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CLOSED CAPTIONING AS A LITERACY TOOL FOR DEAF AND HARD-OF-  
HEARING MIDDLE SCHOOL STUDENTS

by

Nancy Hlibok Amann

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A Dissertation Submitted to the Faculty of the  
DEPARTMENT OF LANGUAGE, READING AND CULTURE

In Partial Fulfillment of the Requirements  
For the Degree of

DOCTOR OF PHILOSOPHY

In the Graduate College  
THE UNIVERSITY OF ARIZONA

2005

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As members of the Dissertation Committee, we certify that we have read the dissertation

prepared by Nancy Hlibok Amann

entitled Closed Captioning as a Literacy Tool for Deaf and Hard of Hearing Middle

School Students

and recommend that it be accepted as fulfilling the dissertation requirements for the

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Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

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## ACKNOWLEDGMENTS

The accomplishment of finishing my doctoral degree depended so much on the support, encouragement, and love that I have gotten for the past five years. There are several people in particular that I want to thank.

My advisor, Kathy Short, not only pushed me the many tough times I had while writing my dissertation, but provided me with invaluable advice and support. Throughout my studies, she has been a tremendous help. Also of great help were my incredible professors within the Language, Reading, and Culture department at the University of Arizona: Luis Moll, Richard Ruiz, Yetta Goodman, Perry Gilmore, and Norma Mendoza-Denton.

My dissertation would have not been possible if not for the support and willingness from the teachers and students who participated in this study at Arizona School for the Deaf, each of whom I genuinely thank.

I also would like to thank my dear friends TaraLynn and Susan for being there during the times I could not talk about anything but my dissertation. And, I would like to particularly thank Colleen Lee Smith and Erin Eichelberger, with whom I spent endless hours chatting about different literacy theories. Their comments and insights opened up many ideas and avenues for me.

My loving and incredible family were always rooting for me by being great listeners and taking care of me and my family whenever I needed. Thank you Mom, Dad, Bruce (in spirit), Stephen, Peggy, Greg, and Charmaine and to Alan's parents: Franklyn and Bonelle. Most importantly, I want to thank my husband, Alan, and our three children, Nathaniel, Briana, and Kelsey. They unfailingly provided necessary help or space and what I now realize were necessary distractions.

## DEDICATION

This book is dedicated to...

my mom and dad for making who I am today. They are very influential in every aspect of my life. They have been my role models since the day I was born.

my children, Nathaniel James, Briana Michela, and Kelsey Marie, who have taught me so much about life. I continue to learn more about the wonders of world through their curiosity.

my Alan, the love of my life. You gave me the courage to reach my dreams.

## TABLE OF CONTENTS

LIST OF FIGURES .....	9
LIST OF TABLES .....	10
ABSTRACT .....	11
I. DEAF LITERACY AND CLOSED CAPTIONING.....	13
Purpose of Study .....	14
My personal experience as a Deaf person.....	17
Study Overview.....	21
Summary .....	22
II. LITERATURE REVIEW .....	24
Literacy.....	24
Functional Literacy .....	25
Cultural Literacy .....	25
Critical Literacy.....	26
Transactional Literacy.....	26
Multimodal Literacy.....	27
Media Literacy .....	27
American Sign Language Literacy.....	28
Bilingualism and Language Use .....	30
Conventional Notions of Deaf Literacy .....	31
Language Delay.....	31
Communication Modalities: Artificial Signing Systems .....	33
Instructional Strategies.....	33
Vocabulary Development.....	34
Closed Captioning.....	36
History .....	36
Potential for Literacy.....	38
Captioning as a Motivator to Read.....	39
Captioning and Vocabulary Development .....	40
Captioning and Program Comprehension .....	41
Summary .....	42
III. RESEARCH METHODOLOGY .....	43
The Overview of the Study .....	43
Site Selection.....	44
Study Participants.....	46
Research Design.....	51
Study Procedure .....	54
Data Collection.....	58
Data Analysis .....	61
Limitations and Delimitations of the Study .....	61
Summary .....	62

**TABLE OF CONTENTS- *Continued***

IV. STUDENTS' PERSPECTIVES ON LITERACY .....	64
Communications.....	64
Television in General .....	68
Access to Captions .....	69
Learning to Read Captions.....	71
Availability of Printed Materials in the Home.....	72
Closed Captions in the Classroom .....	74
Retrospective Interviews .....	75
Summary .....	81
V. POST-VIEWING DISCUSSIONS AND INTERACTIONS.....	83
Post-Viewing Vocabulary Word Discussions .....	84
Connecting Captions with Personal Experience .....	86
Role of Popular Culture in Students' Lives .....	89
Funds of Knowledge .....	90
Classroom Interactions.....	92
Social Rituals.....	93
Social Stratification .....	97
Social Knowledge .....	100
Summary .....	101
VI. INCREASING VOCABULARY KNOWLEDGE THROUGH CLOSED- CAPTIONING .....	104
Study Method and Procedure .....	104
Findings .....	106
Overall Results .....	110
Comparisons between Two Students .....	110
Summary.....	111
VII. IMPLICATIONS FOR FUTURE RESEARCH.....	113
Summary of Findings .....	113
Implications for the Field.....	118
Implications for the Educators .....	119
Limitations of this Study .....	122
Conclusion.....	123
VIII. APPENDIX A: PARENTAL INFORMED CONSENT FORM.....	126
IX. APPENDIX B: MINOR ASSENT FORM .....	129
X. APPENDIX C: LETTER TO PARENTS .....	130

**TABLE OF CONTENTS- *Continued***

XI.	APPENDIX D: INTERVIEW QUESTIONS .....	132
XII.	APPENDIX E: LIST OF TELEVISION PROGRAMS .....	133
XII.	APPENDIX F: LIST OF BANNED TELEVISION SHOWS.....	134
XIII.	REFERENCES .....	138

**LIST OF TABLES**

TABLE 1.1: Percentage of Students with No English Conditions.....	12
TABLE 3.1: Participants' Background.....	42
TABLE 3.2: Participant's Gender.....	42
TABLE 4.1: Daily Television Viewing.....	62
TABLE 4.2: After-School Sports Involvement.....	62
TABLE 4.3: Percentage of Captioning-Enabled Television.....	64
TABLE 6.1: Session #1.....	102
TABLE 6.2: Session #2.....	102
TABLE 6.3: Session #3.....	103
TABLE 6.4: Session #4.....	103
TABLE 6.5: Session #5.....	103
TABLE 6.6: Session #6.....	104
TABLE 6.7: Session #7.....	104
TABLE 6.8: Session #8.....	104
TABLE 6.9: Session #9.....	104
TABLE 6.10: Session #10.....	105

**LIST OF FIGURES**

FIGURE 3.1: Mixed Research Methods in This Study.....	48
FIGURE 3.2:A Sample of Pretest/Posttest.....	49
FIGURE 3.3: Structured Interview Questions.....	51
FIGURE 5.1: The Influence of Having Discussions.....	98
FIGURE 6.1: Pretest/Posttest Activity.....	100
FIGURE 6.2: Comparisons between Two Students.....	106

## ABSTRACT

This study seeks to ascertain the potential influence of television closed-captioning on literacy among deaf and hard-of-hearing children. Television watching has become increasingly popular among deaf and hard-of-hearing children (Hobbs, 2005), and past studies show exciting potential for the use of closed-captioning as a literacy tool (Koskinen, Wilson & Jensema, 1985; Jensema, McCann & Ramsey, 1996).

The study took place over 5 weeks and was conducted with 13 middle school students at a school for the deaf. As part of the study, the 13 students were shown 10 different 30-minute captioned video segments of different genres and interests. Prior to and after each showing, the students took pre-and-post tests containing five vocabulary words that appeared in the video shown. (Each post-test contained the same five words appearing in its corresponding pre-test.) In addition, after each showing, the students engaged in classroom discussions on the recently-viewed video program, which were observed and analyzed.

The findings –and, in particular, the pre-and post-test scores- showed marked improvement in vocabulary scores after each captioned program viewing. The findings also potentially indicate that closed-captioning can expose deaf and hard-of-hearing children to new and unfamiliar words to which they otherwise would not be exposed. In addition, the post-viewing discussions indicated that, throughout the study, the students employed the tri-level literacy framework, using functional, cultural, and critical literacy. And, by discussing in American Sign Language (ASL) the recently-viewed captions, the students employed linguistic interdependence, or the use of dominant and secondary languages to reinforce development in both. Closed captioning also proved to be a useful

source of “triggering” words, which generated experience and funds-of-knowledge recollection among the students. As a part of media literacy, closed-captioning is a motivating tool that teachers can use to activate prior knowledge among deaf students.

In sum, this study shows that closed-captioning can positively impact literacy levels among deaf and hard-of-hearing students. Accordingly, closed-captioning can play a useful role in developing literacy, and parents and educators of deaf children should devise ways to incorporate closed-captioning as part of the deaf child’s literacy environment.



## CHAPTER I

### DEAF LITERACY AND CLOSED CAPTIONING

For altogether too long, mastering literacy in its most basic form—reading and writing—has been a task frustratingly elusive to deaf people. By its own nature, deafness—the inability to hear—disconnects the deaf from not only the spoken word but, equally importantly, from the aural information mainstream that supplies cultural literacy, the background “network of information” against which competent readership occurs (Hirsch, 1988). The aural information mainstream refers to the information that is acquired through sounds in the environment such as television, people talking and radio. The deaf therefore are at a double disadvantage in achieving literacy, unable to internalize by sound English grammar, syntax, and vocabulary, and often a lack of background knowledge necessary to provide context for the English they are able to access and render it understandable.

It is common knowledge among those involved in deaf education that the deaf child’s inability to hear the spoken word is what fuels the long-standing and sometimes acrimonious debate over the best method for developing literacy among deaf children. Oralists believe that deaf children acquire English best by using it in its spoken form, and therefore place primary emphasis on auditory and speech training. Manualists, on the other hand, support the use of sign language and fingerspelling, naturally available to the

deaf, to develop the grammatical meta-foundations inherent to all languages and as a conduit for acquiring English.

All are in agreement though that exposure to text and access to the aural information mainstream are essential to developing the varied, mutually complementary skills prerequisite to literacy—namely, familiarity with the English language and the knowledge repository that is cultural literacy. This dissertation focuses on a new, powerful, and potentially groundbreaking technological advance that gives deaf children unprecedented access to both printed text and the ever-so-elusive “aural information mainstream” so critical to literacy: closed-captioning.

### *Purpose of Study*

As any parent of school-age children can attest, television is becoming increasingly popular among today’s children. Studies reinforce this conclusion (Roberts, 1999). Television watching among children is at an all-time high, which, obviously, has generated a storm of criticism (Berger, 2003; Hobbs, 2005). Why children sit enrapt at the television is not difficult to explain: television conveys or depicts visual images that oftentimes do not need linguistic explanation, and therefore is viscerally stimulating (Koskinen, 1987; Neuman & Koskinen, 1992). Imagery is television’s stock in trade. A large portion of television programming is culturally cutting edge, or at the forefront of cultural trends, which provides children easily understandable cultural markers. Television not only defines this popular culture, but propels it. As Rupured, Smith & Quick (1997) have stated, television is “acculturative.”

The primary objection to excessive television-watching by today’s children appears to be that it requires only passive thinking and takes the place of other, more

beneficial activities, such as reading or physical activity. Indeed, one commentator has characterized much of television programming as “intellectual junk food” (Gauntlett, 1995).

Notwithstanding television’s drawbacks, watching television *with closed captioning* may well hold exciting promise for developing literacy among deaf children. Closed captioning is an assistive technology that provides deaf people access to the audio or sound portion of a program. With closed captioning, words or transcripts—captions—describing the audio portion of the program are superimposed over the television picture, which allows the viewer to follow both the television action and dialogue simultaneously. At its initiation about 25 years ago, only a small percentage of television programming was captioned. For the past decade or so, however, large sections of programming have been captioned, and the number of captioned shows increases every year.

On an intuitive level, closed captioning provides deaf children with a unique literary dynamic difficult to replicate anywhere else. Reading closed captioning, albeit on television, is reading nonetheless. It therefore provides deaf children with the exposure to text so critical to literacy. The text, moreover, is not presented in isolation, but against the backdrop of the television imagery it complements. There is an interaction between the captions and the picture which conceptually frames the captions and gives them content and context. Also, television’s visceral attractiveness serves as a valuable motivator; deaf children inherently know that reading the captions will pay dividends in the form of increased understanding—and enjoyment—of the television program being watched. Finally, television can impart substantive knowledge as varied as the programming itself, from historical documentaries to newly developed slang.

Viewing captioned programs, moreover, could give deaf students access to spoken language to which they would otherwise not be exposed. People do not speak in as formal a manner as they write (McCann, 1998), and deaf people do not have access to how hearing people “talk.” Television thus can impart to deaf children the background knowledge that will enable them to further contextualize the words they later read.

Indeed, perhaps not coincidentally, over the past 15 years at Gallaudet University, the only liberal arts university for deaf and hard-of-hearing students in the world, the English scores among incoming freshmen have risen considerably. In 1988, when closed-captioning was far less available than in later years, only 28 percent of students passed the English placement exam; in 2003, long after captioning became widespread, 66 percent of the students—more than double—passed a substantially similar examination (Table 1.1). Clearly other factors are involved with this need to qualify change in scores, but closed-captioning seems likely as one of these factors.

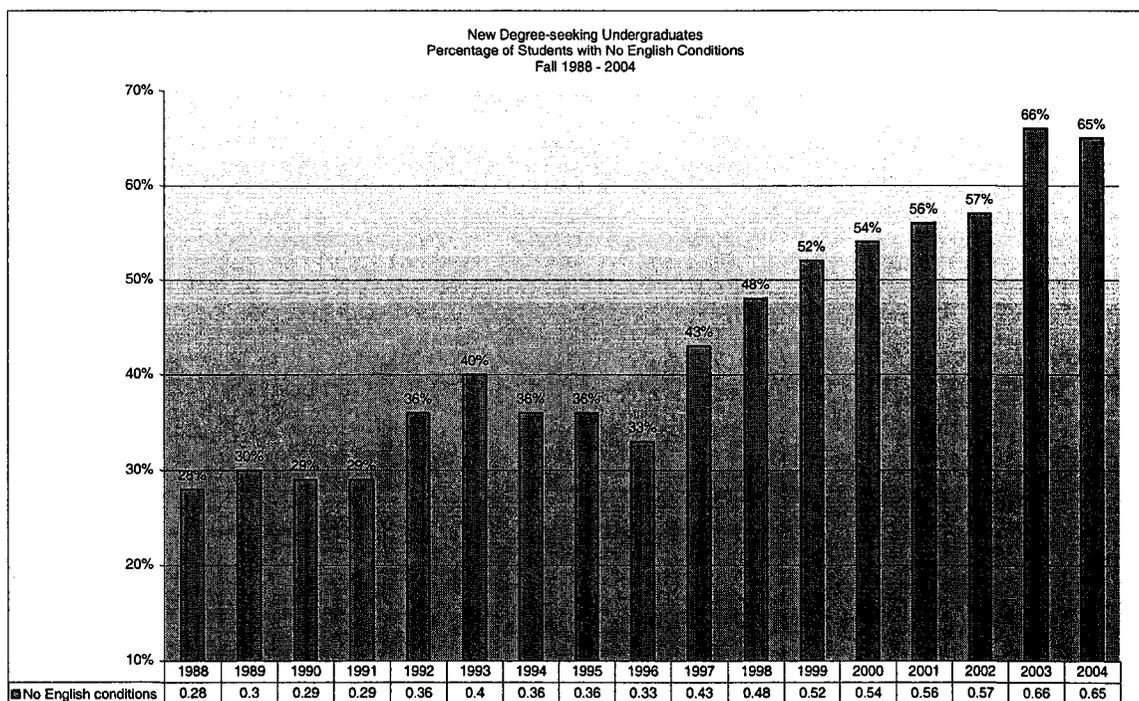


Table 1.1: Percentage of Students with No English Conditions.

*My personal experience as a Deaf person*

My interest in this subject stems from my familial and educational background. I was born into a New York City deaf family. My parents were strong advocates of deaf causes and instilled in myself and my three deaf siblings an attitude that we were not any different from hearing children. I was raised to believe, and still believe to this day, that deaf people are as capable of succeeding as hearing people and that nothing is impossible.

Being from a deaf family, it was not until I entered a private high school for hearing students that I experienced for the first time the isolation that accompanies a deaf person in the hearing world. I had no support services such as interpreters at school and dreaded going to that school because no one there could sign except for a friend who could fingerspell fluently. As opposed to school, I loved being at home since everyone was deaf and communication, therefore, was not an issue. In addition, I had closed captioning at home and enjoyed watching television. For me, television was my bridge to popular culture.

After graduating from high school, I attended Gallaudet University, from where I received my bachelor's and master's degrees. At Gallaudet, I was socially and politically active due to in large part to the ease of communication access there. My experiences at Gallaudet University, as opposed to my high school, crystallized for me that communication is not supposed to be a barrier to success, but a facilitator of it.

After Gallaudet, I worked as a substitute teacher at a deaf school. In that position, I got a first-hand look at how deafness can not only impair literacy development among

deaf children, but, equally importantly, how it can impair their confidence in themselves as readers and writers. Many of my students expressed negativity about their literacy skills and that they were not as good as hearing people. I took it upon myself to try to change this mind-set, which is something that I still pursue to this day. Conversely, I have also taken it upon myself to try to change the hearing world's perception of deaf children and their abilities.

With respect to literacy, my interest in that particular subject grew significantly because of my three children, of whom one is deaf and two are hearing. Raising one deaf child and two hearing children has afforded me an intensely personal view of how literacy is shaped. My husband and I sign with all our three children. Our deaf son, however, acquired his literacy skills through signs, fingerspelling (which represents the letters of the alphabet on the fingers), and reading alone, while our two hearing children have not only that but also access to the aural information mainstream. Unsurprisingly, our three children therefore have different visual and phonic literary orientations, which shows markedly, for instance, when our deaf child misspells a word by reverting to a common letter grouping (such as using "tom" to misspell October as "Octomber") and our hearing child misspells a word in reliance on its phonical markings (e.g., school as "schul").

Closed-captioning in particular has played a significant role in our children's literacy development, especially for our deaf son, Nathaniel. Like other children, Nathaniel was from a young age very interested in children's television shows. Unlike other children, though, Nathaniel had to read, and still reads, captions to understand the television dialogue. Before long, Nathaniel was using words newly acquired from

captions in his daily conversations, which then provided a platform for his book readings. In addition, as Nathaniel's vocabulary and knowledge base began to grow, he watched shows of increasingly varied substantive content, which in turn exposed him to yet more vocabulary. Given the mutual reinforcement of language literacy and substantive knowledge, Nathaniel is now proficient in English, and, indeed, he surprises us every day by using words, phrases, and concepts discovered or developed, not by intentional pursuit but by sustained, indiscriminate readings (such as "brains are more important than brawn" and "this green bean would be good if not for the gristle").

Similarly, captioning has been a highly beneficial asset to developing our middle daughter's literacy skills, though perhaps not to the same extent as Nathaniel because she can hear and therefore has access to the television dialogue. That notwithstanding, Briana routinely reads captions, even when volume is on; Briana has said that she is so familiar with captioning (we never watch television without it, and in fact do not permit our children to watch non-captioned shows) that it is more comfortable to her to read the captions than to ignore them. Like Nathaniel, Briana shows signs of internalizing naturally the words that she frequently sees in closed captioning.

Because I have personally witnessed the value of closed captioning in developing literacy among not only deaf children, but also hearing children, I have found within me a personal goal of ensuring continuing, widespread access to closed captioning. In October of 2003, the United States Department of Education declared that almost 200 television shows were inappropriate for captioning funding due to their lack of educational substantive content. I wholly disagreed with that declaration because a significant number of the supposedly "uneducational" shows actually benefited the viewers despite

their lack of “traditional” educational value because, at a minimum, they exposed the deaf viewers to new idioms, phrases, and concepts. More fundamentally, reading *in and of itself* is beneficial, particularly for young children seeking to expand their language and vocabulary base. Since reading captions is reading nonetheless, how can captions have no educational value?

My views on the captioning funding issue were shared by many other people who routinely depend on closed captioning. The National Association of the Deaf (NAD)’s executive director, Nancy Bloch (2003) stated:

The censorship of these shows not only prevents deaf and hard-of-hearing children from watching shows that help them learn about the trends, culture, and society around them, censorship also prevents deaf and hard of hearing parents from making informed decisions on appropriate programming for their children... Without captioning, millions of deaf and hard of hearing parents, such as myself, are unable to preview shows for appropriate content for their children, to watch television programming with their families, or to engage in dialogue with their children in response to televised programs.

NAD was backed up by National Council Disabilities (NCD) with comments by its Chair, Lex Frieden (2003):

This decision by Department not only unnecessarily excludes 28 million deaf and hard-of-hearing people from accessing programming that is available to the general public, but it also will adversely impact millions of other Americans, including those who utilize captions to learn English.

The decision from the Department of Education was overturned a few months later, but the experience made me realize the importance of validating for the record the correlation between closed captioning and literacy. I thereafter became more determined to investigate the use of captioning among deaf and hard-of-hearing students. I began to review the research and literature relating to captioning, which I was surprised to find is relatively sparse. This dissertation is my contribution to fill that gap to the extent I can.

### *Study Overview*

My study was conducted within a limited time frame, so I employed a mixed research method, utilizing both qualitative and quantitative methods to maximize information-gathering. I used a variety of data sources to gather data to show how closed captioning influences deaf and hard-of-hearing students' literacy development (Denzin, 1994). The five-week study was conducted with thirteen middle school deaf and hard-of-hearing students at Arizona School for the Deaf. The participants were engaged in pre and posttests and class discussions pertaining to closed captioned television programs that they watched in the classroom. They were also filmed and interviewed about their literacy experiences at home and in school. To guide my work, I developed four research questions:

1. What are the students' perspectives on literacy at home, at school, and in the community?
2. How does closed captioning influence the responses of deaf and hard-of-hearing students to a video program?
3. What do the students discuss when interacting after viewing a closed

captioned program?

4. How does viewing a closed captioned program influence deaf and hard-of-hearing students' vocabulary comprehension?

I created these research questions based on a literature review on closed-captioning and deaf literacy and on incorporating media and technology literacy in the classroom.

### *Summary*

Because deafness cuts a person off from spoken language, mastering literacy has traditionally been a daunting task for deaf people. However, closed captioning holds exciting promise for giving deaf people access to text and the aural information mainstream of society. Past research inadequately documents closed captioning's potential for increasing literacy among the deaf. This dissertation examines that link using the mixed research method and a variety of data sources.

In the study, I employed a mixed research method, using qualitative and quantitative methods to give me both broad and specific findings from a variety of data sources. It is my theory that closed captioning might be a useful tool to facilitate literacy development in classrooms for deaf and hard of hearing students. This theory is explored in the study to develop implications about the place of closed captioning in the field of literacy development.

In the next chapter I turn my attention to the relevant literature review where the focus is on two different areas: literacy and closed captioning. I then describe the research methodology that was used in this mixed research study in Chapter Three. The

findings of the study are shared in Chapters Four, Five, and Six. Chapter Four focuses on the participants' literacy background and interests while Chapter Five is on the students' discussions about the contents of the closed captioned television programs. Chapter Six is dedicated to the results of pre and posttests on vocabulary. Finally, Chapter Seven includes a summary of the findings, the theoretical and research implications and suggestions for future pedagogy and research.

## CHAPTER II

### LITERATURE REVIEW

It is perhaps safe to say that, historically speaking, fostering literacy among the deaf has been one of, if not the, preeminent goals of deaf education, albeit unsuccessfully realized (Lane, 1992). This chapter is divided into two sections, the first of which discusses literacy. In that section, I briefly discuss six different “species” of literacy, all of which contribute to overall literacy: functional, cultural, critical, transactional, multimodal, and media literacy. I then focus on American Sign Language (ASL) literacy and bilingualism. Finally, I recount some of the identified reasons why deaf people have traditionally lagged behind their hearing peers in overall literacy.

The second section of this chapter discusses closed captioning. In that section, I first detail the history and development of closed captioning. I then survey the existing research on the specific area of the intersection between closed captioning and deaf literacy.

#### *Literacy*

Literacy is a complex set of practices operating on both individual and group levels, and is fostered by exposure to language use in natural, meaningful, and functional settings (Gee, 1991). Individual literacy refers to the individual’s cognitive, social, and lexical development, while group literacy refers to the influence of social, cultural, and psychological environments on the child. Freire and Macedo (1987) have provided a tri-level framework for assessing or defining literacy, which includes functional literacy,

cultural literacy, and critical literacy. The following review covers those three areas, as well as other, specifically identifiable areas of literacy.

### *Functional Literacy*

Functional literacy refers to the literacy baseline or minimum that one needs in order to be able to function in his or her daily settings (Verhoeven, 1994). It includes the technical mastery of particular skills needed to decode simple texts (Freire & Macedo, 1987), such as reading signs, labels, instructions, and the like.

People who are functionally literate are able to comprehend messages contained in simplified and commonly used terms. Functional literacy, however, does not necessarily encompass other, more complex or advanced forms of literacy. For instance, one who is only functionally literate may not be able to perform jobs or tasks requiring a greater degree of literacy. Deaf people have historically held vocational jobs, such as industrial or printing work, that were compatible with their functional literacy skills (Gannon, 1981).

### *Cultural Literacy*

Narrowly defined, cultural literacy involves familiarity with specific linguistic traditions or bodies of information from a cultural group (Freire & Macedo, 1987). Broadly defined, it refers to the body of “world knowledge” that one possesses, against which a particular message is decoded (Harris & Hodges, 1995). Being culturally literate means having the background knowledge to appreciate the cultural or contextual significance of new literature. Culturally literate people are able to bring their knowledge—including that which comes from their culture, and encompasses values,

customs, and information—to the text they read. This cultural knowledge sets the context in which literate behavior is to occur and defines the rules for the interaction between writer and reader (Lane, Hoffmeister & Bahan, 1996).

Cultural literacy is not limited to the actual cultures of individuals, but includes general knowledge, awareness, and understanding. It can be developed informally (such as through interactions with friends and other people) as well as formally (e.g., in the classroom). Cultural literacy can also be developed by a general interest and awareness in world events, particularly in this current age of information and message-sharing.

### *Critical Literacy*

Critical literacy is the ability to analyze, critique and respond to the values and assertions inherent in the literature to which people are exposed (Freire & Macedo, 1987). It involves analysis and critique of the relationships among texts, language, power, social groups, and social practices, and uncovers ways to question or challenge the attitudes, values, and beliefs behind a given message, whether it be written, visual, or spoken (Erting, 1981, 1985; Williams & Capizzi-Snipper, 1990). As Anderson and Irvine (1987) state, critical literacy means “learning to read and write as part of the process of becoming conscious of one’s experience as historically constructed within specific power relations” (p. 82).

### *Transactional Literacy*

Transactional literacy refers to how readers construct or assign meaning while interacting with text (Hawkes, 1993; Whitmore, Martens, Goodman & Owocki, 2004). And, because literacy builds on visual as well as verbal skills, transactional literacy is not limited to interactions with actual text, but includes visual images and illustrations with

captions. Indeed, transactional literacy finds frequent application with text that is appealing because of factors external to the textual content, such as text size, font, colors, and accompanying pictures or illustrations. Research has shown that students enjoy doing high text-interactive projects in which they think, discuss, respond, and reflect, such as hands-on activities, writing assignments, class discussions, and peer conferences (Livingston, 1997; Goodman, 1997).

### *Multimodal Literacy*

Multimodal literacy refers to the rich diversity of media and visual texts that dominate the literacy environment today (Kress, 2003). Visual texts, which include newspapers and magazines, contain both photographs and diagrams as well as other forms of contemporary print media. Electronic texts, such as the internet, have different visual and linguistic elements like written text and graphics. Our increased exposure to multimodal texts and graphics in our society is due to technological advances and the growing significance of cultural and linguistic diversity (Leu, Kinzer, Coiro & Cammack, 2004). Presently, teachers help students develop knowledge of visual codes that are embedded in images. Students continuously analyze language or make meaning of multimodal texts as a social semiotic through electronic, written, and visual texts and images.

### *Media Literacy*

Most everyone agrees that our society is increasingly media-driven. Radio, television, newspaper, and magazine access, along with the now-common internet and other technological advances in mass communications, give today's children unparalleled access to virtually an infinite variety of ideas and messages. Given how ubiquitous the

media is, it plays an enormous role in shaping public perception, both of the self and of others:

The media exerts an enormous, almost a normative influence, over the lives of men, women, adolescents and children. It influences, particularly among teenagers, the ways in which individuals and groups dress, talk, behave, and think” (Teen People, 2002, p. 28).

Though the current media phenomenon may give one pause or concern, media literacy—the ability to comprehend and critique media messages—nonetheless can contribute significantly to overall literacy. Media exposure helps develop the “world knowledge” so crucial to literacy (Downes & Fatouros, 1995; Short, Kauffman & Kahn, 2000). Also, media literacy skills, such as accessing, analyzing, and choosing between competing media messages promotes critical thinking skills (Shorr, 2003). And, because media transmits culture, media literacy promotes cultural literacy.

#### *American Sign Language (ASL) Literacy*

American Sign Language (ASL) is widely acknowledged to be the natural oral language of the deaf (Stokoe, 1960). Even among those unfamiliar with the deaf, the very idea of deafness conjures images of sign language. Awareness of ASL’s existence, however, does not necessarily translate into an understanding of its content or structure. Contrary to common notion, ASL is not a visual representation of English, but a bona fide language in its own right, with its own structure and grammar (Stokoe, 1960; Lane & Grosjan, 1980; Wilbur, 1987). Its signs and symbols do not represent English words carrying the same meanings, but independently reference the concepts behind those

words (Klima & Bellugi, 1979). Classifiers, or handshapes that visually communicate actions and appearances, constitute a crucial component of ASL. Indeed, classifiers delineate a primary distinction between ASL and English, as English has no classifiers.

Despite the unparalleled role of ASL in the lives of the deaf, ASL's role in literacy development has not been extensively researched. Not only does ASL have a structure unlike English, but it is a visual, not spoken, language, and there is suspicion that a strong bias exists in the field (Kuntze, 1998). This suspected bias stems from the dominant policy with respect to ASL, which has been to limit deaf children to spoken English and to prohibit them from signing (Lane, 1984). More recently, artificial signing systems, designed to supplant ASL, have been invented to employ syntax and grammar replicating that of English (Moore, 2001).

With recent advances in fields such as linguistic anthropology, cultural anthropology, sociolinguistics, and psycholinguistics, however, the issue of language learning and the language needs of deaf people are now being perceived in a new light. For instance, research has showed a positive correlation between the use of ASL and English literacy development in deaf children. A literature review conducted by Newport and Meier (1986) showed that deaf children who were exposed to ASL in their early years exhibited normal language milestones. Also, a study conducted by Strong and Prinz (1997) on the language scores of deaf students at a large school program, in which ASL was used for face-to-face communication and English for reading and writing, showed a positive relationship between the use ASL and English literacy. Prinz & Prinz (1979) found that lexical acquisition progresses through similar stages for deaf and hearing children using ASL and spoken English, respectively. In fact, some research indicates

that deaf children come up with new signs a few months earlier than hearing children who speak only English (Bonvillian, 1983; Meier, 1996). With the abundant evidence of language development similarities between ASL and English, the concept of bilingual education must be taken into consideration (Grosjean, 1992 ; Lane, 1992; Mahshie, 1995).

### *Bilingualism and Language Use*

Bilingualism refers to the use of one's dominant language (L1) to foster development of a secondary language (L2), and vice-versa (Cummins, 1976). The theory undergirding bilingualism is that of linguistic interdependence, or the transfer of the knowledge and understanding of one language to the other (Cummins, 1976). "The level of proficiency in the second language is positively related to the attained level of proficiency in the first language" (Cummins, 1976, pp. 17).

As it applies to the deaf, bilingualism seeks to use ASL and written English in parallel. The linguistic interdependence theory explains that deaf students who are fluent L1 (ASL) learners can more easily learn L2 (English). The reasoning is that a deaf child fluent in ASL can draw from it the foundational underpinnings endemic to bona fide languages and use them as a framework for acquiring English. Research has shown several cognitive advantages of using ASL and printed English as mutual reinforcement, including an increased awareness of grammatical categories and the metalinguistic skills that allow for analysis of language form, and providing a more varied experience and knowledge base upon which the student can contextualize his or her new language as it is acquired (Slobin, 2003).

In addition, research has shown that bilingualism may promote general language-learning skills, thereby fostering functional language independence. While bilingual children tend to acquire the structures, complexities and usages of the primary household language (Barrett, 1999), their language paradigm is more elastic due to their second language acquisition and they thereby become more successfully receptive to languages to which they are exposed to a lesser degree (Olstad, 1972). This is the language “iceberg” theory, which states that children must develop strong Basic Interpersonal Communication Skills (BICS) at homes first before they are ready to internalize Cognitive Academic Language Proficiency (CALP) that is usually reinforced and expanded at schools, and that children who develop two or more languages can flourish linguistically by bridging the school/home barrier and drawing upon the cultural aspects of the acquired languages (Olstad, 1972).

### *Conventional Notions of Deaf Literacy*

According to available research, the potential of deaf children to realize advanced literacy is bleak. The conventional notion is that the average deaf and hard-of-hearing child reads at the third or fourth grade level (Allen, 1983; Allen, 1986, Paul, 1998; Paul, 2001). Various publications, such as *Unlocking the Curriculum: Principles for Achieving Access in Deaf Education* (Johnston, Liddell & Erting, 1989), have attempted to identify several reasons for the perceived failure of deaf education in developing literacy among deaf children, some of which are examined below.

### *Language Delay*

Extensive research shows that a child’s age of first language acquisition plays a critical role in developing his or her literacy skills (Rottenberg, C. & Searfoss, L. 1992).

For hearing children, reading, writing, and communication begin at birth and continue throughout their lives (Baghban, 1984; Clay, 1987; Doake, 1988; Hall, 1985; Martens, 1996; Schickedanz, 1990). Similarly, deaf children of deaf parents are oftentimes exposed to language since birth in the form of ASL (Erting, 1990; Erting, & Pfau 1994; Schirmer, 1994). Deaf children whose parents are unaware of their deafness, in contrast, may not be exposed to viable language until much later. Approximately 90% of deaf children are born to non-signing hearing parents, or parents with no background in, or familiarity with, deafness (Johnston, Liddell & Erting, 1989; Turnbull & Jackson, 2004). Deaf children are therefore frequently exposed to language at a later age than their hearing peers due to late diagnoses of deafness.

In addition, language developmental delay can be engendered by ongoing restricted language access (Rottenberg & Searfoss, 1992). Deaf children whose deafness is identified may nonetheless be unable to participate in spoken communications within the household, further delaying their language development. When hearing parents discover their children's deafness, they are frequently advised by doctors and audiologists to teach their deaf children how to speak, oftentimes at the expense of learning ASL (Commission on Education of the Deaf, 1987). This brand of advice typically resonates with the hearing parents, who naturally want their deaf children to hear and speak as they do (Lane, Hoffmeister & Bahan, 1996). Unfortunately, however, this oftentimes unduly stresses the superficial importance of speaking, and under-stresses the need for cognitive language development. For those reasons, many deaf children go to school with limited natural language exposure from their home and community.

### *Communication Modalities: Artificial Signing Systems*

To bridge the gap between deafness and English, certain deaf educators have in the past developed artificial signing systems incorporating English grammar and structure. Those artificial language methodologies are not bona fide languages, however, and are oftentimes conceptually or syntactically incongruent (Supalla, 1990). Deaf children using those methodologies oftentimes employ the same, inherent conceptual and syntactical inaccuracies in their writing (Supalla, 1990). Indeed, despite widespread use of artificial systems such as Signed Exact English (SEE) and Manually Coded English (MCE), the average reading achievement of deaf students completing school continues to be at the fourth grade level (Allen, 1986).

Not only has the widespread use of artificial signing systems proved unsuccessful in developing literacy among deaf children, using such artificial systems in place of natural languages such as ASL deprives deaf children of the ability to develop a strong and natural language foundation, and therefore delays the development of true literacy skills. The relative stagnation of deaf children's reading levels, despite the use of communication modalities mimicking English grammar and structure, has only fueled longstanding and controversial debate about language use in the education of deaf and hard-of-hearing students.

### *Instructional Strategies*

A common approach to teaching English to deaf children has been to dilute the substantive content of the materials presented to match low-level English competencies, either by adapting existing materials or developing new or special materials. This

approach of low expectations, however, has been criticized as actually impairing their English development (Livingston, 1997).

Research shows that deaf children may benefit more from a change in instructional approach rather than in substantive content (Livingston, 1997; Cummins, 1994). By virtue of their deafness, deaf children do not depend on a correspondence between sounds and text to develop literacy, as do hearing children (Prinz, Pemberton, & Nelson, 1985). Instead, deaf children play and experiment with visual images and learn graphemic patterns through manipulatives or signing (Andrews & Zmijewski, 1997). In addition, studies show that many deaf children bypass the sound-print relationship and learn to read using sign language (Andrews & Mason, 1986; Ewoldt, 1993; Ruiz, 1995). The instructional approaches advocated for use with deaf children are therefore typically more visually-oriented than conventional instructional approaches, which tend to be more aural or phonemic (Andrews & Zmijewski, 1997). For example, teachers are encouraged to have meaning-centered classrooms and include peer tutoring, cooperative learning, and project-oriented activities that are effective for academic and linguistic development.

### *Vocabulary Development*

In order to become capable readers and writers, students need to have a well-developed reading vocabulary (Anderson & Freebody, 1981; Beck, McKeown, McCaslin, & Burkes, 1979; McKeown, 1993). Many studies have explained the complexity and mixture of vocabulary development skills that are very important in developing literacy skills. Graves and Watts-Taffe (2002) identified several common findings based on more than 100 years of vocabulary research and these are:

- Vocabulary knowledge is one of the best indicators of verbal ability.
- Vocabulary difficulty strongly influences the readability of text.

- Teaching the vocabulary of a selection can improve students' comprehension of that selection. (p. 141)

Research by Furth (1966), Walter (1978), Hanson (1982), Quigley and Paul (1984), King and Quigley (1985), Moores (1987), Marschark and Harris (1996), and countless others have shown a significant lag in reading development and word knowledge of deaf readers, due to a wide variety of reasons. Especially when a lot of word repetition occur in an auditory environment in which it is required for increasing word knowledge, deaf people cannot fully benefit from everyday exposure to the word-learning environment.

In the field of deaf education, educators have been using two basic models focusing on the relationship between word knowledge and reading ability: the instrumentalist (bottom-up) model and the knowledge (interactive) model (Lylak, 2005). The Instrumentalist model is about teachers using direct instruction of words and exposure to as many words as possible. This is a traditional approach to language teaching which depends on oral/aural method. A teacher who uses this approach would use drills and practice target words by giving her/his students a list of words, then providing practice reading the words in context, and having the students write down the meanings of the words. The Instrumentalist model used in many classrooms for deaf students have not significantly improved the vocabulary levels of a great majority of the deaf population (Lylak, 2005).

The Knowledge model is about teachers presenting words in conceptual and integrated schemas that help connect the new word information with more familiar word associations (Paul, 1996). This is an approach where a teacher would provide practice of

words by describing the different meanings of words and by showing examples of the words in different contexts to help students understand the different meanings behind a word.

Graves (2000) with his 15 years of revising his balanced vocabulary program, in which includes both Knowledge and Instructional models, presented instructional tools to promote vocabulary growth which includes four components: wide reading, teaching individual words, teaching word learning strategies, and fostering word consciousness. I am sharing the last component because it is relevant to my study. It is important to foster word consciousness, awareness of and interest in words and their meanings. Word consciousness involves both a cognitive and affective stance toward words (Anderson & Nagy, 1992). This component is a combination of metacognition about words and motivation for learning new words. Students who are learning new words with much interest often find themselves wanting to learn more words with enthusiasm (Bransford, Brown, & Cocking, 2000; National Research Council, 1999).

### *Closed Captioning*

#### *History*

Since the latter half of the 20<sup>th</sup> century, television has been one of the most engrained features in American life. As early as 1948, more than one million households had television sets (Inventors, 2004). Virtually every household now has, or is expected to have, at least one television set.

For the first few decades of widespread television use, deaf people were universally shut out from the sound portion of television programming. In the 1970's,

however, efforts were being made to provide them access. The first public demonstration of captioning took place in 1971 at the National Conference on Television for the Hearing Impaired in Nashville, Tennessee, using a separate, specially-equipped television set attached to a standard television monitor. A second demonstration took place in 1972 at Gallaudet College (now Gallaudet University). At that demonstration, the television show *The Mob Squad* was shown with accompanying captions. Both demonstrations received highly favorable public reaction (NCI, 2004).

Spurred by the positive reaction to the exhibitions, the federal Bureau of Education for the Handicapped, under the Department of Health, Education, and Welfare (HEW), in 1973 entered into a contract with the engineering department of Public Broadcasting System to develop and test closed captioning systems. In 1976, the Federal Communications Commission (FCC) mandated that Line 21 on each television monitor (the lower part of the monitor) be made receptive to closed-captioning.

During this time, captions were being provided on a voluntary basis. PBS provided open captioned shows such as *The French Chef* with Julia Child. *The ABC News* was shown on PBS five hours after its original broadcast on ABC TV. The problem with that was that, due to the time delay, the rebroadcast typically conflicted with local news program schedules (Bellis, 2004).

After nearly ten years of research and development of a closed captioning system, the HEW in 1982 created the National Captioning Institute (NCI) to promote and provide closed captioning (NCI, 2004). That same year, closed-captioning “decoders” became available to the public. As its name implies, decoders “decoded” closed captioning signals and displayed them across the screens of televisions to which they were attached.

In 1989, NCI partnered with ITT corporate to develop the first caption decoding microchip for television sets. The following year, the Television Decoder Circuitry Act of 1990 was passed into law. That Act requires that all new television sets with screens of 13 inches or more be fitted with the captioning microchip. Six years later, Congress passed the Telecommunications Act of 1996, which instructed the FCC to require video program distributors to phase in closed captioning of their television programs. In 1997, the FCC implemented rules to provide a transition schedule for video program distributors to follow in providing more captioned programming. For instance the rules required that, after January 2004, 1,350 hours of programming per channel per quarter must be captioned. This number increases significantly after January 2006, when 100% of all programming will be required to be captioned, albeit with limited exemptions such as instructional programming locally produced for educational use, and programming provided by small-market entities with annual gross revenues under \$3 million.

#### *Potential for Literacy*

Research studies show there is considerable potential for application of closed captioning to foster literacy among not just deaf children, but more generally among those learning English as a second language (Koskinen, Wilson & Jensema, 1985; Jensema, McCann, & Ramsey, 1996; McInerney, Riley, & Osher, 1999). In addition to exposing developing readers to text, captioning, by virtue of being derivative of television programming, exposes the reader to a wide variety of substantive content. Exposure to varied subject matter allows the reader to become more knowledgeable and develop his or her ability to construct meaning in text (K. Goodman, 1986; Y. Goodman, 1990).

In 2004, the FCC emphasized on its website the value of closed captioning towards developing both textual and cultural literacy:

Closed captions provide a critical link to news, entertainment, and information for individuals who are deaf and hard of hearing, enabling these individuals to be part of the cultural mainstream of our society. For individuals whose native language is not English, English language captions have also been used to improve comprehension and fluency in this language. In addition, studies have shown that captions have helped children learn to read, and have improved literacy skills.

Similarly, PBS and NCI stated on their websites that closed captioning benefits second language learners by increasing their vocabulary skills and world knowledge.

### *Captioning as a Motivator to Read*

As the following passage indicates, even prior to the advent of captioning, deaf people found television entertaining and frequently watched it:

Before we had captioning on television my family and I would sit and watch a program or movie, and when the movie would stop for the commercials we would all take that time to speculate on the story and create what was happening and guess at what was going to happen next. This was not just my family, but a lot of Deaf families played this game. To be honest, now with captioning and seeing the dialogue I think that a lot of our stories were better. (Rutherford, 1993, 82-83)

Given television's entertainment value, captioning can serve as a valuable motivator, encouraging deaf children to develop reading skills (Shettle, 1996). Not only do captions complement television images and programming, but the television background provides contextual and conceptual reinforcement that facilitates captions comprehension. That comprehension, in turn, increases television-watching enjoyment by allowing access to the program narrative or dialogue. There is, in sum, an

unreplicable dynamism between television and captioning that makes captioning a particularly attractive form of text for new and developing readers.

Indeed, research indicated that even below-average hearing readers are attracted to reading closed captioning (Koskinen, Wilson, Gambrell & Neuman, 1993). In that research, the research instructor first activated the students' prior knowledge on a particular topic by discussing it with them and then showed them a captioned program on that subject. After watching the video, they discussed and participated in written activities on specific words that were included in the captions. The study showed increased student motivation and involvement after watching the captioned videos. It also showed increased student participation in reading printed materials such as magazines and books because of their new-found familiarity with words originally seen in captions. Finally, the students also gained confidence in writing reports on topics that they learned from captions on television.

### *Captioning and Vocabulary Development*

Research on the link between closed-captioning and vocabulary development was conducted in the early 1980's (Braverman, 1981; Caldwell, 1981; Shroyer & Birch, 1980). Although closed captioning was significantly less widespread at that time, research showed that captioning can improve reading rates, comprehension, and sight word vocabulary development. Other research has shown similar benefits from watching captioned programs alone with no prior vocabulary instruction or discussion (Koskinen, 1986; Neuman & Koskinen, 1992).

In 1998, a study on closed captioning and vocabulary acquisition was conducted in which eighth- grade students participated in pretests and posttests after watching

television programs, and which showed a positive correlation between closed-captioning and vocabulary development (Podszebka, Conklin, Apple & Windus, 1998). That study, however, involved only hearing students, and the pre- and post-tests consisted of matching words with their correct definitions, which gave the participants the opportunity to guess word meanings. Moreover, the criteria for the selected vocabulary words were not discussed at all. The methodology for the study focused more on comparing reading comprehension and vocabulary acquisition with and without captions on television.

### *Captioning and Program Comprehension*

In a 2001 study, Lewis and Jackson found that deaf students in particular benefit from the contextual reinforcement that television images provide for captions. That study, which was done on both hearing and deaf third, fourth, and fifth-grade students using the Stanford Achievement Test, the Comprehension Test, and the Information Level Test, involved showing the students captions both with and without video backgrounds. While the deaf students scored on average lower than hearing students, their with-video caption comprehension scores relative to their without-video scores were disproportionately higher than those of their hearing counterparts.

In another study on using captioned television in classroom reading instruction (Koskinen, 1988), six teachers and 47 elementary-aged deaf students participated in viewing 16 different television programs, each of which was followed by an evaluation by the teachers and students, sharing their feelings about using captioned programs in the classroom. There were no assessments on students' written work produced after viewing captioned videos.

### *Summary*

While most people understand “literacy” to refer to one’s ability to read and write, there are actually several different forms of literacy, including functional, cultural, transactional, critical, and media literacy.

The use of captions to buttress literacy among the deaf is not adequately documented. For instance, there are no formal instructions on how educators and parents of the deaf and hard of hearing children can introduce, promote or include closed captioning in their classrooms or homes. And, more fundamentally, there is not enough research showing the relationship between captioning and literacy. While past research has covered using captions to teach reading (Foley, 1995; Goldman, 1993; Koskinen, 1993; Neuman, 1992), research has yet to cover the input of information acquired by the reader and output of the information from the reading. In addition to research that discusses the advantages of closed captioning for deaf and hard of hearing students, there are minimal amounts of discussion on whether students’ prior knowledge was activated during class discussions after any kind of programs that were shown with closed captions.

## CHAPTER III

### RESEARCH METHODOLOGY

Past research studies show exciting potential for the use of closed captioning as an educational tool for deaf students (Koskinen, Wilson & Jensema, 1985; Jensema, McCann, & Ramsey, 1996). In the hopes of further studying the connection between closed captioning and deaf literacy, I developed the four following questions:

1. What are the students' perspectives on literacy at home, school, and community?
2. How does closed captioning influence the responses of deaf and hard-of-hearing students to a video program?
3. What do the students discuss when interacting after viewing a closed captioned program?
4. How does viewing a closed captioned program influence deaf and hard-of-hearing students' vocabulary comprehension?

#### *The Overview of the Study*

My study took place over 5 weeks with a group of middle school students at a school for the deaf. I showed the students 10 different 30-minute video segments of different genres and interests. Prior to each video showing, I gave the students a worksheet containing a list of 10 words that appeared at least three times in the video to be shown, along with 10 sentences containing those 10 words, and asked them to define each word. After each video showing, I gave the students the exact same worksheet and

asked them to again define each word. I also wrote notes as to the issues that were discussed in the segment. During these pre- and post-tests, the students were not allowed to discuss the words at issue with each other. After the post-tests, however, I then facilitated classroom discussions on the words previously discussed, as well as the video previously watched, and made notes of those discussions. I also conducted an informal interview with each student.

### *Site Selection*

I selected the Arizona School for the Deaf and the Blind (ASDB) in Tucson, Arizona as the site for this study because of my previous employment at the school as an American Sign Language Specialist and as a School-to-Work teacher for 3 1/2 years. I received permission from the school superintendent to conduct this study from January until June 2004 (see Appendix A for informed consent form). The superintendent granted me permission because I had a good working relationship with the teachers and staff at the school in the past. I also had established a community relationship with the teachers and administrators in Arizona.

Each year, approximately 1,700 deaf and hard-of-hearing students are enrolled in ASDB. ASDB is a state-wide agency with four main sites—two in the metropolitan Phoenix area, one in Flagstaff, and one in Tucson. The ASDB-Tucson school, which contains a school for the deaf (ASD) and a school for the blind, enrolls 300 deaf, hard-of-hearing, and blind students, who are predominantly Caucasian, Hispanic, and Native American. Approximately 20% are residential students, meaning that they stay in on-campus dormitories during the school week because some of them live as far as Page. The school has a week-long vacation in September, October, November,

December/January, February, and April because of the dormitory students who live as far as 6 hours away from home.

The ASDB-Tucson campus is situated on a rolling 68-acre lot with a decidedly Spanish architectural theme. It has a modernized cafeteria, a state-of-the-art gym with a wrestling room, a weightlifting room, a student lounge, a swimming pool, two indoor basketball courts, and four outdoor basketball/tennis courts. The campus is a half-mile away from downtown Tucson and approximately 2 miles away from the University of Arizona. The students are separated into elementary, middle school, and high school grade levels.

The ASD middle school's language arts curriculum utilizes a balanced literacy approach, incorporating phonics and reading aloud, shared reading and writing, independent and guided reading and writing, interactive writing, and writing processes and workshops. In addition, the middle school language arts teachers encourage the students to draw upon their own life experiences in reading and writing. More broadly, the middle school language arts curriculum is part of a department-wide theme that incorporates the use of content area texts and themes. According ASD, the curriculum is a process and meaning-based approach. For instance, the theme for the year 2003-2004 was "Time, Continuity, and Change."

An important part of the middle school language arts curriculum is the combination of Reading Independently Program (RIP) and Accelerated Reading Program, which requires each student to read independently each day for fifteen minutes at school and fifteen minutes at home. For the RIP program, each student can choose from a range of books that fit within his or her tested reading level. After completion of

each book, the student then takes a test or quiz on that book. A student that consistently meets or exceeds required minimum test scores for a certain reading grade level is then elevated to the next grade level from which he or she can select from a new range of books. At the beginning of and throughout the school year, teachers and parents meet to discuss the independent reading program and establish its routines and procedures and the concerns or questions that either the teachers or parents may have.

A wide range of materials are available to the students based on their level of language fluency, including language experience stories, class-generated books, and poems, among other things. At the early emergent level, the students are encouraged to choose “seen” texts, or materials previously introduced to them by the teacher. At the upper emergent level, books are a mixture of seen and unseen texts, with the unseen texts modeling seen texts. At the early fluency level, the selected books should be predominately unseen text. These students are encouraged to read books of their preference (same author or genre) to gain fluency in reading.

### ***Study Participants***

The study participants were thirteen students with two teachers. Three out of thirteen participants are hard-of-hearing. According to National Association of the Deaf (NAD)’s definition of a hard-of-hearing person, s/he has some hearing and has a moderate hearing loss. 0-20 decibel (dB) is the average for a hearing person while a hard-of-hearing person might have the range of 20-65 dB. A deaf person might have the range of 65-105 dB. The emphasis should not be placed on a student’s ability to hear, but it is something that cannot be excluded.

All participants were thirteen and fourteen years old during the study. Six out of thirteen students had deaf parents, in which their primary home spoken language was American Sign Language (ASL). Three out of seven students had hearing parents who used ASL to communicate with the participants at home. The following graph charts each study participant's gender and background:

Name	Male	Female	Deaf Parents	Hearing Parents
Lauren		X	X	
Lourdes		X	X	
Chris	X			X
Lenny	X		X	
Ted	X		X	
Andrew	X		X	
Candi		X		X
Jackie		X		X
Brent	X			X
Kristina		X	X	
Angela		X		X
Michael	X			X
Corina		X		X

Table 3.1: Participants' Background

Total number of students: 13

Female: 7

Male: 6

Deaf Parents: 6

Hearing Parents: 7

Gender	Hispanic	Caucasian	Africa- American	Native American	Asia American
Male	3	2	1	0	0
Female	3	2	0	1	1

Table 3.2: Participants' Gender

The thirteen students who participated in the study were as follows:

*Lauren*

Lauren, a thirteen-year-old Asian/Pacific female in the eighth grade, was born deaf and has been enrolled in ASD since preschool. She has deaf parents, one of whom is a teacher, and a deaf sibling. Her family communicates using ASL both in and out of the home. Lauren reads approximately seventh grade books.

*Lourdes*

Lourdes, a twelve-year-old Hispanic female in the seventh grade, also has deaf parents. She has one deaf and two hearing siblings. Lourdes and her family moved to the United States from Mexico City when Lourdes was a baby. Her parents do not read or write Spanish, but use Mexican Sign Language (MSL) and ASL to communicate at home.

Lourdes' parents are functionally literate, but not fluent, in English. Lourdes went to several public schools with self-contained classes for deaf students before attending ASD. At the time of my study, Lourdes was reading at the fifth grade level.

*Chris*

Chris, a thirteen-year-old Caucasian male in the seventh grade, was born deaf to hearing parents. His parents use Signed Exact English (SEE) to communicate with Chris. Chris' mother works at ASD as an instructional aide and his father owns a restaurant business. Chris has been a student at ASD since he was four years old. At the time of the study, Chris' reading level was between the third and fourth grade.

*Lenny*

Lenny, a Caucasian male, was thirteen years old and in the seventh grade. He was born deaf to deaf parents. He has two older hearing siblings. Lenny's mother works at ASD as an instructional aide and his father works as an engineer. He communicates with his family using ASL. Lenny has been in the program since second grade. Lorne was on grade reading level.

*Ted*

Ted, a Hispanic male, was thirteen years old and in the seventh grade. He was born deaf to deaf parents. He has one older hearing sister and one older deaf brother. Ted's mother graduated from ASD. Ted has attended ASD for three years. His father is a painter and his mother does office work at a company. The family uses ASL to communicate with each other. Ted reads at the fifth grade level.

*Andrew*

Andrew, a Hispanic male, was fourteen years old and in the eighth grade. He was born deaf to deaf parents. He has one older hearing sister and one younger deaf brother. Andrew's mother graduated from ASD. Andrew has attended ASD for three years. His parents do office work. Andrew is on grade reading level.

*Candi*

Candi, a Hispanic female, was thirteen years old and in the seventh grade. She was born hard-of-hearing. Her mother is a child of deaf parents (CODA). Candi has three younger hearing half siblings. She was raised by her maternal aunt as an only child. Candi uses both ASL and spoken English with her aunt. Candi has been in the program since preschool. Candi was at a fifth grade reading level.

*Jackie*

Jackie, a Hispanic female, was thirteen years old and in the seventh grade. She was born deaf and lives with her hearing mom and a hearing younger sister. Her mom just got her bachelor's degree and does not use sign language to communicate with Jackie. Jackie's mom and sister talk with her through spoken English and basic Spanish. Jackie has been in the program since preschool. Jackie was reading at the fifth grade level.

*Brent*

Brent, an Africa American male, was thirteen years old and in the seventh grade. He was born hard of hearing and lives with his hearing mom and two younger hearing sisters. His mom works in the post office. He uses spoken English to communicate with his family. Brent has been in the program since sixth grade. Brent is on grade reading level.

*Kristina*

Kristina, a Caucasian female, was fourteen years old and in the eighth grade. She was born deaf to a deaf mother and a hearing father. She has 3 younger hearing siblings.

She has been in the program since sixth grade. She has moved frequently between Colorado and Arizona since she was six. Kristina is at sixth grade reading level.

*Michael*

Michael, a Hispanic male, was fourteen years old and in the eighth grade. He was born hard of hearing. His hearing parents and two older hearing siblings speak English and Spanish with Michael at home. He has been a student in the program since preschool. Michael was at fourth grade reading level.

*Angela*

Angela, a Native American female, was fourteen years old and in the eighth grade. She was born deaf on Apache Indian Reservation in the White Mountains. Her parents and siblings are hearing. They communicate with Angela through home signs. Angela has been in the program since seventh grade. Prior to that, Angela was in a self-contained program in the northern region of Arizona for 8 years. Angela was on fourth grade reading level,

*Corina*

Corina, a Caucasian female, was thirteen years old and in the seventh grade. She was born deaf in Yuma. Her hearing mother communicates with her through Signed Exact English and her hearing brother communicates with her using home signs. Corina went to a self-contained class in a public school for two years before coming to ASD. Corina was on grade reading level.

***Research Design***

This study used a mixed research method, employing both the qualitative and quantitative methods. I chose this method because I felt it would give me the best picture

of how closed captioning influences deaf and hard-of-hearing students' literacy experience and because it maximizes information-gathering within a limited time of study (Hatch, 2002). In addition, the mixed research design allows me to blend objective, quantitative test results with the in-depth understanding of qualitative methods and data. I also employed Denzin's (1994) data triangulation—the use of a variety of data sources in the study—to be able to make more specific findings on how closed captioning influences deaf and hard-of-hearing students' literacy development. By rounding out the pre-and post-test scores with discussion notes and informal interviews, I was able to collect information on the different perspectives of each student, which allowed me to view each student's test results within their real-life context (Tashakkori & Teddlie, 1998).

My quantitative research was guided by the following question: How does viewing a closed captioned program influence deaf and hard-of-hearing students' vocabulary comprehension? To gain quantitative data bearing on that question, I used a quasi-experimental design where the participants were given the same vocabulary tests both before and after viewing a captioned program using those words. I chose this design because it produces straightforward results even with the possibility of unexpected variables from the maturation of the subjects between the before and after studies (i.e., the effect of experience) (Kirk & Miller, 1986). By comparing their pre-viewing vocabulary scores with their post-viewing scores, I was able to get a null hypothesis on the central question of whether the captioned viewing had any impact on their vocabulary comprehension.

For my qualitative research, my guiding question was to determine the manner in which closed captioning influences the students' responses to viewing a video program. For instance, I was looking to see the extent to which incidental learning happens among the students by observing their reactions or remarks after viewing a captioned program.

To research this issue, I developed three questions focusing on post-viewing phenomena among the students, each of which I either observed or had the students record:

1. What social interactions are present during post-viewing discussions?
2. What do the students discuss in their post-viewing discussions?
3. What post-viewing written comments do the students make?

In addition to my own observations and the students' recordings, I also used fieldnotes, formal and informal interviews, videotapes, transcripts, and artifacts.

In conducting this research, I employed the constructivist paradigm to account for the different views, or multiple realities, of the study participants, who experience the world from their own point of views (Lincoln & Guba, 1994). The constructivist paradigm allows me, as the researcher, and the students, as study participants, to co-construct understandings of how closed-captioning works in a classroom.

The following table charts the various research methods I employed in conducting this study:

Research Design: Mixed Research Method					
	Pretest/Posttest	Artifacts:Written Work	observation	Field notes	Interview
Quantitative	scores				

Research					
Qualitative Research		Written responses	Social interaction	Social interaction	Structured/informal chat

Figure 3.1: Mixed Research Methods in This Study

### *Study Procedure*

The study consisted primarily of showing the students 10 different 30-minute television shows or programs with closed captioning over a five-week period (two shows per week). The video shows or programs were either documentaries or teenager-oriented programs that focused on family, social, and school issues (see Appendix E). Prior to and immediately after each video showing, the students were tested on five different vocabulary words that appeared frequently in the particular program shown. I wrote down all non-high frequently used words that appeared at least more than three times on a 30-minute captioned television segment. As Figure 3.2 shows, these pre- and post-tests both asked the student to define each vocabulary word, which measured their absolute knowledge of the word, and use it in a sentence, which measured their contextual knowledge. The students were not allowed to talk or discuss anything during either the pre- or post-tests.

<b>Vocabulary Activity #5</b>		
-obvious	-rescue	-condition
-evict	-rush	
SKILL 1: Examples		

<u>Read examples below</u>
<ol style="list-style-type: none"><li>1. It was obvious that John was tired because he fell asleep at 7 p.m. last night.</li><li>2. Sara was evicted from her apartment because she did not pay rent for three months.</li><li>3. Please rescue the dog stuck on the roof.</li><li>4. Please rush and get mom now because I am going to throw up.</li><li>5. What is the dog's condition after being hit by a truck?</li></ol>
<b>SKILL 2: Definition</b>
Write definition for each word.
<ol style="list-style-type: none"><li>1. <u>obvious-</u></li><li>2. <u>evict-</u></li><li>3. <u>rescue-</u></li><li>4. <u>rush-</u></li><li>5. <u>condition-</u></li></ol>

Figure 3.2: Pre-test/Post-test Sample

In addition to the pre- and post-tests, each study participant, immediately after taking each post-test, individually retold the story contained in the video recently viewed, which was recorded onto videotape. While the students were taking turns with retelling, the other students partook in group discussions covering the recently-viewed video. Those group discussions, too, were videotaped with a camera that was strategically placed so as not to interfere with the students' discussions or interactions.

Those discussions were then documented using ASL glossing, which entails writing down exactly what is signed. Glossed text documents ASL grammar features, such as the use of nonmanual markers and adjectival facial expressions (Valli, 1995). However, glossing does not document certain English features, such as plural markers, past-tense markers, and prepositions. Therefore, to capture those English features, I also transcribed the students' discussions in English. Those transcriptions documented the visual and vocal aspects of the students' human interaction and physical environment (Atkinson, Maxwell & Heritage, 1994).

I also interviewed each study participant on various television and captioning-related issues, such as their general interests, how often they watch television, how often they use closed captioning, and their personal experiences with closed captioning, including a self-assessment on how they felt they benefited from it. Figure 3.3 sets forth the interview questions I asked.

#### **DATA COLLECTION: STRUCTURED INTERVIEW**

##### **Interview Questions:**

- 1. What is your name?**
- 2. How old are you?**
- 3. What grade are you in?**
- 4. What is your favorite subject? Why?**
- 5. What do you like to do after school?**
- 6. What do you usually do during summer vacation?**
- 7. What is your favorite sport? Why?**
- 8. How old did you start watching television?**

- 9. Do you have a television with closed captions? If so, for how long?**
- 10. Do you understand captions on television? If not, do you watch television anyway? If so, what kind of TV shows do you like to watch?**
- 11. How did you learn to “read” captions?**
- 12. How old were you when you first understood captions?**
- 13. What kind of television programs do you like to watch? Why?**
- 14. What kind of television programs that you do not like to watch? Why?**
- 15. How often do you watch television programs?**
- 16. Do you think stories on television and books are the same? Why or why not?**
- 17. Suppose there is no closed captioned programs on television any more, how would you feel?**
- 18. Do you think you can live without closed captioned programs? Why or why not?**
- 19. Do you think that “reading” captions help you read and write better in school? If so, in what ways?**

**Figure 3.3: Interview Questions for Participants**

Finally, at the end of the study, I did retrospective interviews with several students. Additionally, I kept a researcher reflection log in which I entered my observations immediately after each class session for purposes of later coding and analysis. In total, the study consisted of twenty-two hours of classroom research and interviews. I videotaped every session, therefore I have a total of twenty-two hours worth of videotape that were used for later transcription and analysis.

### *Data Collection*

My qualitative research consisted of participant observation, field notes, interviews, and video recordings. In participant observation, I as the researcher acted as a study participant, during which time I observed the group discussions and dynamics. I included that research method because it involves varied ethnographic field methods, including interviewing/interactions, observation, and artifact collection (Hatch, 2002). The goal of participant observation is to understand, from the perspectives of the participants, the culture, setting, or social occurrence being studied from the perspectives of the participants.

At nine of the ten sessions (or program viewings), I also used field notes, which are a way of collecting data through study observations. I wrote down field notes while the students were watching the video segments and taking the pre and post-tests, and after their post-viewing discussions. After taking field notes, I reviewed them regularly to see if any recurring themes or patterns existed from discussion to discussion, such as how the students socialized during the discussions and the contents of their discussions. My observations and field note-taking were guided by questions that I developed, based on the contextual dimensions articulated by Spradley (1979) that define social situations. Those questions were as follows:

- Who are the participants involved in the social action?
- Specifically, what are the settings like in the classroom during the research?
- What individual activities are the participants engaged in?
- What group activities are the participants engaged in?
- What things are the participants trying to accomplish?

- What emotions are expressed?

The third part of my qualitative study consisted of interviewing, which I used to better understand each student's literacy background personal beliefs related to literacy. The interviews helped me to explore the participants' experiences and interpretations (Mishler, 1986; Spradley, 1980) and to uncover the structures of meaning by which they organized their experiences and perceptions. Of the four main interview types Fetterman (1989) identified—informal, semi-structured, structured, and retrospective—my study employed all but semi-structured interviews. I used structured interviews, which consisted of asking the study participants pre-planned questions (Bishop, 1999), because they efficiently elicited essential participant responses within the limited time available. My structured interviews, each of which was videotaped and lasted for approximately 20 minutes, took place at the beginning of the study. I developed field notes from the structured interviews, portions of which I also transcribed for inclusion in the data analysis section of this dissertation.

My informal interviews were unstructured conversations based on my classroom observations and field notes from the structured interviews. These informal interviews were ongoing and frequently spontaneous, covering what the participants may have seen or understood from a previous discussion or interaction. This regular collection, coordination, and reading of data helped me formulate questions to be asked at the next interview opportunity (Bishop, 1999).

Finally, I used retrospective one-on-one interviews to develop a better understanding of the various cross-cultural experiences to which the participants sometimes referred during the structured interviews (Denzin, 1989; Fetterman, 1989). Even though this

technique does not necessarily elicit the most accurate information, it nonetheless enabled me to ask the participants to recall recent learning approaches. This interview approach thus allowed me to examine the manner in which each individual's experiences may have shaped their values and world views (Fetterman 1989).

One of my primary data collection approaches was to videotape the students' discussions and interactions, as well as my interviews with them. Indeed, I bought a digital video camera solely for this study. Video recording provides a powerful data source for qualitative studies by capturing detailed and accurate information about what was said and done in a specific social setting (Hatch, 2002). It also provides a way of capturing contextualized face-to-face social behavior in greater detail than can be accomplished using other ways (Erickson and Wilson, 1982). This is particularly so in the case of deaf and hard-of-hearing study participants because ASL characteristics such as facial expressions and nonverbal communications are often missed in field-note recordings.

My process of videotaping was as follows: first, the video camera was always set up in a location where it could capture each student's comments clearly and activated at the beginning of each session. I stopped the recording at the end of each session, took out the videotape, and labeled it with the date and time of filming. When all taping was completed at the end of the study, I reviewed all the tapes chronologically. I wrote down notes and transcripts based on participant discussions and conversations. From those notes, I searched for sociocultural patterns such as similar or identical socialization processes and conceptually accurate signs.

### *Data Analysis*

For the quantitative portion of the study, I coded and analyzed the study data using statistical analyses. My primary hypothesis was that the pre and post-tests would show an increase in vocabulary knowledge and usage. The test results were measured using An Univariate Analysis Of Variance—ANOVA.

For the qualitative portion of the study, I analyzed the video recordings of the students' discussions and interactions, as well as the ASL glosses and transcripts that I created from those video recordings. The transcripts provided an analytic orientation of the students' discussions and interactions and demonstrated the importance of the visual and vocal aspects of human interaction (Ochs, 1979, 1995; Jefferson, 1972). I also included ethnomethodology and conversational analysis to better understand the social organization of talk and its role in the accomplishment of social actions and activities (Heath, 1997; Atkinson, Maxwell & Hertiage, 1984).

I shared my transcripts with the students' teachers for review, and had one of the teachers review my field notes for accuracy (Marria, 1998). All of my data otherwise has been kept strictly confidential.

### *Limitations and Delimitations of the study*

There are three possible problems that are related to my research design, the first of which was the size of the study. Because Tucson has only one school for the deaf with 160 students, I worked with only two classes and thirteen students in total. Second, the time available for the study was limited. I would have preferred to have been able to conduct the study for a full academic year, but that was not possible because of other

demands on the students' time. Third, I used to work in the same department with one of the teachers, and I therefore had to set aside my familiarity with her teaching style and observe her without assuming what she would do in the class.

### *Summary*

My study took place between April and June of 2004. The study location was Arizona School for the Deaf and Blind (ASDB), and the study group consisted of thirteen seventh and eighth-grade students and two teachers.

My study centered on the four following research questions that I developed:

1. What are the students' perspectives on literacy at home, school, and community?
2. How does closed captioning influence the responses of deaf and hard-of-hearing students to a video program?
3. What do the students discuss when interacting after viewing a closed captioned program?
4. How does viewing a closed captioned program influence deaf and hard-of-hearing students' reading and vocabulary comprehension?

With those guiding questions in mind, I used a mixed research method in my study, employing both the qualitative and quantitative approach. Using both methods allowed me to develop a broad database within the logistical constraints of my study (i.e., small class size and limited time availability). The data collected for the study included twelve class observations and subsequent written summaries, three informal interviews with each teacher, one structured interview with each student, one retrospective interview

with five students, ten informal student interviews, videotapes, fieldnotes, transcriptions, ten captioned videotapes with pre and post-tests. The next three chapters of this book present in-depth description of my findings on each research question.

## CHAPTER IV

### STUDENTS' PERSPECTIVES ON LITERACY

The first question I sought to answer in assessing the relationship between closed captioning and the study participants' literacy was as follows: What are the students' perspectives on literacy at home, in school, and in the community? I wanted to gain a better understanding of the students' experiences with literacy including media literacy, and how they embraced it. To answer it, I formally interviewed students, paying particular attention to their general communications with family and friends and their communication means, their exposure to books and other printed text, their television use, and their experiences with media use in the classroom.

#### *Communications*

I found the issue of the students' home communications to be particularly important because of the unique circumstances that deaf children face in the household. Specifically, for deaf children, the communication modality used is a primary determinant of literacy skills because of the relatively narrower range of alternative information means available. Research has established that a child's home literacy environment significantly impacts his or her literacy development (Andrews & Gonzales, 1993; Heath, 1983; Moll, 1990). Deaf children are considerably likely to grow up in a social, cultural, and linguistic setting different from hearing children of hearing parents (Mitchell, 2005; Erting, 1994; Morford & Mayberry, 2000; Padden & Humphries, 1988; Schein, 1989; Wilcox, 1988). Because deaf children do not have access to the aural information mainstream or incidental and spontaneous spoken conversations that hearing children naturally access, they generally do not have equal opportunities for incidental

learning. In short, deaf children do not have access to information naturally shared between individuals by spoken conversation, and their communication opportunities and means therefore take on unique importance.

To learn about the study participants' communications and communication means, I asked each student the following questions:

1. How do you communicate with your family and relatives?
2. What do you usually talk about with your family?
3. How much time do you spend interacting and chatting with your family?

In the context of my questions, "communication" referred to the general communications used in the household and did not presume any formal alignment with a particular language, such as ASL.

The students indicated by their answers that they used a variety of communication means to communicate with family and relatives—some used ASL primarily; some used Signed Exact English (SEE); and others used a combination of lip-reading and home-made signs. Specifically, eight out of the 13 participants used ASL at home, while the remaining five used other communication forms. However, all thirteen students used ASL during school and after-school activities.

As for the actual, substantive content of their home communications, I grouped their responses into the three following home communication categories that I developed based on Freire and Macadeo's framework of literacy development (1987) and Halliday's Language Functions (1975): minimal communications, or communication sufficient to convey basic needs or wants; functional communications, or simple dialogue about concrete events and happenings, such as what happened during the day; and thought-

provoking communications, entailing open ended questions and discussions utilizing abstract or complex thoughts or judgments.

Corina, a 13-year-old student who lives in the dormitory during the week and goes home on the weekends, was asked how she communicated with her parents. She replied, “my mom signs O-K (“O-K” with a dash between two letters means the word was fingerspelled to show emphasis) but not fluently. My brother knows only homemade signs”—arbitrary signs developed between the communicators themselves—“like eat, food, bath, and others.” Corina then added “but my mom wanted to learn advanced signs and she asked me what were the signs for specific words or sentences. I told her I did not know what these words meant. My mom got stuck.” Corina communicates with her relatives through paper and pen, and sometimes through lip-reading.

It is apparent that Corina and her mom have functional communication due to Corina’s mother’s signing skills. Corina’s mother’s attempt to learn more advanced signs implies that she would like to be able to engage in more thought-provoking communications with Corina.

Another 13-year-old student, Lenny, related a considerably different experience. Because he has deaf parents, he explained, he communicates with them, and his hearing siblings, using fluent ASL. In addition, Lenny’s hearing relatives communicated with him through ASL. Lenny explained that he and his mother frequently watch and talk about television programs. Lenny and his parents engage in thought provoking communication on a daily basis.

Lourdes, a 13-year-old student, has deaf parents, one younger deaf sister, and two older hearing siblings. Lourdes’ parents are natives of Mexico and they use MSL

(Mexican Sign Language) fluently. They can read and write Spanish and “basic English.”

Andrew had an interesting perspective of his family when asked about his siblings:

I have a young deaf brother and an older hard-of-hearing sister. She can hear normal, but sign like a deaf person so she is hard-of-hearing. My grandparents are hearing and they do not know sign language so we do not see them that much.

While Candi, 13, stated:

My parents are hearing and my mom and aunt sign very well because my grandparents are deaf. But, I do not see my grandparents often because they live in California and my mom is not close to them.

I asked her if she wanted to see them often because they are deaf.

No, not really. They are old and I have nothing to say to them. I'd rather spend time with my friends here in Tucson instead of driving to California to see them. If I am not with my friends, we chat online every night through AIM. You know pagers? I have one and I use aim through that and I chat all the time. Sometimes I talk with friends though videophone (a videocamera device that is connected through high speed internet and can be communicated by two parties visually). Some of my friends don't have videophone so we talk through AIM instead.

Apparently Candi valued her time with friends, especially at her age where friends come first before anything else. The fascinating part was the fact that students are immersed into technology-related literacy, such as, computers, pagers, videophones, and television. Candi's comments about her uses of technology relate to the research of Caronia & Caron (2004) and Oksman & Turtiainen (2004).

Michael, 14, stated that he is hard-of-hearing so there is no need for his parents to learn ASL. He speaks either Spanish or English with all of his family members.

Michael added later in the interview, “sometimes I have a hard time understanding my

brothers because they talk too fast or talk at the same time. I also do not really understand spoken Spanish, so I just ignore them.” His comments reflect the critical point of lack of access to language use at home (US Census Bureau, 2003).

### *Television in General*

As part of my student interviews, I asked each student to describe the television access that he or she had at home and his or her television preferences. Their responses indicated that television is very much an ingrained feature in their lives. Most of them were unable to remember a time when they did not have a television in their household, and all of them have at least two televisions, with some having televisions in their bedrooms. Most of the students watched between one to two hours of television a day while a few watched three hours or more daily (see Table 4.1). This coincided roughly with a 2002 survey taken by the Kaiser Foundation, which showed that the average child between the ages of 8 and 18 watched slightly more than three hours of television per day. The students admitted to a certain stigma associated with too much television watching, due to the popular conception that television leads to too much passivity or inactivity. Finally, other students did not watch television much because of their involvement in their school’s after-school programs such as sports (see table 4.2).

Table 4.1: Daily Television Viewing

	never	1 hour	2 hours	3 hours	4 hours	5 hours
Male		1	3	2		
Female		4	3			

Table 4.2: After-School Sports Involvement

	Involved	Not Involved
Female	3	4
Male	5	1

Their programming interest varied widely, with some preferring children and teenager-oriented channels such as the Disney Channel or the Cartoon Network, and others preferring more adult-oriented materials such as primetime network programming. For instance, Corina stated that she prefers shows with simple plots while Lenny stated he liked to watch suspense movies that require analyzing and guessing. Lenny stated:

I love (kiss-fist) +++ ( Kiss-fist means absolutely love in ASL and +++ means the signer signed the word 'love' three times) horror movies because these movies keep me alert and curious to know what happens next. I do not like boring movies like black and white films. These movies are always slow and boring. It makes me feel sleepy.

Another student, Corina, explained that both of her parents usually are working when she is home on vacation from school, and that she occupies her time by renting movies or watching movies on television.

### *Access to Captions*

In addition to asking the students questions about television-watching in general, I asked them specifically about their use of closed captions. Somewhat surprisingly, captions were not always enabled at home, despite that the vast majority of televisions sets currently in use are equipped with the closed captioning feature. For instance, Michael stated:

Most of the time, there are no captions on television while I watch programs because captions annoy my brothers. I am stuck. I try to explain to them that I need captions but they ignore me. So I turn up the volume a bit more to help me understand the dialogue between characters. Or I just give up and do other things. When I have captions on, I have a hard time reading them because I am not used to reading and watching the action at the same time.

Another student, Jackie, shared similar experiences with captions as Michael. She explained that her mother requires that the captions be turned off because she finds them distracting:

My mom does let me watch television with captions for half an hour everyday. Otherwise, my mom and sisters watch programs with no captions. If I am alone in the house, I cannot turn on the captions because I don't know how to do it with my remote control.

The concept of captions “distracting” hearing television viewers is not new. The eye movement patterns of hearing viewers who found captions distracting were researched in 2000 by Jensema, Sharkawy, Danturthi, Burch & Hsu. Evidently, the claimed “distraction” by hearing parents and siblings poses an obstacle in some instances to allowing deaf and hard-of-hearing children full television access by captioning.

For other students, captioning was enabled at all times. For instance, Lenny's parents made it a rule for Lenny and his siblings to leave the captions on, no matter who uses television. Another student, Candi, was not able to recall when she saw a television program without captions. Indeed, Candi could not fathom the idea of having no captions shown on television—“if that program has no captions, I change channels automatically.” Table 4.3 graphs the percentage of television time during which captioning is enabled:

	Female students with Deaf Parents	Female students with hearing parents	Male students with Deaf parents	Male students with hearing parents
Television with captions turned on at all times (24/7)	3	0	3	1
Television with captions turned on sometimes	0	4	0	2

Table 4.3: Percentage of Captioning-Enabled Television

### *Learning to Read Captions*

After ascertaining the students' general television watching habits and frequency of closed captioning use, I then sought to find out when and how they started actually reading captions. I found this issue particularly relevant because of the relatively unique language dynamics that deaf children experience. Deaf children rely on visual images to acquire written language to a greater degree than do hearing children, who take a more phonological approach (Koskinen, Wilson & Jensema, 1985; Flippo, 1999). In addition, deaf children with a strong first language foundation, such as ASL, acquire written literacy at a faster rate (Supalla & Blackburn, 2003.) Finally, certain ASL features, particularly fingerspelling and "sandwiching"—fingerspelling a word after signing it—facilitate orthographic awareness of the printed word (Nover, 1996; Blumenthal-Kelly, 1995).

Most of the students were unsure when they were first exposed to captions, but thought it was in their late toddler or early elementary years. When asked about his first recollections of closed captioning, Andrew said he remembered seeing a black box (the

captioning background) without understanding what it was, and that his mother explained it to him as “people talking.” His mother then would define various words that appeared in captions, and, as Andrew’s reading skills grew, he began reading captions independently.

Another participant, Lenny, related that his mother strongly encouraged him to read captions at an early age, and that the video backdrop to the captions indeed helped him understand what the words meant:

Sometimes, I did not understand a word so I watched the action carefully to try to figure it out. If I could not figure it out by myself, I would just ask my parents what it meant.

Similarly, Lauren, Lourdes, and Corina said that they sometimes deciphered the meaning of captioned words by studying the television backdrop for contextual clues. Kristina provided a bit more detail, explaining that she did not understand the captions at first but continued to “read” them anyway, and that she picked up on the words over time with the help of contextual clues to the point where she could read them. Lourdes recounted a similar experience of initially not being able to read captions but eventually acquiring the ability to do so because of contextual clues. Lourdes also explained that she had to learn to read captions largely on her own because her parents are not fluent in English.

#### *Availability of Printed Materials in the Home*

My next interview question related to the students’ use of other printed materials in the home, such as books, newspapers, and magazines. All of the students indicated that they had access to other textual materials in the home. Most of them said that their parents frequently read newspapers and/or magazines, while a few said their parents also read books.

As for the students themselves, all said they do read at home, but not always for pleasure. For instance, some said that they read books only because they are required to do so as part of ASD's independent reading program. One student, Candi, indicated that she reads almost every night, which she enjoys doing. Regardless, most of the students expressed motivation to read materials covering subject matters in which they were interested. For instance, Lenny indicated that, while he does not "care that much for books" and prefers instead to watch television or play computer games, he nonetheless enjoys reading comic books and sets aside time for that. Similarly, Kristina said she enjoys reading books like R.L. Stone's "Goosebumps." Andrew said that he enjoys reading, but only if he find the subject interesting.

I also asked each student to estimate the age at which they were able to read. Some of them said they learned to read at home as preschoolers but most indicated that they learned primarily at school. Jackie, for instance, said that she learned to read in first grade because of her teacher:

Jackie: I remember because I had a deaf teacher who signed big whenever she told stories and she used big books to identify words to the signs she made.

Nancy: Did you make connections between printed materials to signs that your teacher signed immediately?

Jackie: Yes and I remember her making us fingerspell A to Z before recess every day. Sometimes she would make us retell stories that we were watching in the class earlier.

Lourdes described her reading development as a blend of both home and school development, explaining that her mother would tell her stories prior to bed and that Lourdes would cross-match words from her mother's stories to words she later encountered during reading exercises at school:

My mom cannot read English so she tells me her life experience stories because she knew I wanted her to tell me something. Then, at school, my teachers used big books with words where they pointed and signed out printed words. I remembered the signs from mom's stories. It helped me remember these printed words.

Lourdes' experience accords with prior studies by Dyson (1990), Heath (1983), and Gee (1991), which show that oral storytelling is a very powerful tool in motivating children to read books.

Michael openly shared his frustration as a reader. Labeling himself a struggling reader. Michael said that he did not begin to read well until the sixth or seventh grade. Michael credited his Reading teacher for three years, Sharon, with helping him develop reading skills, and Sharon later explained that she used a variety of techniques to do so:

I taught Michael several reading strategies that he had to depend on while reading on his own. Also, Michael was taught to read parts of words through direct phonics instruction but that was not the only way for him to be able to read independently. I emphasized to him that he needed to get the gist of the passage by reading the first sentence of a paragraph to see if he was able to get a clear concept in his head. Affixes were heavily stressed in my instruction too. Before we read a book together in the class, I always preview a topic or theme with the class by asking them what they know about the topic to activate their prior knowledge.

As Michael's experience indicates, prior knowledge is an important reading tool. Anderson and Freebody found in a 1981 study that prior knowledge is a crucial component of developing literacy.

### *Closed Captions in the Classroom*

At the end of the study, I asked each student for his or her view on whether closed captioning should be included in the classroom. Almost every student said yes, some more empathetically than others. Others did not answer the question directly, saying instead that they did not realize the impact that closed captioning has had on them until

the study brought it to their attention. Michael in particular did not say anything about using captions in the classroom but he shared his strong feelings on how the study affected him. It was not until the study that Michael realized that he never paid attention to captions. He made it a goal to learn how to read closed captions efficiently.

There was all but unanimous agreement among the students, though, that closed captioning helped them learn new words and generally learn how to read. As Andrew said:

Closed captioned television programs benefit children because it helps with reading and kids become smart from reading advanced and difficult words. I read captions all the time and seeing words again helps me remember them.

Candi felt that even younger students should be exposed to captioning because it helps them learn new words. Another student, Lourdes, thought captions were “cool.” Lenny was particularly enthusiastic about the use of captions:

I love closed captioned programs. I prefer TV over books because the words (text) on television are just like words in books, except that television has pictures and images while books do not.

### *Retrospective Interviews*

After my study was completed, I conducted retrospective interviews with Corina and Lauren to get more details from them on their views on closed captioning and literacy. I choose them because of their enthusiasm and participation in the study and because both presented contrasting family dynamics. Lauren came from a large deaf family in southern California and Corina came from a large hearing family in Yuma.

My retrospective interviews centered on three questions:

1. Explain how you learned to read captions on television.
2. How do you feel about reading?

3. What are your thoughts on schools using closed captioning programs as part of classroom instruction?

Corina explained that she was first exposed to captioning when she was three and a student in the early childhood program at ASDB. An ASDB parent advisor told her mother of the importance of closed captioning. As some of the other students indicated in the informal interviews, Corina at first did not read the captions but focused on the television screen. Over time, however, and spurred by the visual context from the television, she began to recognize common, familiar words.

By the time Corina was in the first grade, she was reading not only captions but books. And, while Corina's reading level lagged at the time she entered middle school (when she was reading on second grade level), she was at the time of the study reading on grade level and able to read chapter books independently. I asked Corina's current teachers how Corina's reading level went up in such a short time. They felt that Corina was very motivated and self-determined to work on her reading skills because she was told that she needed to read well in order to be a scientist, which she had indicated she wanted to become.

I also asked Corina why her reading skills improved so quickly. Corina explained that her language arts teachers taught her so much about reading and writing through class discussions and drama. For instance, Corina told me how Sharon, her Reading teacher, taught her several reading strategies like KWL and context. In other words, Sharon helped her understand how to use contextual clues to figure out the meaning of a word she did not know. Corina's reading development under her middle school language arts teachers thus resembles internalization of her teachers' philosophies in reading

strategies approaches rather than through a direct instructional approach (Vacca, 2002). Corina also mentioned that she was very motivated to read because she wanted to improve her English and because she had strong interests in books of specific genres or subjects, of which historical fiction is her current favorite. This coincides with the constructivist paradigm, which states that students contribute to their own learning as they negotiate meaning and socially construct knowledge through learning situations requiring discussion and writing (Newell, 1984; Rubin & Hansen, 1986). Finally, she mentioned that it was not until middle school that she had a deaf teacher who could understand her signs fully and took genuine interest in what she had to say. In the end, when asked to recount her years working on her reading development, Corina said “I feel great. I worked so hard!”

Somewhat surprisingly, Corina felt that deaf children should not have access to captioned programs at schools. This reluctance, however, was because one of her previous English teachers had told her that captions were frequently grammatically inaccurate—that they used “wrong English.” Corina’s perspective in this regard reflects a sensitivity to the attitudes of others regarding language use. She then added “captioning is just a tool to help deaf people understand what the story on TV is all about.”

Lauren said that she was not sure of her precise age when she was first exposed to captions. However, she said she first started reading books in kindergarten or first grade. When asked how she started reading captions, she answered that she just naturally started making connections between the television movements and images and the captions. She said that when she sees an unfamiliar word she either contextualizes it against the overall

sentence and picture backdrop, or, if that fails, she asks one of her parents, with whom she usually watches television, to explain it to her.

When asked whether captions should be used in the classroom, Lauren responded “yes, because it’s fun.” She also said that she learned new puns and slang from captions, which she like to use with her friends. Lauren, however, said that she rarely discusses television shows with her friends because she is usually busy with other things like schoolwork or after-school sports activities.

When asked whether reading captions was like reading a book, Lauren answered “No, captioning is not reading. It is more of talking and sometimes captions have wrong grammar. Also, books tell stories and that’s reading.” When asked whether she enjoys reading books, however, Lauren said that she rarely does so because of her time constraints and that she did not enjoy being required to reading books, such as for ASDB’s independent reading program.

At the end of the interview, I asked Lauren if she had any additional thoughts to the idea of including closed captioning programs as part of classroom instruction. She said that parents, not schools, should be responsible for teaching students how to read captions. Finally, she said that students should not have access to television at school. I told her I found her answer puzzling because she had indicated that she likes to watch television and read captions. Lauren flushed and said that she thought it would be strange to have captioned programs as part of classroom instruction because it did not seem like a traditional instructional tool:

Well, you are right. I like to watch television at home but at school? It’s weird. School means work, like writing and reading. [Reading captions] is like reading but not really. It is more for pleasure. It is different. I don’t

know how to explain but you do not read the captions. You don't try to read, you just watch and enjoy a television show. It is different.

It was apparent that both participants understood the difference between oral and written literacy. They think that hearing people who speak do not necessarily have good communicative language skills. The ability to speak and write a language fluently depends largely on both communicative language and reading. However, it was fascinating to see that Corina and Lauren felt that closed captioned programs, as a communicative language tool, should not be integrated in a school's curriculum.

Lauren and Corina are considered as English language learners because they learned American Sign Language first. These kinds of students often face instruction oriented toward lower level skills rather than higher level thinking (Fitzgerald, 1995). Activities such as robin oral reading (for deaf students, signing out each word in sentences), grammar drills, and copying sentences from the whiteboard, limit students' opportunities in learning to read, foster boredom and lead English language learners to fall further behind in reading. This kind of mentality was instilled in both participants' attitude toward learning a language in school. The conflict of the participants' comments was obvious when the participants at first mentioned that their middle school teachers got them hooked on books through class discussions and then later mentioned that closed captioned programs should not be part of a classroom's instruction. In other words, they think the enjoyment of learning should not happen in the classroom.

Another critical finding of the retrospective interviews with Lauren and Corina is that they felt that ASL was not equivalent to English, and that English was more important than ASL because English has a written language while ASL does not have

one. They viewed ASL as a mode of communication, and as having no influence on deaf people's reading and writing abilities (Lane, 1993).

Finally, I questioned Chris and Lenny regarding two answers that they provided in their pre- and post-tests. As part of each test, they, along with the other students wrote definitions for each word appearing on the test. When asked to define "surrender," Chris wrote "man give up same white flag means I lose, they won." I asked him where he got that definition and he explained that he frequently plays video games in which a white flag signals surrender. Chris also explained that he plays videogames with his father and with whom Chris discusses video game strategies and techniques.

In this instance, Chris' written definition was based on what Moll and Greenberg (2000) have termed "funds of knowledge." The "funds of knowledge" theory is that each household has both common and unique repositories of substantive knowledge—for example, a deaf family would most likely have a wealth of knowledge in ASL and Deaf Culture—that are shared or transmitted between its members. By their frequent video gaming, Chris and his father developed a certain knowledge repository relating to video games, including strategies, tactics, and the symbolic use of a white flag to denote surrender. In addition, Chris' video gaming provided him with prior knowledge that he could draw upon to devise a definition for "surrender."

Another student's response to defining a word—this time "generation"—was considerably different. Instead of writing a definition, Lenny defined it by drawing a detailed family tree and a picture of a stick person signing the word. Lenny's illustration reflects the dual-coding theory, which is that a reader can use different mental routes or processes to recognize or recall words (Castles & Coltheart, 1993; Coltheart, 1980). For

ASL users, word recognition or recall occurs either through the direct or lexical route or the ASL phonological route. In the ASL phonological route, the perceptual similarity of certain classifiers, handshapes, or signs provides an organization basis for word association. This perceptual similarity is absent as an organizational basis in English, and is a fundamental difference between ASL-based word association and other forms of word association, of which there are several (Reeves, Hirsh-Pasek & Golinkoff, 1998). Indeed, research has shown that deaf children are surprisingly better with spatial tasks such as image rotation and pairing, remembering and analyzing movement, and other involving spatial cognition aspects (Bellugi, 2001).

The fundamental similarity between Chris' and Lenny's definitions is that both of them drew upon retained visual imagery for substantive content. In addition, both used referential connections between verbal (text) and nonverbal (visual) systems, which are based on the life experiences of the individual and the linguistic and situational contexts of his or her use of a particular word. Chris drew upon his experience with the concept of "surrender" in order to provide that word with meaning, and Lenny's definition of "generation" was cognitively framed in ASL and expressed by illustration.

### *Summary*

In this chapter I provided an overview of issues that are important to the middle school students in this study. I also presented discussions on literacy with two students in order to determine what the students felt about literacy on a deeper level.

I discovered that there are common interests shared by the middle school students in this study, such as friends, school, popular media, and talking about books even though

they have diverse family backgrounds. In addition, I found that these middle school students are more socially active even though they do not necessarily see each other in person. Instead of that, they crave and depend on technology to remain in close contact with one another by using instant messaging on the computers, chatting through videophones, and emailing through pagers. It is apparent that the teletype device for the deaf (TTY), a device that is attached to a phone where people can communicate with each other, has become less important over the years due to technology advancement where people can use computers, pagers, and television to communicate with each other. Above all, the students prioritized and valued face-to-face interaction, more than reading books and watching television.

## CHAPTER V

### POST-VIEWING DISCUSSIONS AND INTERACTIONS

The next two questions I sought to answer to assess closed captioning and deaf literacy were: How does closed captioning influence the responses of deaf and hard-of-hearing students to a video program? What do the students discuss when interacting after viewing a closed captioned program? By the first question, I wanted to ascertain what the students thought of the issues presented in each program viewed, the kind of information the students shared with each other, the extent to which those discussions enhanced their viewing experience and their knowledge or understanding of words shown in the viewing, and whether there were patterns or themes that recurred from one discussion to the next. By the second question, I wanted to find out about the social dynamics among the students that took place following the program viewings. I developed my answers to both questions by analyzing the video records I made of each post-viewing discussion and reviewing the field notes I made during observing those discussions.

The first section of this chapter focuses on the students' discussions and is divided into the categories of post-viewing vocabulary word discussions, connecting captions with personal experience, role of popular culture in students' lives, and Funds of Knowledge. The second section of this chapter focuses on the students' classroom interactions and is divided into the categories of social rituals, social stratification and social knowledge.

### *Post-Viewing Vocabulary Word Discussions*

On three occasions, I asked the students during their post-viewing discussions to define a certain word, which I then used to facilitate discussions. I did this to see the extent to which the students could draw upon their viewing that word in the program to give it meaning, as well as to how the discussion itself could enhance their understanding of the word. I also wanted to see whether the linguistic interdependence theory—which states that “the level of proficiency in the second language is positively related to the attained level of proficiency in the first language” (Cummins, 1976, pp. 17)—applied, so that the students’ discussions of the chosen word in ASL (as their dominant language) could facilitate their articulating it in English. Stated otherwise, I wanted to see if the students could parlay their knowledge of the word in ASL into knowledge of the word in English.

The first word we discussed was “goofy.” Almost all of the students indicated they knew that it meant something like “silly.” When asked for what the appropriate sign for “goofy” was, most signed “silly” by moving a “Y” handshape in front of their noses. Lenny, however, stood up and said “I know. It is (twisting a fingerspelled “G” on his forehead).” That sign was the more conceptually accurate one, because it conveys a greater degree of absurdness or silliness than merely “silly.” I told the students that Lenny had the right sign for “goofy.”

Interestingly, every student knew of the sign for “goofy,” but, until that point, had not made the connection between the ASL sign for it and the English word “goofy.” They laughed with surprise and started to tease and call each other “goofy.” One student told another “I never knew what word that sign belonged to until now!”

Another student then brought up the question of appropriate contextual use for the sign. While “goofy” in English denotes silliness or absurdness, its ASL-equivalent sign can, depending on the circumstances, bridge over to a slightly different and more insulting concept such as “stupid” or “nitwit.” Hence, Andrew said “but that sign can hurt people’s feelings.” Discussion then ensued in which we clarified that the sign for goofy can, depending on the circumstances of its use, come across as light-hearted ribbing or as an insult. During our entire discussion on the word “goofy,” the students showed genuine interest and curiosity.

The second word we discussed after watching a captioned program was “backstabbing.” Most of the students did not know the ASL sign for the word until I showed them by hitting the palm of a fingerspelled “B” with a fingerspelled “S”. The students, all of whom were familiar with that ASL sign, were surprised and immediately made the sign-to-word connection, and, as they had done with the word “goofy,” teased and ribbed each other with the word “backstabbing.” The students then asked questions about where that word came from and had side conversations about their experiences with backstabbing in general. By using the word in joking with each other, the students demonstrated an immediate ability to use it a conceptually accurate way. This coincides neatly with the theory that use of a word in discourse interactions provides a foundation for literacy development (Dickenson, 2001; Erting, 2003).

The third word we discussed was “obsessed.” Again, the students were not familiar with the English word. One student, Andrew, tried to define it to the class, but did not use the ASL sign for it. The students did not appear to understand what Andrew was saying so I signed the word in ASL. As with “goofy” and “backstabbing,” the

students were familiar with the ASL sign for “obsessed” and immediately made the connection. As Jackie said, “ I did not know the word for that sign but I knew the sign itself. I’m so surprised!”

In sum, the students knew the words in ASL, but not in its printed English form. And, by using their ASL understanding of the word to inform their English understanding of it, the students employed linguistic interdependence. Perhaps because of their prior familiarity with the words in ASL, the students were surprised at the relative ease of the sign-to-word connection, as evidenced by their fluent use of the words in ensuing ASL discussions. Also, the discussions gave the students the opportunity to use the word(s) in a functional, communicative manner, which is a way in which people develop word meaning (Minick, 1987). Finally, by sharing the word among each other in their discussions, the students forged a unity of word meaning. As Vygotsky (1987) stated in

*Thinking and Speech:*

It may be appropriate to view word meaning not only as a unity of thinking and speech but as a unity of generalization and social interaction, a unity of thinking and communication. (p. 49)

***Connecting Captions with Personal Experience***

The closed captioned programs produced not only specific vocabulary words for the students to discuss, but also included various words that triggered memories or of experiences among the students, which we then discussed. Personal life experiences can supply words with meaning and thus foster a natural process of vocabulary recollection or definition. Smith (1988) argues that teachers should draw upon the students’ experiences in order to develop their reading, writing, watching, constructing, and performing. Specifically, the different social issues or situations presented in the

captioned programs were subjects to which the students could relate and on which they were motivated to talk.

For instance, after viewing a captioned program on snakebites, Michael immediately shared with us that he had been stung by a scorpion before, after which another student, Andrew, got up and explained that smaller scorpions are more dangerous than larger ones. The students were surprised and asked him how he knew about that. Andrew responded that he had previously seen a television show on scorpions, and continued to explain in detail what he had learned from that show, including:

In Arizona, we must be careful with bedskirts. Scorpions always climb up using bedskirts. What would you do if you are out in the desert—in the middle of nowhere and a snake bit you? What would you do? You will need to suck [the venom out] and spit it out a few times. My dad did that before.

He continued:

Yeah, [my father] was in a lot of pain for a week then the pain went away fully around a month, I think. He was not alone. He and his friends were together. I don't know who. It happened before I was born.

The students were fascinated with Andrew's story and the experience his dad went through with a snake.

In another example, in one of the captioned programs, the students saw the expression “gulp” being used to show embarrassment. That word triggered a lively discussion among the students, not only on its various definitions or the proper corresponding ASL sign for each, but also the students' various life experiences in which they felt embarrassed. In that discussion, and after listening to other students relate their experiences of embarrassment, Andrew then related his own experience:

People accept responsibility in making their own mistakes. It means they were embarrassed by their own actions. They become quiet and

withdrawn like I did when I was not able to go on a school field trip because I missed too many school days. It was like my fault and I felt “gulp” about it. Get what I mean?

By sharing not only word definitions but also their personal experiences, the students were engaging in co-construction, which refers to constructing meaning not according to not just an individual understanding of it but also by incorporating what other people have indicated what they understand the word to mean (Wells, 1999). Cooper and Anderson-Inman (1988) noted, “Through this interactive process, children make connections with the world and also with themselves” (p. 243). Cole’s sharing his experience with the concept of “gulp,” for instance, presented him with the opportunity to gain the benefit of the other students’ views on his experience and confirm whether his understanding of that word was in alignment with theirs.

Using captioned programs to produce “triggering” words to generate discussions about the students’ experiences benefitted not only the students but myself, too. In those experience-based discussions, the students set the discussion tone and parameters, and were able to converse in a natural, unrestrained manner using the words, signs, and concepts with which they felt most comfortable. Those unadulterated concepts or signs, in turn, provided me a reference point against which I could cross-check my own understanding of the word(s) at issue. For instance, and again using “gulp,” my sign for that word was different than what the students used, which led to a discussion of the different signs and meanings for that word.

Finally, after watching an episode of “Sister, Sister,” the girls in the study discussed relationships with boys and why the girls in the “Sisters, Sisters” episode did not lose interest in other boys who were flirting other girls in the story. Drawing on her

personal experience, Corina said that she thought the girls in the story were right to give the boys a “second chance” because she had done that before. Clearly, Corina’s comment was based on a blend of what she had watched on television and a similar, personal experience of hers.

### *Role of Popular Culture in Students’ Lives*

The post-viewing discussions afforded me considerable insight on the role popular culture plays in the students’ lives. Popular culture refers to popular written literature and broadcasting, popular music, popular dance and theater, certain decorative arts, sports and recreation, and other cultural aspects of social life distinguished by their broad-based presence across ethnic, social, and regional groupings (Library of Congress, 2001). Teenagers in particular are sensitive to the dictates of popular culture, in which they demonstrate knowledge and involvement by the way they dress and talk (Strinati, 2004). The mass media holds great appeal and interest for American teenagers, who spend an average of 22 hours per week watching television (Clark, 1999). Young people have created and developed a communication culture that incorporates many special features such as slang and abbreviations (Oksman & Turtiainen, 2004). As Sharon Lee (November 2002) of Look-Look Company explained on PBS’ “Frontline”:

We live in an adult-centered view of the world. And there's this teeming, very exciting, vibrant subculture going on that's got its own identity, its own thoughts, and issues that we don't have a resource to try to understand. So if you wanted to know more about it . . . we're providing that bridge. First of all, we think it's valid enough to have its own resource. There's so much great information happening.

During our post-viewing discussions, the use of words based on popular culture among teenagers was apparent. For example, the students thought it was neat to say “the bomb” as in “cool” or “awesome.” Michael explained how his hearing older brother

always accompanied that word with confidence or attitude. Michael thought it was funny, but he never used the word with his deaf friends. Other students disagreed with Michael, saying that they used the word often.

The discussion led to another “pop culture moment” in which I explained that the “hot” word during my college years was “bad” spelled like B-A-I, with the “I” twisted around for effect. The students mocked that sign as outdated and ridiculous, then engaged in word and sign play to create new ways of expressing “bad” to mean “good.” They then began to exaggerate on “bad” by word by using words such as DAMMIT, BLAST, RAD, PHAT and SERIOUS ASS. Corina immediately looked at me after she fingerspelled the word BAD ASS, when she then apologized for saying, explaining that she always used it with her friends.

The participants were motivated to discuss slang words used on televisions because of their interest in using these terms with their friends during their gatherings. They were being typical teenagers, wanting to be part of the popular culture. It was of interest to me, considering television as the primary source for deaf students to learn the greater society’s perspectives on different issues related to fashion, friends, and community.

### *Funds of Knowledge*

Funds of knowledge refers to the areas of substantive knowledge within a household that is shared among its members (Moll, 2000). During our post-viewing discussions, the students shared a great amount of information that they obtained through the funds of knowledge available to them at home. After watching an Animal Planet episode, for example, discussion turned to cockfighting, and Lourdes mentioned that

cockfights are common in Mexico near Nogales. The students asked Lourdes more detailed questions, such as where exactly in Mexico and has she been to a cockfight before.

L: No, I never went to a cockfight before but my dad did. He went with my uncle and cousins.

T: Why didn't you go with them?

L: That was before I was born. That time my parents lived in Mexico.

T: Wow.. but poor birds. Did your father own some roosters?

L: Yes, he did.

C: Why own roosters? Use these for fights?

L: Yeah. Before he and my uncle needed money. They were so poor so they went to fights to win some money for family but they never won because they did not know how to raise roosters right.

C: What do you mean? Must perfect bird?

L: Owners must know how to train roosters to be mean.

The students were fascinated with Lourdes' story and learned something about cockfights through Lourdes' funds of knowledge.

The funds of knowledge available to each student differed widely. In another discussion, the male participants were talking about military history, and Chris explained to the class:

My grandfather was shipped out to war. He went to Vietnam and he always told me stories about how he saw his friends die in the war. He does not like me to play videogames because of too much blood. When he comes to my house, my dad and I don't play videogames but when he is not with us, we play war games.

Another participant, Andrew, spoke of his great interest in military history, and explained that he got that interest from his father:

My dad always wanted to join the army but he can't because he is deaf but we always talk about war things. We like to watch history channel together. Sometimes I tell him what the captions say because sometimes he does not understand what words (text) say. If a new movie show at big theater we go no matter if no caption. My mom, brother, and sister don't like to go.

In another session after viewing an animal show with her classmates, Jackie voluntarily explained to the class how to raise kittens:

My grandmother has had many cats. I grew up with many cats. Everyone in my family has a cat. But my grandma has many, many cats, like 30 cats outside. Also some cats have kittens. One time a coyote ate a kitten in backyard. Poor kitten! Did you know that coyotes eat cats?

### *Classroom Interactions*

The remaining part of this chapter addresses students' classroom interactions rather than the actual, substantive content of their discussions. Ochs and Schieffelin (1990) conducted extensive and significant anthropological research on the concept of "language socialization" applicable to deaf children and adults. They said:

Language socialization entails both socialization through language and socialization to use language... It is important to understand that a basic principle of language socialization is that language must be studied not only as a symbolic system that encodes local social and cultural structures, but also as a tool for establishing and maintaining social and physical realities. (pp. 287-288)

Because of their unique circumstances, the social rituals and processes of deaf children differ in respects from those of their hearing peers. Deaf and hard-of-hearing children use a different and unique language, ASL. A significant percentage of them have a deaf identity and belong to deaf culture, which has "quite distinct rules for attention-getting, turn-taking, polite discourse, name-giving, and other behaviors related to language" (Lane, 1988, pp. 34) Simple logistics also are a factor in the different social processes

that deaf people experience: instead of “hanging out” and playing with neighborhood children, deaf children socialize with other deaf children who oftentimes live in different parts of town and may well come from different racial or economic classes.

My analysis of the data pertaining to this issue was based on ethnomethodology and conversational analysis (Atkinson and Heritage, 1984; Boden and Zimmerman, 1991). I grouped my findings on the social processes in which the students engaged into three categories: social rituals, social stratification, and social knowledge.

### *Social Rituals*

Social rituals refer to behavior patterns and norms displayed by people within a group. Common rituals are those involving courtship, greetings, and other sorts of formal behavior that is highly rule-governed. Among other things, social rituals help regulate activities and preserve group values.

I found that the students had their own social rituals, with social organization being an important theme in their lives, as is common for teenagers (Goffman, 1967). In this study, viewing closed captioned programs was what spurred the incidence of those social rituals, which I grouped into three categories: private conversations and intimacy, physical environment, and eye contact.

The first category of social rituals related to private conversations, in which the students engaged because they either wanted to get private feedback on a particular comment before voicing it to the group, or because they were simply bored. Because ASL is a visual language, a deaf person’s ability to eavesdrop on another conversation is not limited by the range of sound, but by his or her ability or inability to actually see what

is being signed. Therefore, to maintain a private conversation, deaf students had to create their own exclusive visual space not accessible to other people. They did this in one of two ways: first, they moved away from the public audience, using their bodies to block other people's view of their signs; second, they used much smaller signs and fingerspelled in order to make their conversations less visually apparent.

For example, in a discussion after viewing an episode of "Sister, Sister" in which one girl thought that her sister had kissed her boyfriend, Lauren turned her back to the rest of the class and the following discussion between them ensued:

Lauren: This same story happened to me and my ex-best friend. Why betray me? She kissed my boyfriend before.

Candi: Really? I did not know! No wonder you don't go to Colleen's house anymore.

Lauren: Please don't tell anyone. I don't want people to know about this.

Lauren's turning her back was a linguistic feature of ASL that acted as a social marker. The presence or occurrence of such a social marker depends on the present social circumstances (Erting, 1994); here, the social marker of Lauren's turning her shoulder was necessitated by her being in a classroom with 11 other students from whom she wanted to keep her conversation private. And, using the audience design framework (Bell, 1997), by turning her back to the class, Lauren shifted the code and level of her conversation from general to private. In turning her shoulder, Lauren not only prevented the other students from seeing what she was saying, but, perhaps equally importantly, she implicitly communicated to them that she was purposefully excluding them from her private conversation. Finally, to minimize attention for maximum privacy, Lauren used politeness strategies (Brown and Levinson, 1987) by signing small and not making herself obvious.

Another example of a private conversation spurred by watching a captioned program occurred when, after watching a captioned videotape on dogs, and while the class was engaged in a discussion on what they thought of neglected dogs, Kristina and Andrew argued over which kind of dog was better.

Nancy: What did you think of the neglected dogs on the show?

Kristina: Sad, but I am curious—what kind of dog was that in the beginning of the show? Was it a pit bull?

Nancy: Yes, a pit bull.

Andrew: I don't think it's a pure bred. It is a mix.

Nancy: You know a lot about dogs?

Andrew: Yes, my mom has two Chihuahuas. I don't like these dogs.

(While Nancy began to question the other students, Kristina moved her chair out of the semi-circle slightly and positioned herself to face Andrew privately, moving her body inward using small signs.)

Kristina: What?

Andrew: I thought you had a pit bull.

Kristina: No way! Not that kind of dog! Why did you think so?

Andrew: I thought I saw your mom at a park with a dog before.

Kristina: Oh, yeah. My mom was taking care of her friend's dog for a while when her friend was away on vacation. I am surprised you remembered.

(Andrew shrugged and turned away.)

In addition to being private, this conversation reflected a level of intimacy between Andrew and Kristina. Andrew and Kristina appeared to be close, perhaps

because both have deaf parents, share a similar culture, and are in the same grade at ASDB. In addition, the nature of their conversation appeared to implicate Vygotsky's Zone of Proximal Development (ZPD), which is defined as a mediation tool that people use to communicate, socialize, and stimulate their thinking process (Vygostky, 1978).

My second category related to the students' physical environment where their discussions took place. During the captioned program viewings, the students arranged their desks for the best, least-obstructed view of the television. However, after each program finished and its ensuing discussion started, the students rearranged their desks into a half-circle so that they were visible to one another. And, during the discussions themselves, the students continually jostled in order to make themselves more visible for points they wanted to emphasize. Lenny, for example, tried to get attention by jumping up and down in his chair and waving his hands. This sharply contrasts with classroom communications by hearing students, who use voice volume and inflection to emphasize points. Conversely, at different points in the discussions, some of the students "withdrew" by leaning or moving their chairs backwards, either because they did not want to participate or because they wanted to engage other students in private conversations on issues not appropriate for a large group discussion, such as using slang words or about funny sentences that were shown on television.

The last category I used was eye contact. Eye contact is very important for deaf students because their eyes make up for the absence of their hearing ability. It is considered rude if anyone, deaf or hearing, engages in a one-to-one conversation with a deaf person and does not establish an eye contact. Research has shown that mainstreamed students who are enrolled into deaf schools are less familiar with the use of

eye contact in communicating with deaf individuals (Ramsey & Padden, 1998). This is because, instead of actively participating in direct conversations with their peers, mainstreamed students are accustomed to watching the interpreter as their conversational gateway.

This phenomenon regarding the lack of eye contact from a mainstreamed student was evident with one of the students in the study, Brent. Throughout the discussions, Brent only watched the teacher, even when she was not signing at all. Brent's teachers stated that Brent had recently enrolled in ASDB from a hearing school and that Brent continually did not participate or pay attention in class. Brent's behavior accorded with previous studies showing that mainstreamed deaf students who go to a deaf school often do not know how to engage in class discussions because they never learned the social rules governing deaf classroom behavior and conversation, including turn-taking, eye contact, and face-to-face conversation (Padden & Ramsey, 1990). That study also showed that students who do not participate in classroom discussions and activities do not access the literacy or knowledge being discussed. Because of Brent's inattentiveness in class, he appeared not to benefit from the class discussions.

### ***Social Stratification***

Social stratification, or the process of status attainment or social mobility by which some people receive more resources than others, is the product of social differentiation and social evaluation (Barber, 1957). Studies in sociolinguistics show that an individual's communication is affected by several factors: setting, the role of the speakers; the individual's background and the formality of the situation (Grusky, 1994; Mendoza-Denton, 1999). The recognized social differences within the deaf community

include educational background, ASL ability or fluency, the extent of a deaf identity, and deaf community participation (Mirus & Keating, 2003). A strong sense of identity influences how people place a particular person in the community, status-wise (Rose, 2001; Kannapbell, 1985).

Within the context of the classroom discussions, I sought to ascertain the social stratification dynamics that the students presented. This included looking at “micro” level social interactions between the students to see how those particular interactions explicated larger, macro social processes, such as status relations and power.

The issue of social stratification and social status in the classroom was highlighted by the sharply contrasting behavior and attributes of two different students and the students’ reactions to them. One of the students, Brent, was withdrawn and reserved and did not exhibit the social attributes valued in deaf culture. He did not make eye contact with the other students, even when they were talking, and was continually disenfranchised from the class discussions. Brent’s teachers explained that, because he had just recently enrolled in ASDB, he did not have a strong deaf identity, and his ASL skills were rudimentary. As a result, the other students oftentimes did not pay attention to what little Brent said, which resulted in frustration to Brent.

In sharp contrast to Brent, Lenny participated zealously in every conversation and discussion. Coming from a deaf family, Lenny has a strong deaf identity and is fluent in ASL. Lenny had a visible command over the issues and discussions in class, and the other students showed high interest in Lenny’s comments and questions. For instance, in one session, Jackie raised her hand, waiting for the teacher to pick her, and Lenny just started to talk without waiting for his turn. Jackie did not complain, but waited patiently,

and then reinforced Lenny's social status as a class leader by asking him questions about what he had recently said. Lenny's social approach is considered as conversational inference where he assessed others' intentions, and on which he based his response to see how his classmates reacted to his interruption (Gumperz, 1977).

Other students who demonstrated leadership behaviors comparable to Lenny's included Andrew, Lauren, and Ted, all of whom had deaf families, were fluent with ASL, maintained good eye contact and body language, and possessed strong deaf identities. Positive social qualities such as these have been affirmatively linked with popularity within the deaf community (Padden & Humphries, 1987). Among other things, their fluency in ASL made them language "models" for other students with lesser ASL fluency.

Another social status characteristic within the deaf community, subsumed within ASL fluency, is fingerspelling (Blumenthal-Kelly, 1995). Fingerspelling plays a large role in a deaf person's sense of identity. A deaf person who fingerspells fast and smoothly with appropriate switching between signs and fingerspelling is considered to have a strong linguistic understanding of their primary language (Valli, 1998). Even the choice of which words to fingerspell, instead of sign, matters, as does the particular manner in which that word is fingerspelled. A person fluent in ASL can actually add inflection to the word spelled by the speed, rhythm, and hand positioning with which the word is spelled. For example, in a class discussion on slang, Ted braggedly spelled "t-h-e B-o-m-B," with emphasis placed on the first and last "B" of the word while de-emphasizing the letters "o" and "m" by segueing those letters into a single, smooth

movement. Another student said, “C-O-O-L” but fingerspelled it so fast that I missed the second “O.”

Another way in which fingerspelling denotes ASL fluency is in that, because of its speed, quickness, and visual “delicateness,” it is typically one of the most difficult aspects of ASL for a new person to understand. Indeed, one of the teachers did not feel comfortable participating in discussions in which the students fingerspelled a lot because, as she admitted, she still finds it difficult to read fingerspelling, especially the rapid fingerspelling exhibited by native ASL users.

In sum, I was able to observe the students exhibiting some of the various social characteristics shown to influence social status and stratification. Those social characteristics depended heavily on deaf identity and ASL fluency. The students appeared to place a positive value on those characteristics, albeit unconsciously, which directly impacted the structure of their social interactions.

### *Social Knowledge*

Finally, I observed the classroom interactions to see the extent of the students’ social knowledge and the degree to which it affected their interactions. Social knowledge is intertwined with schemas, which are cognitive structures that represent a person’s knowledge about things, people, or situations (Biocca, 1991), and which occur from experience and exposure to information or funds of knowledge. For instance, people who experience familiar events over time or experience something that is part of their culture at home or at school become more socially knowledgeable on it. People use schemas to organize knowledge, to assist recall, to guide behavior, to predict things that are likely to happen and to help make sense of our current experiences. According to schema theory,

our interpretation of television programs is guided by our application of relevant social schemas (Collins, 1981).

One particular conversation during our discussions aptly illustrates the application of the social knowledge theory. Michael was explaining to the class about “street talk” and slang:

B-o-m-B. You are cool! B-o-m-b-, rad. Serious ass. My brother always uses that word—you are bad, cool! My brother and I always talk about what words are cool and what words are not. His hearing school uses a lot of these words and teachers say nothing. If I use these words here, I get in trouble. It does not make sense.

Michael’s comments clearly demonstrate his knowledge not only of the slang words he was discussing, but also of the different social “standards” regarding their use. Specifically, by contrasting the fact that his hearing brother could use those words at his hearing school without threat of punishment with that Michael himself could not use those words at ASDB, Michael demonstrated knowledge, based on his perception and experience, of the different social expectations that the different schools placed on their students. In other words, Michael demonstrated familiarity with which words were socially acceptable to use in which environments

### *Summary*

In this chapter, I first addressed the question what the students discuss in their interactions after viewing a closed captioned program. I wanted to find out the students’ opinions or perspectives on the issues presented in each programs and what kind of

information or conversations those issues would trigger. I found that many of the students were more familiar with words in ASL than in English and that they were able to use linguistic interdependence to quickly make the sign-to-printed word connection. I also found that the students quickly mastered functional, communicative use of the words at issue, and forged unity of word meaning by using those words together.

In addition, the captioned programs triggered memories of experiences among the students. The students' discussions of those experiences was a form of co-construction in which they constructed meaning not only individually, but also collectively. Finally, I was able to gain insight on the role popular culture plays in the students' lives. They were motivated to discuss the various aspects of popular culture, and showed a typical teenage interest in wanting to be a part of it.

My second question was in relation to the social interactions that took place during the discussions. I wanted to find out about the social dynamics that took place following the program viewings. My observations were that the students' classroom interactions were governed by social norms and rituals, most particularly those applicable to deaf culture, such as having a strong deaf identity and ASL fluency. I also found that the students used ASL features as social markers to communicate whether they wanted their conversations to be public or private. Also, the students were adept at manipulating their physical environment to accommodate the nature of their conversation. I also was able to observe the phenomenon of social stratification in class, which I correlated with the presence of absence of certain social characteristics that positively influence social status. Finally, the students demonstrated social knowledge by using current words and

slang and by demonstrating familiarity with which words were socially acceptable to use in which environments.

Figure 5.1 indicates the influence of having discussions after viewing television programs shown in the classroom.

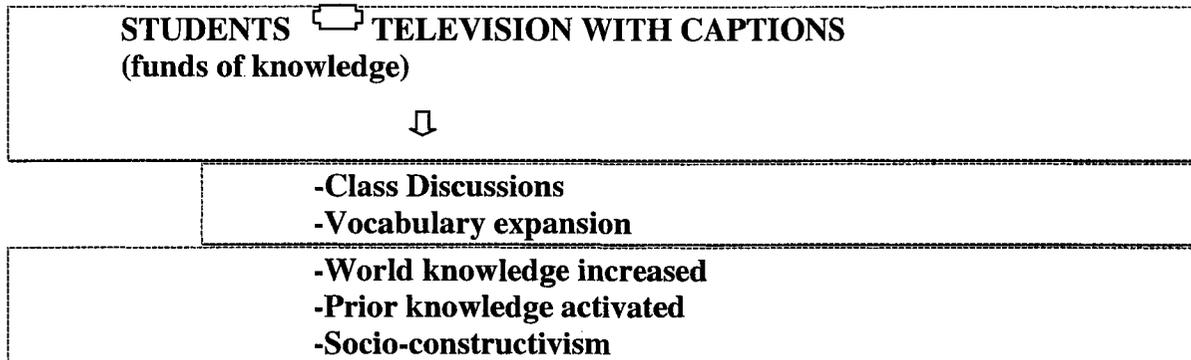


Figure 5.1: The Influence of Having Discussions

It was clear that having closed captioned television programs as part of a classroom instruction was one of many tools for cognitive development. A captioned television program is a tool by itself and it comes with many other tools such as students, teachers, languages, and culture. The type and quality of these tools determine the pattern and rate of cognitive development (Wells, 1999).

## CHAPTER VI

### INCREASING VOCABULARY KNOWLEDGE THROUGH CLOSED-CAPTIONING

My fourth and final research question was as follows: How does viewing a closed captioned program influence deaf and hard-of-hearing students' vocabulary comprehension? I asked this question because substantial vocabulary knowledge is indispensable towards being a capable reader (Anderson & Freebody, 1981; Beck, McKeown, McCaslin, & Burkes, 1979; McKeown, 1993). For years, educators have been trying to figure out how to help students increase their vocabulary knowledge (Graves, 2001). The need for a substantial vocabulary base is no less pressing in the case of deaf and hard-of-hearing readers (Furth, 1966; Hanson, 1982; King & Quigley, 1985; Marschark & Harris, 1996; Moores, 1987). This specific question was designed to see if it supports past studies that have shown that deaf people's vocabulary comprehension increased from viewing closed captioned programs (Braverman, 1981; Caldwell, 1981; Getson, 1979; Shroyer & Birch, 1980).

#### *Study Method and Procedure*

The study method I used to answer this question was a quasi-experimental design. First, I selected 10 different captioned programs that spanned across a number of substantive areas, from documentaries to situational comedies. I showed the study participants two programs per week. Prior to each showing, I gave the students a pre-test containing five vocabulary words that were used at least three times in the upcoming

showing. In that pre-test, the students were asked to define each word and use it in a sentence. Figure 6.1 shows a copy of a pre-test that was used.

*Vocabulary Activity #5*

-obvious	-rescue	-condition
-evict	-rush	

**SKILL 1: Examples**  
Read examples below

1. It was obvious that John was tired because he fell asleep at 7 p.m. last night.
2. Sara was evicted from her apartment because she did not pay rent for three months.
3. Please rescue the dog stuck on the roof.
4. Please rush and get mom now because I am going to throw up.
5. What is the dog's condition after being hit by a truck?

**SKILL 2: Definition**  
Write definition for each word.

1. obvious-
2. evict-
3. rescue-
4. rush-
5. condition-

*Figure 6.1: Pretest/Posttest Activity*

After completing the pre-test, the students then watched the captioned program.

After watching the captioned program, I gave the students the exact same test that they had taken, which they then completed again. At no point during this entire process—

from commencement of the pre-tests to the conclusion of the post-tests—did anyone define, explain, or otherwise assist the students. In addition, no student conversation or discussion was permitted during this time. By correlating their pre-viewing vocabulary scores with their post-viewing scores, I was able to determine whether the captioned viewing had any impact on their vocabulary comprehension.

### *Findings*

A comparison of pre-and post-test scores demonstrated that the students did in fact learn new words from watching captioned programs. Tables 6.1 to 6.10, shown below, indicate that the students' vocabulary scores increased after each captioned program viewing, some significantly more than others. Each table contains the name of the program shown, the vocabulary on which the students were tested, and their pre-and post-test scores. The pre- and post-test scores indicate the number of students who correctly defined the word. The tables also contain two percentage calculations, with the first, absolute percentage increase (API), referring to the number of students who correctly defined the word in the post test, as contrasted to the number who defined it correctly in the pre-test. The second, overall percentage increase (OPI), refers to the total percentage increase in correct word definition among the group as a whole, including those who did not define it correctly in either the pre- or post-tests. The OPI also represents the percentage of students who learned the word from the captioned program itself. (All expressed percentages have been rounded to the nearest percentage point.) In addition, because not all of the 13 study participants were present for each viewing and its accompanying test(s), I also list the number of participants present for each particular viewing.

The first program shown was “Sister, Sister” from the Disney Channel. As Table 6.1 shows, after viewing the program, five out of 13 students correctly defined *critical* while, prior to the program, only one student correctly defined it. *Critical* is an abstract concept, and yet four students were able to glean its meaning from the context of the captions and, more generally, the program itself. In addition, five students learned the word *eavesdropper* just from watching the captioned show. Interestingly, nine out of thirteen participants knew the definition for *the bomb* before watching the show.

TV Show: Sister, Sister (Disney Channel): 13 students

TEST #1	Pretest	Posttest	Increase	API	OPI
Awkward	5	5	0	0	0
Eavesdropper	4	9	5	225	39
Complicated	2	4	2	200	15
The bomb	9	10	1	111	7
Critical	1	5	4	500	31

**Table 6.1: Session #1**

The second program was “Animal Cops,” from the Animal Planet channel. As table 6.2 shows, the number of students who could define *legal* after watching the show jumped from two to six.

TV Show: Animal COPS (Animal Planet)- 12 Participants

TEST #2	Pretest	Posttest	Increase	API	OPI
Concerned	5	7	2	140	17
Container	5	6	1	120	8
Forbid	4	6	2	150	17
Legal	2	6	4	300	33
Surrender	8	9	1	113	8

**Table 6.2: Session #2**

The third program, “Venom ER” from the Animal Planet channel, resulted in five students learning the word *venom*. That word appeared 14 times in this 30-minute segment, which probably explains the striking increase in number of students able to define it.

TV Show: Venom ER (Animal Planet)- 13 Participants

TEST #3	Pretest	Posttest	Increase	API	OPI
Venom	3	8	5	267	38
Dusk	3	3	0	0	0
Blister	8	11	3	138	23
Victim	2	4	2	200	17
Fang	6	6	0	0	0

**Table 6.3: Session #3**

Tables 6.4 and 6.5, which graph the test scores related to showings of Animal Rescue and Max Keebler, respectively, indicate that many of the students were knowledgeable of the words prior to the viewings. Nonetheless, the number who could define “condition” jumped from one to five and, for “phat,” from four to 10. The scores related to “phat” in particular show that deaf children acquire slang and popular expression from watching captioned programs.

TV Show: Animal Rescue (Animal Planet)- 11 Participants

TEST #4	Pretest	Posttest	Increase	API	OPI
obvious	1	4	3	400	27
Evict	6	6	0	0	0
Rescue	7	7	0	0	0
Rush	8	9	1	113	9
condition	1	5	4	500	36

**Table 6.4: Session #4**

TV Show: Max Keebler (ABC Family)- 13 Participants

TEST #5	Pretest	Posttest	Increase	API	OPI
mission	3	5	2	167	17
Defeat	9	9	0	0	0
obsessed	7	9	2	129	17
Goofy	10	11	1	110	8
Phat	4	10	6	300	46

**Table 6.5: Session #5**

For the sixth session, the participants knew almost all words except for *hurl* and *claustrophobic* (see Table 6.6.) The table shows that seven out of thirteen participants learned the word *hurl* after watching the Max Keebler movie. In other word, 54% of the

students learned the word from the show. Several participants guessed the meaning for *claustrophobic* by writing down *afraid, mad, and crazy*.

TV Show: Max Keebler (ABC Family)- 13 Participants

TEST #6	Pretest	Posttest	Increase	API	OPI
Filthy	8	9	1	113	8
claustrophobic	0	3	3	N/A	23
Hurl	3	10	7	333	54
Tardy	7	10	3	142	23
Bully	11	12	1	109	8

**Table 6.6: Session #6**

Tables 6.7 through 6.10 set forth the results for the last four captioned programs.

TV Show: Sister, Sister (Disney Channel)- 13 Participants

TEST #7	Pretest	Posttest	Increase	API	OPI
suffer	5	7	2	140	17
Thong	7	7	0	0	0
scatter	2	4	2	200	17
broadcast	3	9	6	300	46
generation	3	6	3	200	23

**Table 6.7: Session #7**

TV Show: Animal Cops (Animal Planet)- 13 Participants

TEST #8	Pretest	Posttest	Increase	API	OPI
flexible	2	2	0	0	0
swear	4	7	3	175	23
evident	4	6	2	150	17
impression	1	7	6	700	46
sermon	0	4	4	N/A	31

**Table 6.8: Session #8**

TV Show: The Crocodile Hunter (Animal Planet Channel)-8 Participants

TEST #9	Pretest	Posttest	Increase	API	OPI
Ego	0	0	0	0	0
Dread	0	0	0	0	0
Gloat	2	6	4	300	50
border	4	5	1	125	13
Halt	6	6	0	0	0

**Table 6.9: Session #9**

TV Show: The Forensic Fraud (History Channel)- 13 Participants

TEST #10	Pretest	Posttest	Increase	API	OPI
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Glamour	4	4	0	0	0
Intervention	1	6	5	600	38
Addicted	2	3	1	150	8
Challenge	3	3	0	0	0
Inspired	0	2	2	N?A	17

**Table 6.10: Session #10**

### *Overall Results*

The overall conclusion to be drawn from the pre- and post-test scores is that the students did learn new words from the captioned programs. As the tables also show, the words learned spanned the spectrum between concrete (e.g., *venom* and *sermon*) and abstract (e.g., *evident*, *generation*, *impression*). The lowest number of words learned was during test #9, when a videotaped segment from the Discovery channel was shown, and which resulted in only five total words learned. A possible contributing factor to this low number may be that only eight students took the tests.

### *Comparisons between Two Students*

Figure 6.3 charts the vocabulary increases demonstrated on the pre-and post-tests by two students that I selected because of their home exposure to closed captioning. Namely, the two students (Jackie and Michael) do not have captioning enabled at their homes continuously because their parents or siblings find them annoying. Perhaps because of his limited exposure to captions, Michael expressed to me his frustrations at sometimes being unable to keep up with the speed with which captions are displayed on television:

It is very hard to keep up with the captions. The captions keep on changing too fast (line by line) for me. I am frustrated. I don't know how people can read the captions and enjoy seeing the pictures (images) at the same time.

Generally, for Michael, the test results showed that he was familiar with 17 of the

50 prior to viewing, and then 33 out of 50 post-viewing (16 new words learned in total). Jackie knew 21 words pre-viewing and 34 post-viewing (13 new words). The percentage increase for each student is evident in two different ways: first, the increase in total words known (e.g., 34% to 67% for Michael, a 32% increase), and the increase solely along words not known prior to viewing (e.g., from 0 to 48% for Michael).

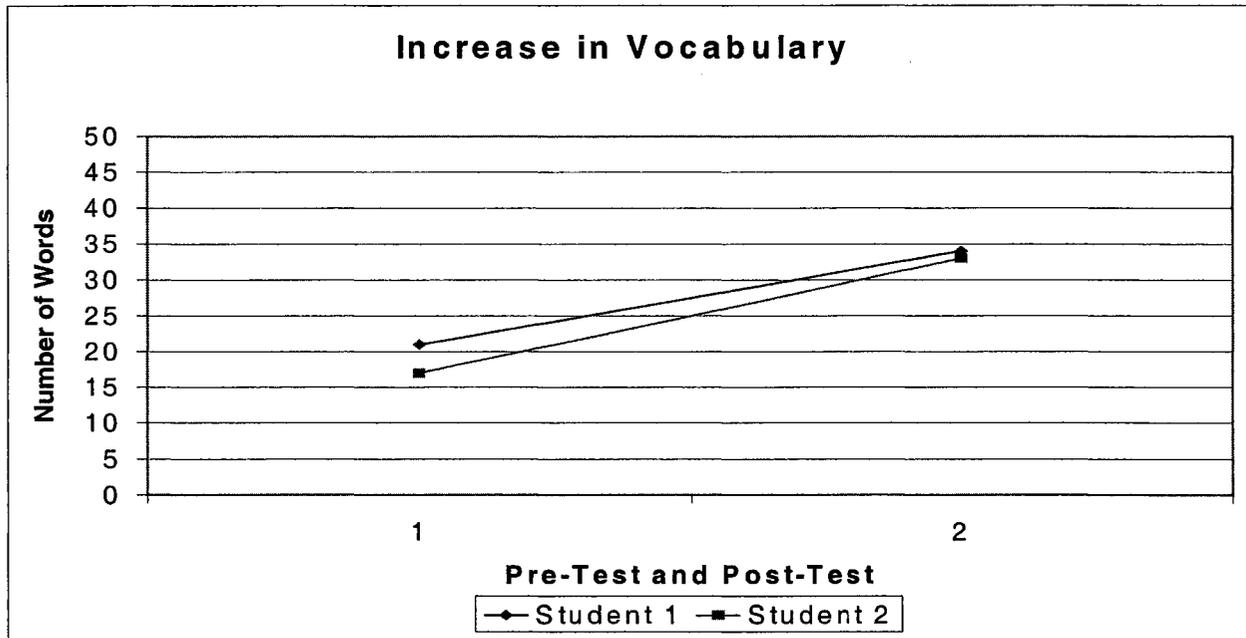


Figure 6.2: Comparisons Between Two Students

After the study was completed, I asked Michael if he now felt more comfortable reading the captions and watching the images on the screen. He nodded his head and said he was disappointed that the study was over because he truly enjoyed watching TV segments with his classmates.

### *Summary*

This chapter addressed the results of the pretests and posttests in which showed that the participants learned new words from the captioned programs. There were some words

that many participants learned from watching the video programs such as broadcast, impression, hurl, and venom.

I also showed the comparisons between Michael and Jackie's pretests and posttests because of their limited access to closed captioned programs at home. Their vocabulary knowledge increased from watching closed captioned programs during the study.

Overall, the participants' vocabulary comprehension increased from watching captioned television programs.

## CHAPTER VII

### IMPLICATIONS FOR FUTURE RESEARCH

In an effort to discuss what I found during this study, I first summarize the research findings described in the previous three chapters, as well as identify which of these findings confirm existing theory and research. I then identify contributions to the emerging field of closed captioning and deaf literacy. After that, I present a discussion on the limitations of the study and share implications for education and suggestions for future research.

#### *Summary of Findings*

The purpose of this study was to examine how closed captioning influences literacy development among deaf and hard-of-hearing students. Because television is almost universally attractive to both hearing and deaf children, I was particularly interested in exploring the idea of using closed captioning as a tool for literacy development.

Media literacy first became accessible for deaf people with the introduction of closed captioning in the early 1980's. About that time, people started to research the potential application of closed captioning to foster literacy among deaf children (Koskinen, Wilson & Jensema, 1985; Jensema, McCann & Ramsey, 1996; McInerney, Riley, & Osher, 1999). Research since then has shown that captioning, with its attendant visual images, motivates deaf children to develop reading skills (Shettle, 1996), and improves deaf children's reading rates, sight word vocabulary development, and reading comprehension (Alder, 1985; Koskinen, 1986; Neuman & Koskinen, 1992). By my

study, I hoped to add to the body of research indicating that captioning does in fact help deaf children become fluent readers and writers.

I conducted my study by using a mixed research method, which utilizes both qualitative and quantitative methods. Based on the current literature review on closed captioning, I created the four following questions to frame my analysis:

1. What are the students' perspectives on literacy at home, at school, and in the community?
2. How does closed captioning influence the responses of deaf and hard-of-hearing students to a video program?
3. What do the students discuss when interacting after viewing a closed captioned program?
4. How does viewing a closed captioned program influence deaf and hard-of-hearing students' vocabulary comprehension?

My study was conducted with 13 middle school students at Arizona School for the Deaf and Blind (ASDB) and lasted for 10 weeks. It consisted of 10 captioned program showings, each of which was preceded and followed by the same test using five vocabulary words that were included in the particular video being shown. At the conclusion of each post-test, we had a class discussion on the television program recently viewed. I observed those discussions to find out not only how the captioned programs affected their discussions but also their interactions. The average time spent per session was an hour and fifteen minutes except for two days which were longer due to interviews with the students and teachers.

The data that I was able to obtain through the pre- and post-tests, field notes, transcripts, interviews, and videotapes gave me a specific understanding on the influence closed captioning can have on developing literacy among deaf and hard-of-hearing children.

The goal for my first research question was to learn about the participants' perspectives on literacy at home, in school, and in the community. I identified three different kinds of communication that the students experienced at home with their families: minimal, functional, and thought-provoking. Based on Halliday's *Language Functions* (1975), the participants fit in different language functions, depending on their access of communicative language at home. For example, Lourdes and Lenny engage in thought-provoking communication at home because of their household use of ASL while Michael and Corina use functional communications at home.

The participants spent approximately 2.5 hours watching television at home, which approximated the Kaiser Foundation's survey in 2002, which showed that the average child watched slightly more than three hours per day. Eight out of 13 participants were busy with after school sports, thus making their available time limited for television viewing at home. Six out of the 13 participants did not have captions enabled at home, even though they all have television sets with the closed captioning feature. The captions in those six households were disabled for reasons found by Jensema and Sharkaway, et al (2000) in their study of the eye movement patterns of hearing viewers who found captions distracting.

Three of the students—Lauren, Lourdes, and Corina—said that they used the contextual clues provided by television pictures and images to figure out the meanings

for captioned words with which they were not familiar. The participants apparently figured out the meaning of captioned words by studying the visual images to capture contextual clues. This was an example of transactional literacy, or their interacting with text and images to construct meanings (Hawkes, 1993; Whitmore & Martens, 2004).

Most of the participants felt that closed captioning should be included in classroom instruction because it helps them learn new words and generally learn how to read. However, in their retrospective interviews, two participants, Corina and Lauren, felt that closed captioning should not be part of a school's curriculum because they thought that captions are frequently grammatically inaccurate. Lauren said she believed that reading captions on television is not equivalent to reading books because with television, she does not feel the need to make an effort to read. In short, Lauren thinks that reading captions is too "fun" to count as real reading. On a slightly different subject, Lauren and Corina felt that ASL was not equivalent to English and that English was more important because it has a written language while ASL does not. This language attitude reflected low expectation of their language (Lane, 1992). Finally, Chris' and Lenny's writings and illustrations when defining words reflected the dual-coding theory, which is that a reader can use different mental routes or processes to recognize or recall words (Castles & Coltheart, 1993; Coltheart, 1980).

For the second research question, I sought to find out what the students discuss in their interactions after viewing a closed captioned program. The participants engaged in numerous class discussions on captioned words where they made connections between words and ASL. The students knew the words in ASL, but not in their printed English form. By using their ASL understanding of the word to inform their English

understanding of it, the students employed Cummins' (1986) linguistic interdependence theory.

In addition, captioned programs triggered the participants' personal experiences, which they then shared with the class. Sharing those experiences helped their reading, constructing, and performing development (Cooper & Anderson-Inman, 1988). Finally, I wanted to see whether the discussions would reveal the students' familiarity with or interest in popular culture, which generally is attractive to American teenagers (Clark, 1999). The participants had many "pop culture moments" where they were using slang and other words reflective of pop culture, like blast, rad, and phat. A likely source of their familiarity with greater popular culture is television.

For the third research question, I wanted to find out more about the social dynamics among the students that took place following the program viewings. The social stratification was apparent between Brent and Lenny because Brent enrolled in ASDB from a public school not long ago with little understanding of being deaf (Mirus & Keating, 2003), and his ASL skills were rudimentary. Moreover, he never made eye contact with other students during class discussions. This finding supports Ramsey and Padden's (1998) study on mainstreamed students' inability to maintain eye contact with other students during class discussions.

For the last research question, I wanted to see if the participants learned new words from watching captions on television. The findings confirmed that the students did in fact learn new words from the captioned programs.

### *Implications for the Field*

Based on my review of the literature, I have determined that there are at least four important contributions to this field that this study makes in addition to those already mentioned. First, the study shows that deaf students eagerly make connections between printed text and ASL through class discussions after watching television shows. Second, closed captioning programs show the importance of making connections of printed English and ASL. Third, the study shows the students' prior knowledge gained through captioned television. Fourth, the results of the pretests and posttests show that the participants did learn new words from watching captioned television shows without any external influences.

My study findings reflect a disagreement with Hirsh's (1988) theory that television requires only passive thinking. This is because the participants were engaged in the tri-level literacy framework (functional literacy, cultural literacy, and critical literacy (Freire & Macedo, 1987)) throughout the study. The students experienced functional literacy while watching closed captioning. Then, they experienced the combination of cultural and critical literacy during the discussions in which they shared their background knowledge to appreciate the cultural or contextual significance of new literature (Harris & Hodges, 1995). In addition, they continuously analyzed and critiqued the relationships among texts, language, social groups, and social practices behind a given message (Erting, 1981, 1985; Capizzi-Snipper, 1990). All of these literacies were circulated through the means of media literacy (Hobbs, 2005).

In addition, my study reinforces past research that shows the cognitive advantage of using ASL and printed English as mutual reinforcement and towards developing

metalinguistic skills through language uses, knowledge bases, and varied experiences (Slobin, et, al., 1999). The study participants made ASL-to-print connections through two means: class discussions and writing. The participants demonstrated the ability to transfer the knowledge and understanding of one language to another (Cummins, 1976).

Furthermore, closed captioning is a excellent tool to activate prior knowledge among deaf students (Koskinen, Wilson, Gambrell, Neuman, 1993; Shettle, 1996). This study supports those prior studies because of the students' prior knowledge being activated through class discussions, and because the captioned programs on many occasions "triggered" the students' prior knowledge and life experiences, which they then discussed.

Finally, the study supports past research on how closed captioning helps deaf and hard of hearing students' vocabulary development (Alder, 1985; Koskinen, 1986; Neuman & Koskinen, 1992). The results of the pretests and posttests show the amount of the words the participants learned from watching television. Given those test scores, the use of closed captions to increase vocabulary development cannot be dismissed. One must wonder what it would be like if all deaf children had access to closed captioning at young ages.

### ***Implications for the Educators***

Closed captioning, as part of media literacy, is a motivating tool for teachers to use in the classroom. The implementation and utilization of media instruction in the classroom will reflect the benefits of deaf students' literacy development. Instead of exposing media materials to the students, the teachers need to focus on the four aspects of media literacy: access skills, analysis skills, evaluation skills, and creation skills (Hobbs,

2005). Table 7.1 shows examples of how closed captioning pertains to each of those four aspects.

<i>MEDIA LITERACY</i>	<i>EXAMPLES</i>
Access skills	Reading captions on television
Analysis skills	Class discussion on what the students watched. Ask questions about the content of a story on television
Evaluation skills	Small group discussions, writing up a comparative analysis paper on selected words seen on television.
Creation skills	Students re-create storylines for the already seen television program.

Table 7.1: Media Literacy skills

According to Vygotskian principles, learning and development in the classroom is a social and collaborative activity that cannot be “taught” to anyone. It is up to the student to construct understanding in his or her own mind, and it is during this process that the teacher acts as a facilitator (Wells, 1999). Class discussion activities are a child-centered form of education in which the students engage in dialogue on matters that interest them; it is during those discussions that the teachers, as facilitators, can help the students draw upon their students’ personal experiences and funds of knowledge. This interaction with others is an important component of reading instruction for increasing motivation and comprehension (Guthrie & Ozgungor, 2002).

Most importantly, educators need to think about how to incorporate closed captioning in the curriculum. This entails training teachers in three areas: parent training, parent collaboration, and teacher training. The most important step to ensure that deaf children are able to read captions at young age is to teach parents how to “read” the captions with their deaf children through word identification, interpretation of phrases, and summarization of stories or situations while watching television. The parents need to know that they should not feel as if they need to interpret every word shown on television because the children need to be able to figure out the connections between visual images and captions on their own.

The teachers need to know how to encourage families of deaf and hard-of-hearing students have access to captioned television programs at home, as well as how to design or include homework activities related to television in order to promote parent participation in the closed captioning experience. This, in turn, will help students activate prior knowledge, and, at the same time, share the funds of knowledge with their parents during the interaction of television related activities.

Finally, teachers need to have in-service training on how to include closed captioned television programs in their classroom instruction, such as how to engage in a meaningful class discussion, how to create activities pertaining to television programs, and how to look for contextual clues from reading captions.

### *Limitations of this Study*

This mixed research project using both qualitative and quantitative approaches had several limitations. First, the study consisted of 10 sessions that took place over the course of five weeks. A longer study conceivably would have generated a greater body of data or more specific results. The short time frame of my study may have hindered the development of better data collection and overall results.

Second, this research centered on a relatively small pool of student participants. It included only 13 students and two teachers, which could have made the pre- and post-test results somewhat undeveloped. I originally wanted to include more students but it was not possible because of how small ASDB is. In addition, some teachers were hesitant to let me conduct a study with their students because of the amount of time they assumed I would take.

Third, because of my limited role as a researcher, I could not access other information relating to the study participants' literacy skills that would have allowed me to better isolate closed captioning as the possible cause of their overall literacy development. Finally, I could have had two control groups by having another group of hearing participants as part of the pre- and post-test studies for the purpose of identifying similarities and differences in test results between the two groups. This would have allowed me to better determine whether closed caption uniquely benefits deaf children to a greater degree than it does the hearing population at large. I also should have included class discussions with hearing students to see what topics they generated related to television shows, popular culture, and the general media.

### *Conclusion*

While I was doing the data collection, I became very excited with the amount of crucial information I got from the participants but I did not realize what kind of impact the information had on me. I was personally affected in five ways: the results of the vocabulary increase based on pretests and posttests, the ignorance among some parents of deaf students, the importance of making connections between ASL and English, the influence popular culture has on deaf middle school students, and the future possibilities of more studies on closed captioning and multi-literacies.

First, the vocabulary increase for some words, as reflected by the pre- and post-tests were high, which I felt confirmed my initial instinct that closed captioning does contribute to deaf children's vocabulary development. Further, the category of absolute percentage increase (API) potentially indicates the existence of an unexamined phenomenon related to captioning, which is that, since captioning provides students with a largely indiscriminate array of words, it may to a greater degree expose students to words to which they would otherwise not be exposed.

Second, I was stunned when some participants told me how their parents would turn off the captions on television. It was outrageous because to me, it was equivalent to turning off the volume for a hearing television viewer. People eventually get used to something that is beyond their control at some point of their lives. For instance, a television network, *Headline News*, has ongoing captions that are shown on the bottom of every television screen at all times and no one can turn it off. It should be the same for closed captioning. This is something that parents must be educated as soon as they discover their children's deafness.

Thirdly, I enjoyed participating and watching class discussions between the participants. The discover of the participants making connections between ASL and English was incredible. Based on my past studies, I knew the importance of making connections between two languages but I never realized how closed captioning can be a great asset in making this happen in classrooms.

The fourth way is that the class discussions also generated interesting conversations about popular culture. The participants were very motivated to be part of these discussions because it was about something that are important to them as teenagers, just like their hearing counterparts. Popular culture must not be disregarded for deaf adolescents at schools, especially when we want to motivate them to excel in reading, writing, and interacting with their peers, teachers, and families. Most importantly, this study showed me that the participants increased their knowledge about what are cool, popular, and important to teenagers through captioned television programs. I think that is exciting, considering that deaf people gain a better understanding of how hearing people talk, behave, and interact with one another through the means of watching captioned television programs.

The fifth way is that this study helped me generate more research possibilities related to closed captioning and multi-literacies. We live in the generation where people know at least two or three languages, especially in the United States. This brings up a crucial point that closed captioning is beneficial not for only deaf and hard-of-hearing people, but also for second or third language learners who move here from other countries. Moreover, we can study how closed captioning works in other countries such as Sweden, Finland, and Denmark. This is an eye-opening field of study and it is

something that I strongly feel that the educators need to focus more on how to incorporate or promote closed captioning in schools for second language learners.

Lastly, I feel I cannot emphasize enough on how important closed captioning is for deaf children. The study confirmed my instincts—that there is a relationship between closed captioning and literacy. Closed captioning opens up a world of knowledge for deaf and hard-of-hearing students. As a deaf person and as a mother of a deaf son, I simply cannot fathom not having closed captioning.

**APPENDIX A****PARENTAL INFORMED CONSENT FORM****STUDY:****The Relationship between Closed captioned programs and Deaf and Hard-of-Hearing Students' Literacy Skills**

I AM BEING ASKED TO READ THE FOLLOWING MATERIAL TO ENSURE THAT I AM INFORMED OF THE NATURE OF THIS RESEARCH STUDY AND OF HOW I WILL PARTICIPATE IN IT, IF I CONSENT TO DO SO. SIGNING THIS FORM WILL INDICATE THAT I HAVE BEEN SO INFORMED AND THAT I GIVE MY CONSENT. FEDERAL REGULATIONS REQUIRE WRITTEN INFORMED CONSENT PRIOR TO PARTICIPATION IN THIS RESEARCH STUDY SO THAT I CAN KNOW THE NATURE AND RISKS OF MY PARTICIPATION AND CAN DECIDE TO PARTICIPATE OR NOT PARTICIPATE IN A FREE AND INFORMED MANNER.

**PURPOSE**

My child is being invited to participate voluntarily in the relationship between closed captioned programs and deaf and hard-of-hearing students' literacy skills. The purpose of this project is to investigate how closed captioning on a video program affects deaf and hard-of-hearing students' language use and their reading and vocabulary comprehension. The study is a way to observe, learn and determine specifically what features from the closed captioned programs actually reinforces deaf and hard-of-hearing children's literacy skills.

**SELECTION CRITERIA**

My child is being invited to participate because she/he is part of a language arts class where the teachers are able to use closed captioned programs as part of their instruction. Approximately 10-15 subjects will be enrolled in this study.

**STANDARD TREATMENT(S)**

If your child does not participate in the study, he/she will watch the closed captioned programs with other students but will not be filmed at all. Your child will also not take the pre/posttests. During that time, your child will do her/his assigned class work given by her/his teachers.

**PROCEDURE(S)**

If I agree to let my child to participate, I will be asked to consent to the following: videotaping every set of entire closed captioned activities. The activities include a set of vocabulary words from a closed captioned program on the pretest and posttest, participants retell what they saw on a closed captioned program, participants write down what they viewed on a closed captioned program and participants engage in a group discussion pertaining to the closed captioned program.

The data collection procedure will be:

1. Videocameras will be set and used in the classroom throughout the whole procedure.
2. Pretest: Participants will be asked to write down a definition for each word based on their knowledge. There will be a list of at least five words that will appear on the closed captioning program that they will watch. (These five selected words will be chosen in advance by the investigator and the investigator will choose words that appear on the closed captioning program at least three times.)
3. Participants will watch a selected thirty minute television program with closed captions.
4. The participants will take the posttest that contains the exact same words from the pretest.
5. Each participant will be asked to retell the story that was shown on the program. Each participant will do that in front of a videocamera without anyone looking at her/him.
6. Each participant will be asked to write what they saw/learned from the program.
7. Participants will engage in a group discussion on the program. The investigator will observe their discussion as well as video their discussion and interactions.
8. The investigator will have an informal interview with each participant on their experience with closed captioning programs (their background with closed captioning programs, their interests, how often they watch television, how they learned to read captions, and more closed captioning related questions).

### **RISKS**

The risk from the study for my child might be about how he/she wants to watch more closed captioned programs. My child will be explained that the study is being done for a short time. The decision to participate or not will not impact your child's grade in the class in any way. There is no grading plan for the study by the teachers. If there is any concern that I might have, I have the right to e-mail the principal investigator, Nancy Hlibok Amann, at [namann@email.arizona.edu](mailto:namann@email.arizona.edu) or call her advisor, Dr. Kathy Short, at (520) 621-1311.

### **BENEFITS**

The benefit from the study is that the participants would possibly learn more from viewing and discussing contents from closed captioned programs. Also, the participants would probably find closed captioned programs enjoyable and informative.

### **CONFIDENTIALITY**

All data from the study will be stored in Language, Reading and Culture's office at University of Arizona. Once the data is fully analyzed, it will be destroyed by the investigator. The investigator will be the only one who has access to the data and my child's name will be replaced with a fictitious name for any future publications.

## **PARTICIPATION COSTS AND SUBJECT COMPENSATION**

There are no costs to the subjects who are involved in the study. The investigator will have a pizza party for the subjects and their teachers after the study is completed.

## **CONTACTS**

I can obtain further information from the principal investigator, Nancy Hlibok Amann, Ph.D. Candidate at (520) 621-1311. If I have questions concerning my child's right as a research subject, I may call the Human Subjects Committee office at (520) 626-6721.

## **AUTHORIZATION**

BEFORE GIVING MY CONSENT BY SIGNING THIS FORM, THE METHODS, INCONVENIENCES, RISKS, AND BENEFITS HAVE BEEN EXPLAINED TO ME AND MY QUESTIONS HAVE BEEN ANSWERED. I MAY ASK QUESTIONS AT ANY TIME AND I AM FREE TO WITHDRAW FROM THE PROJECT AT ANY TIME WITHOUT CAUSING BAD FEELINGS. MY PARTICIPATION IN THIS PROJECT MAY BE ENDED BY THE INVESTIGATOR FOR REASONS THAT WOULD BE EXPLAINED. NEW INFORMATION DEVELOPED DURING THE COURSE OF THIS STUDY WHICH MAY AFFECT MY WILLINGNESS TO CONTINUE IN THIS RESEARCH PROJECT WILL BE GIVEN TO ME AS IT BECOMES AVAILABLE. THIS CONSENT FORM WILL BE FILED IN AN AREA DESIGNATED BY THE HUMAN SUBJECTS COMMITTEE WITH ACCESS RESTRICTED TO THE PRINCIPAL INVESTIGATOR, NANCY HLIBOK AMANN OR AUTHORIZED REPRESENTATIVE OF THE LANGUAGE, READING AND CULTURE DEPARTMENT. I DO NOT GIVE UP ANY OF MY LEGAL RIGHTS BY SIGNING THIS FORM. A COPY OF THIS SIGNED CONSENT FORM WILL BE GIVEN TO ME.

\_\_\_\_\_  
Subject's Name

\_\_\_\_\_  
Parent/Legal Guardian (if necessary)

\_\_\_\_\_  
Date

## **INVESTIGATOR'S AFFIDAVIT**

I have carefully explained to the subject the nature of the above project. I hereby certify that to the best of my knowledge the person who is signing this consent form understands clearly the nature, demands, benefits, and risks involved in his/her participation and his/her signature is legally valid. A language or educational barrier has not precluded this understanding.

\_\_\_\_\_  
Signature of Investigator

\_\_\_\_\_  
Date

APPENDIX B

129  
APPROVED BY UNIVERSITY OF AZ IRB  
THIS STAMP MUST APPEAR ON ALL  
DOCUMENTS USED TO CONSENT SUBJECTS.  
DATE: 4/7/04 EXPIRATION: 4/7/05

MINOR ASSENT FORM

Your parent/guardian has given permission for you to participate voluntarily in the research study, "The Relationship between closed captioned programs and Deaf & Hard-of-Hearing Students' Literacy Skills." You do not have to participate if you do not want to.

The study is being conducted by, Nancy Hlibok Amann. She is a graduate student in Language, Reading and Culture Department at the University of Arizona. This study will help her to understand what happens when you watch and discuss the closed captioned programs in class. She will use video-cameras to record your conversations with your teachers and classmates. You will take a pre-test that has a list of words that are on a closed-captioned program then you will watch a closed captioned program for 30 minutes. After watching the program, you will take a post-test that has the same list of words as the pre-test. Ms. Amann will videotape you as you retell what you watched on television. You and your classmates will have a discussion on the closed captioned program after you complete the post-test and retell portions. In the end, Ms. Amann will ask you to write what you saw on the program. Ms. Amann requests that you allow her to keep your written work for the study.

The study will be done twice a week in class for a total of three hours each week, over an eight week period. You might want to watch the programs during your free time because you might be interested in reading captions more.

No one in the study will be named in any of future publications. You will be given a fictitious name and the videotapes will be destroyed once the investigator completes the data analysis.

If you do not feel comfortable letting Nancy Hlibok Amann use video-cameras and other data collection instruments, you can withdraw from the study at any time. If you choose not to participate in the study, you will continue to watch the closed captioned programs but you will not take the pre-tests and post-tests, or be video-recorded. During that time, you will read assigned books or do class work given by your teachers. It is your decision to participate in this study and if you do not want to be part of the study for any reason, it will not affect your school grade at all.

The above statement was read and understood by the participant, and I give my permission to be a participant of the study.

\_\_\_\_\_  
Participant's signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Nancy Hlibok Amann, Investigator

\_\_\_\_\_  
Date

**APPENDIX C**  
**LETTER TO PARENTS**

April 7, 2004

Dear Parents/Guardians:

I am a graduate student in the Language, Reading and Culture and Anthropology Department at University of Arizona. I am conducting a study on the relationship between closed captioned programs and Deaf and Hard-of-Hearing students' literacy skills. The study will be done in Ms. Pam Meinhardt and Ms. Susan Pearson's class at the Arizona School for the Deaf twice a week for eight weeks this Spring. I am requesting your permission for your child to participate in this study.

This study is to investigate how closed captioning on a video program affects deaf and hard-of hearing students' language use and their reading and vocabulary comprehension. The study is a way to observe, learn and determine specifically what features from the closed captioned programs actually reinforces deaf and hard-of-hearing children's literacy skills.

The study will employ a mixed research method with pre and post-tests comprising the quantitative research component and with field notes, observation, informal interview, the analysis of students' talk, written work and retell portions constituting the qualitative research portion. Your child will be videotaped from the beginning of the pre-test until the end of her/his participation in a group discussion after viewing a closed captioned program.

The findings from the study might help researchers and educators include, utilize and revise captioned programs in their current curriculum in school systems. The study might also benefit future funding for advanced multimedia technologies to be implemented in classrooms. In addition to that, your child might acquire more literacy skills from watching closed captioned programs.

The risk from the study for your child might be how he/she wants to watch more closed captioned programs. If there is any concern that you might have about this, you can e-mail me at [namann@email.arizona.edu](mailto:namann@email.arizona.edu) or you can call my advisor, Dr. Kathy Short, at (520) 621-1311.

If you agree to let your child participate in this study, please read and sign the attached consent form by April 19, 2004. Your child will be asked to sign an assent form after I explain about my study in class. Your child will be informed of her/his right to withdraw from the study at any time.

I hope you will give me an opportunity to conduct this exciting study for my dissertation. I will be more than happy to share the outcome of my study after I complete my dissertation. If you have any questions, feel free to e-mail me at [namann@email.arizona.edu](mailto:namann@email.arizona.edu) or call me at (520) 615-2160 (TTY).

Thank you.

Sincerely yours,

Nancy Hlibok Amann

**APPENDIX D**  
**INTERVIEW QUESTIONS**

Interview Questions:

1. What is your name?
2. How old are you?
3. What grade are you in?
4. What is your favorite subject? Why?
5. What do you like to do after school?
6. What do you usually do during summer vacation?
7. What is your favorite sport? Why?
8. How old did you start watching television?
9. Do you have a television with closed captions? If so, for how long?
10. Do you understand captions on television? If not, do you watch television anyway? If so, what kind of TV shows do you like to watch?
11. How did you learn to “read” captions?
12. How old were you when you first understood captions?
13. What kind of television programs do you like to watch? Why?
14. What kind of television programs that you do not like to watch? Why?
15. How often do you watch television programs?
16. Do you think stories on television and books are the same? Why or why not?
17. Suppose there is no closed captioned programs on television any more, how would you feel?
18. Do you think you can live without closed captioned programs? Why or why not?
19. Do you think that “reading” captions help you read and write better in school? If so, in what ways?

**APPENDIX E****LIST OF TELEVISION PROGRAMS**

*List of captioned television segments that were shown to the participants:*

Session #1: Sister, Sister  
Session #2: Animal Cops  
Session #3: Venom ER  
Session #4: Animal Rescue  
Session #5: Max Keebler  
Session #6: Max Keebler  
Session #7: Sister, Sister  
Session #8: Animal Cops  
Session #9: Crocodile Hunter  
Session #10: The Forensic Fraud

**APPENDIX F****LIST OF BANNED TELEVISION SHOWS**

Recently Disapproved TV Programs for U.S. Department of Education Captioning Support as of October 2003:

**Disapproved**

5 BET Classic Movies (Titles TBD)

500 Festival Parade

All Grown Up - Nickelodeon

All That

AMC Documentaries TBD - 9 Titles:

Archie's Weird Mysteries

Arena Football NBC

Auto Racing NBC

Backstory

Bed Bug Bible Gang

Behind the Music - VH1

Bewitched

Beyond Belief

Beyond the Glory US Open Tennis USA

Body of Evidence

Car and Track

Catherine Crier Live

Caught in the Middle

Cisco Kid Series

Classic Cartoons

CNN en ESPANOL Deportes CNN

College Football NBC

Courage the Cowardly Dog

Cribs - MTV

Cubix

Danny Phantom

Daytime Court Trials

Dexter's Laboratory

Digimon

Discovery Jones

Disney Monthly Original Children's Movie

Documentary: Gay Hollywood

Documentary: Hell Up in Hollywood: Soul Cinema & the 1970's

Documentary: Hollywood & the Holocaust

Documentary: Hollywood & the Muslim World

Documentary: Reality People

**APPENDIX F- *Continued***

Documentary: The Wrong Coast  
Documentary: Young Hollywood Awards  
Dominick Dunne  
Ed, Edd 'n Eddy  
EDGE NFL Match-Up  
Emergency Vets  
Endurance  
ESPNNews Daytime Sports News  
Fairly Odd Parents  
Forensic Files  
Gadget and the Gadgetini's  
Get Reel  
GoodLife Television, Maverick Series  
Grim and Evil  
GUTS  
Hollywood and Crime  
Hollywood At Your Feet: Story of Grauman's Chinese Theater  
Hollywood Commandos  
Hollywood Lives and Legends  
Hollywood Rocks the Movies (The 50's)  
Hollywood Rocks the Movies (The 60's)  
I Dream of Jeannie  
I want to be Clive McLean  
I, Detective  
IFC Movies  
In the Life - PBS  
In The Mix  
Indy 500 Victory Banquet  
Inside Stuff  
Inspector Gadget's Field Trip  
Investigative Reports - A&E  
JAG - CBS  
Jimmy Neutron, Boy Genius - Nickelodeon  
Judge Wapner's Animal Court  
Justice League  
K9 to 5  
Kinnikuman Ultimate Muscle  
Knock First!  
Laura en America  
Law & Order series  
Legends of Motorsport  
Lifetime Intimate Biographies of Women (series)

**APPENDIX F- Continued**

Lizzie McGuire - Disney Channel  
Major League Baseball ESPN/ABC  
Malcolm in the Middle - FOX  
Malkovich's Mail  
MGM's 75th Anniversary  
Mini Marathon  
Miscellaneous original cartoons  
MLB FOX  
MLB NBC  
Mucha Lucha!  
Mugshots  
Nancy Drew, VCI Entertainment  
Nascar FOX  
NBA ABC Sports  
NBA ESPN  
NBA pre-season, regular season & playoffs  
NBC Sports  
NCAA Basketball Special  
NET High School Sports Statewide Championship games  
New Adventures of Tarzan, VCI Entertainment  
NFL Films  
NFL Films Team Highlights  
NFL FOX  
North Mission Road  
OETA "Oklahoma Hall of Fame Induction"  
Oliver Beene - FOX  
Once Upon a Time: Sergio Leone  
O'Neil Outside  
Oswald  
Our Friend Martin  
Out There  
Over The Hill Gang  
Over The Hill Gang Rides Again  
Oxygen Sports: WNBA  
Ozzy & Drix  
Paparazzi Uncut (Show#1: NY)  
Paparazzi Uncut (Show#2: LA)  
Passport to Adventure  
Patty! Country Music Awards Special  
Pay it Forward - Turner Entertainment Network  
Pet Story  
Petersburgh USA  
PGA Golf USA

**APPENDIX F - Continued**

Pokemon  
Popeye, VCI Entertainment  
Power Rangers  
Powerpuff Girls  
Proud Family - Disney Channel  
Reel Radicals: The 60's Revolution in Film  
Robin Hood Series  
Rocket Power - Nickelodeon  
Roy Rogers Series  
Sabrina, The Animated Series  
Samurai Jack  
Sanford and Son  
Scaredy Camp  
Seagal Vs. Nasso  
Searching for Michael Cimino  
Sheep in the Big City  
Sherlock in the 22nd Century  
Shirtless: the Movies' Most Beautiful Men  
Short Screammers/Clive Barker  
Speedvision News-Raceweek  
Spiderman and his Amazing Friends - ABC Family Channel  
Sports Specials FOX  
Stanley  
Stargate Infinity  
Starters  
Stitch  
Strange Days  
Switched  
Sylvanians  
Teen Titans  
Teenage Mutant Ninja Turtles  
Teenage Robot  
Telemundo Futbol  
The Curley Tales of Piggley Winks  
The Elite  
The Heist  
The Littles  
The Pet Shop with Marc Marrone  
The Simpsons - FOX  
The System  
The Talent Collector, Coralie Jr.  
This Week in Baseball  
Thoroughbred

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