classroom and home observations focussing on the student, and initial and final interviews with parents and teachers. At the beginning of the study I will assess the student's skills in ASL and English in a one-to-one setting using appropriate tests. This assessment will take about one hour to complete, but may be separated into several shorter sessions over a few days.

     I will also interview you, both at the beginning and end of the study. Each interview will involve no more than one hour. During a nine week period, six observations will take place in your classroom during language arts instruction. These observations will involve careful description of regular classroom activities and will be about two hours in length.

     I will be videotaping all the assessments, observations, and interviews. These videotapes will be used primarily by myself to help me make detailed notes about what I see or hear, but I may also share them with members of my research advisory committee at the University of Manitoba. If there is some confusion about what is being expressed, I may show the videotape to you, the student, or an ASL Specialist to make sure my interpretation is correct. At the conclusion of the study, all videotapes will be erased.

     I want to assure you that although I intend to publish my study, I will not be using any of the students', teachers', or parents' names in any of my documentation. All the information I collect will be strictly confidential. Your participation in interviews and your permission to allow observations in your classroom is voluntary, and you have the right to withdraw at any time.

     If you require further information about this study, please do not hesitate to contact my advisor Dr. Kelvin Seifert from the University of Manitoba at 474-9018.

     If you would like information about the results of my study when it is completed, I will be happy to discuss it with you or give you a written report.

     I thank you in advance for your consent to participate in this study. Please sign this letter and return it to me at your earliest convenience.

Parent of Primary Participant Letter of Consent

Dear (Parent of Primary Participant):

    I am a doctoral student in Educational Psychology at the University of Manitoba. One of the requirements of this program is to complete a research study. I have chosen to complete a study at the Manitoba School for the Deaf (MSD) involving several elementary classrooms. The goal of this study is to learn how Deaf children learn to read and write in a bilingual program that uses American Sign Language (ASL) and English.

    I am writing to ask you to be a participant in the study. If you agree, my study will involve a language assessment of your child, in both ASL and English, observations of your child at home and at school, and interviews with you. At the beginning of the study, I will assess your child's skills in ASL and English in a one-to-one setting using appropriate tests. This assessment will take about one hour to complete, but may be separated into several shorter sessions over a few days.

    During a nine week period, I will observe your child once each week. Six observations will take place in her classroom and three observations will occur in your home. The classroom observations will include your child's teacher and fellow classmates and will involve careful observation and description of regular classroom activities. These observations will be about two hours in length. The home observations will consist of a typical story reading activity between you and your child and will be no longer than one hour.

    I will also interview you, both at the beginning and the end of the study. Each interview will be no longer than one hour.

    I will be videotaping all the assessments, observations, and interviews. These videotapes will be used primarily by myself to help me make detailed notes about what I see or hear, but I may also share them with members of my research advisory committee at the University of Manitoba. If there is some confusion about what is being expressed, I may show the videotape to you, your child, your child's teacher, or an ASL Specialist to make sure my interpretation is correct. At the conclusion of the study, all the videotapes will be erased.

    I want to assure you that although I intend to publish my study, I will not be using any of the students', teachers', or parents' names in any of my documentation. All the information I collect will be strictly confidential. Your participation in interviews and your permission to allow observations in your home is voluntary, and you have the right to withdraw at any time.

    If you require further information about this study, please do not hesitate to contact my advisor Dr. Kelvin Seifert from the University of Manitoba at 474-9018.

    If you would like information about the results of my study when it is completed, I will be happy to discuss it with you or give you a written report.

    I thank you in advance for your consent to participate and to allow your child to participate in this study. Please sign this letter and send it back to school with your child by Monday, October 6, 1997.

Parent Letter of Consent

Dear (Parents):

      I am a doctoral student in Educational Psychology at the University of Manitoba. One of the requirements of this program is to complete a research study. I have chosen to complete a study at the Manitoba School for the Deaf (MSD) involving several elementary classrooms. The goal of this study is to learn how Deaf children learn to read and write in a bilingual program that uses American Sign Language (ASL) and English.

      My study will involve six observations of your child's classroom over nine weeks from October to December 1997. I will not be administering any tests or other procedures with your child, but will be carefully observing, describing and videotaping what I see happening during regular classroom activities. Several children have been selected as a focus for observations, but at this time your child is not among these. Nonetheless, your child may end up as part of particular videotaped observations, simply because he or she is participating in common classroom activities. If more indepth observation focussing on your child is needed, I will first contact you for your permission. I will also be interviewing your child's teacher and the parents of children involved with the additional observations.

      I want to assure you that although I intend to publish my study, I will not be using any of the students' or teachers' names, and all information I collect will be strictly confidential. I will be videotaping all the classroom observations. These videotapes will be used primarily by myself to help me make detailed notes about what I see, but I may also share them with members of my research advisory committee at the University of Manitoba. If there is some confusion about what your child is signing, I may show the videotape to you, your child, your child's teacher, or an ASL Specialist to make sure my interpretation is correct. At the conclusion of the study, the videotapes will be erased.

      If you require further information about this study, please do not hesitate to contact my advisor Dr. Kelvin Seifert from the University of Manitoba at 474-9018.

      If you would like information about the results of my study when it is completed, I will be happy to discuss it with you or give you a written report. This should be ready by June 1998.

      I thank you in advance for your consent to allow your child to be videotaped and to participate in this study. Please sign this letter below and send it back to school with your child by Monday, October 6, 1997.

Student Letter of Consent

Dear (Student):

I am a student at the University of Manitoba, and I am studying about all the ways that you communicate. To do this I want to watch how you sign, read, and write. I am writing this letter to ask your permission. If you let me do this, I will watch you in your classroom with your teacher and your friends, and I will watch you at home with your Mom and Dad. I will also ask you to look at some pictures, watch some videotapes, and read some books.

A lot of the time when I will be watching you, I am going to make a videotape of you communicating. I will make videos of you in your classroom, at home, and while playing with me. I will not show the videos to anyone except my own teachers and maybe your parents or your teacher. If you want to see them I can show the videos to you.

I am going to write a description of what I learn from watching you. I won't use your name in what I write though, so that people won't find out private things about you.

You don't have to help me in these activities. It's your choice and you can withdraw permission any time. If you are willing to let me watch you, to be in my videos, and to let me write about you, then please write your name on the line below. Doing this means I have your permission.

Thank you for your help.

Charlotte Evans

_____
(Child's Name/Signature)

Principal/Administrator Letter of Consent

Dear (Principal/Administrator):

    I am a student in the doctoral program in Educational Psychology at the University of Manitoba. One of the requirements of this program is to complete a research study. I have chosen to complete a study at the Manitoba School for the Deaf (MSD) involving several elementary classrooms. The goal of this study is to learn more about how Deaf children learn to read and write in a bilingual program that uses American Sign Language (ASL) and English.

    I am writing to outline the participation of MSD staff and students that my study would involve. My study will include individual assessments of three selected students, classroom and home observations focussing on the students, and initial and final interviews with parents and teachers. At the beginning of the study, I will assess the three selected students (each from a different elementary classroom) in a one-to-one setting using appropriate measures to determine their ASL and English language proficiencies. The assessment will take about one hour to complete with each student, but may be separated into several shorter sessions over a few days.

    I will also interview each of the three classroom teachers and the parents of the selected students, both at the beginning and the end of the study. Each interview will be no more than one hour in length. During a nine week period, I will observe the selected students once each week. Six observations will take place in each of the classrooms and three observations will occur in each of the students' homes. The classroom observations will focus on the selected students and their interactions with teachers and peers; however, all interactions and activities within the classroom will be carefully observed and described. These observations will occur during language arts instruction and be about two hours in length. The observations within the students' homes will consist of a typical story reading activity between parent and child and will be no longer than one hour.

    I will be videotaping all the assessments, observations, and interviews. These videotapes will be used primarily by myself to help me make detailed notes about what I see or hear, but I may also share them with members of my research advisory committee at the University of Manitoba. If there is some confusion about what is being expressed on any of the videotapes, I may show that videotape to the particular participants involved (students, parents, or teachers) or an ASL Consultant to make sure my interpretation is correct. At the conclusion of the study, all videotapes will be erased.

    I want to assure you that although I intend to publish my study, I will not be using any of the students', teachers', or parents' names in any of my documentation. All the information I collect will be strictly confidential. Participation in assessments, interviews, and observations by students, teachers and parents is voluntary, and they have the right to withdraw at any time.

    If you require further information about this study, please do not hesitate to contact my advisor Dr. Kelvin Seifert from the University of Manitoba at 474-9018.

    If you would like information about the results of my study when it is completed, I will be happy to discuss it with you or give you a written report.

    I thank you in advance for encouraging the staff and families of the Manitoba School for the Deaf to be willing to participate in this study. I hope that the results will be of benefit to all involved.