

Distance Opportunities for
Interpreter Training Center

Video Relay Services Interpreting
Task Analysis Report
September, 2005



Distance Opportunities for Interpreter Training Center (DO IT Center)
@ University of Northern Colorado
In collaboration with
Communication Services of the Deaf, Inc.
and
Sorenson Media

Preface

Introduction to the DO IT Center

The Distance Opportunities for Interpreter Training (DO IT) Center is a grant-funded center serving interpreters and interpreter educators across the United States. Using technology for delivery, the Center's goal is to provide opportunities for distance learners to achieve interpreting skills and the knowledge sets necessary to effectively and appropriately apply those skills as a Sign Language interpreter. This \$7.5 million enterprise has three primary projects underway (2000-2005), funded by the U.S. Department of Education and multiple State Education Agency partners.

- First, the *Educational Interpreting Certificate Program* is a thirty (30) credit hour, distance learning opportunity for interpreters who work in K-12 settings. This is a multi-state/Bureau of Indian Affairs cooperative; sixteen (16) departments of education are sponsoring interpreter-students through the program.
- The second project is focused on the needs of interpreters in a six-state Rehabilitation Services Administration region. These efforts emphasize opportunities for interpreters working with adult consumers who are Deaf and hard of hearing in a variety of community settings. As an example, an online *Legal Interpreter Training Program* (14 credit hours) is available, along with a nine (9) credit hour skill-building program, the *Diagnostic Assessment and Skills Training Series* through this project.
- The third project is national in scope. The primary objective of this effort is to teach interpreter educators around the nation how to effectively integrate technology delivery systems into their traditional interpreter training programs. Experienced educators may participate in the *Distance Learning and Technology Internship program* (6 credit hours) for a hands-on distance learning experience. This project is also exploring the current state-of-the-art of the field of interpreter education. One aspect of this project is to build national consensus around entry-to-practice competencies and to develop a comprehensive curriculum designed to prepare IPP graduates with mastery of the entry-to-practice competencies.

Mission

The mission statement of the Center is as follows:

In recognition of the right of deaf and hard-of-hearing individuals to equal communication access, the Distance Opportunities for Interpreter Training Center (DO IT Center) designs and delivers quality education for and about Sign Language Interpreters.

The Center has forged collaborative partnerships with a wide range of stakeholders in an effort to fulfill the mission statement. One such collaboration involved a research project related to Video Relay Interpreting services. The remainder of this report will detail that project and the ensuing results.

Background

The Distance Opportunities for Interpreter Training Center at Front Range Community College (Denver, Colorado) worked in collaboration with the Communications Services for the Deaf-Sprint (CSD) and Sorenson Media corporations to conduct a task analysis of interpreting services provided via Video Relay Services (VRS). The work was conducted over a five-month period from October 2004 through February 2005.

The VRS Task Analysis Project was supported by the Rehabilitation Services Administration Grant of National Significance (Award #H160B000003) from the U.S. Department of Education. As well, Sorenson and Communication Services for the Deaf (CSD) contributed to the cost of this research by making staff available to facilitate the researcher's engagement in the VRS Centers, providing staff release time to be interviewed both onsite and through follow-up calls and emails, and having staff available onsite for observation during the meeting with deaf consumers.

The rapid growth of VRS companies has created an unprecedented need for highly skilled interpreters. Since 2000, Title IV of ADA requires common carriers offering telephone voice transmission services to provide Video Relay Services (VRS) by providing to individuals with hearing or speech disabilities telephone services that are "functionally equivalent" to those available to individuals without such disabilities. Looking at the impact of this one legislated service, the increase in minutes that are interpreted via video relay has been escalating at phenomenal rates. In June 2003, a total of 211,529 minutes were interpreted and by October 2004 it had increased to over one million minutes—1,198,322, (Federal Communications Commission, 2005)*. It is anticipated that this number will double in the next 2-3 years as more of the telecommunications equipment is distributed to end users (deaf and hard of hearing individuals) and more relay centers open for business.

Purpose and Goal

The primary purpose of the research is to provide empirical evidence by identifying the required skills, knowledge, and personal attributes required by interpreters to effectively perform video relay work. The goal of this research is that the findings will provide the foundation for a thorough framework, grounded in research, on which to develop appropriate and specific curriculum for use in interpreter programs with pre-service students who aspire to a career in the field of interpreting, and perhaps a career as a VRS interpreter. As well, it can be used in the development of in-service training programs for the current workforce.

Video Relay Services

Video relay services are a relatively new service provided to deaf and hard of hearing individuals in the United States. Several new terms that are frequently used interchangeably need to be differentiated. A shared definition of terms regarding Video Relay Services (VRS), Video Remote Interpreting (VRI), and Video Interpreting (VI) is provided for the readers of this report.

VRS is a service that uses technology to conduct telephone conversations between users of American Sign Language (ASL) and English (and in some cases Spanish). Video Relay Services and its more familiar predecessor, Text Relay Services, are regulated by the Federal Communications Commission (FCC). The consumers are deaf or hard of hearing individuals who sign and non-deaf individuals who do not sign or who do not have specialized video equipment for receiving video calls. Using the VRS services of an interpreter at a call center, consumers engage in the spontaneous communication involved in the telephone conversation. For example, a deaf patient may use VRS to call a doctor's office and "speak" to the receptionist. Seeing the deaf caller via video, the VRS interpreter relays to the receptionist what the deaf caller signs and signs what the receptionist says to the deaf person.

Video Remote Interpreting (VRI) on the other hand is not FCC regulated and the consumers may be at one site and the interpreter offsite, or the interpreter may be in the room with a deaf consumer and the hearing caller may be offsite. In both situations, some type of video technology is connecting the consumers with the interpreter. Video interpreting (VI) is a generic term used to describe interpreting services delivered through a videoconference system that may be either VRI or VRS.

This report is focused on Video Relay Services that are funded by fees placed on each phone bill in the country. The National Exchange Carrier Association is responsible to regulate and disperse the funds. The FCC regulates VRS services.

Researcher's Background and Expertise

The Distance Opportunities for Interpreter Training Center contracted with Dr. Marty Taylor for this research project, which is an extension of Dr. Taylor's work on methodology, task analyses, and the requirements to be an effective interpreter. Dr. Taylor is not an employee of a VRS company and therefore is not vested in the outcome of the research. Her interest is that of a researcher and an educator with the desire to enhance the interpreting profession, specifically interpretation skills in their broadest sense.

The researcher, Dr. Marty Taylor, has been an interpreter and interpreter educator for over 25 years. She has lived and worked in the United States and Canada for significant periods of time. She holds a doctorate from the University of Alberta in Educational Psychology with an emphasis in measurement and assessment. Her doctoral and post-doctoral research culminated in the publication of two textbooks, *Interpretation Skills: English to ASL* and *Interpretation Skills: ASL to English*. Both of these works document interpreting skills and identify, primarily through the process of task analyses, what it takes to be an expert interpreter. The research specifically highlights the differences between expert and novice interpreters by discussing knowledge rich and knowledge lean skills, and their associated patterns of errors.

* Federal Communications Commission (FCC) Report and Order in the Matter of Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities (2005). Adopted July 14, 2005 and Released July 19, 2005. FCC Website @ <http://www.fcc.gov/>. Accessed on 7/20/05.

Research Report to the DO IT Center

Video Relay Services Interpreting Task Analysis

Marty M. Taylor, Ph. D.
Edmonton, Alberta
March 14, 2005

“Video relay interpreters are rare commodities; they must be valued and retained.”

—Video Relay Interpreter

Executive Summary

This research and resulting report on video relay interpreting were provided for the Distance Opportunities for Interpreter Training Center at Front Range Community College in Denver, Colorado. Video relay service (VRS) is a relatively new service and is provided to deaf, hard of hearing and non-deaf individuals in the United States. According to statistics kept by the National Exchange Carrier Association, to date over 1 million minutes of telephone call time have been interpreted using this unique two-dimensional medium.

The primary purpose of the research was to identify the requisite skills, knowledge, and personal attributes demonstrated by interpreters to perform video relay work effectively. The future goal of this research is to use the data to provide the foundation for preparing interpreting students with the necessary skills, knowledge, and personal attributes for possible employment as video relay interpreters. This research will also contribute to in-service training for the current interpreting workforce.

Two VRS call centers, one operated by Sorenson and one operated by Sign Language Associates-Communication Services for the Deaf (SLA-CSD) were visited in two different states. A total of eighty (80) individuals were observed and/or interviewed resulting in a task analysis of the skills, knowledge, and personal attributes demonstrated by effective video relay interpreters.

The establishment of VRS has generated a unique working environment for interpreters which requires multi-tasking at linguistic, physical and mechanical levels. Greater demand for ASL to English interpretation is required than most other interpreting work. The rapid succession of calls demands that interpreters quickly adapt to different signers, novel content, and unknown relationships between callers.

The essential competencies necessary for successful VRS interpreting may be categorized into three broad areas: skills, knowledge, and personal attributes. The skills identified include experience, adaptability, linguistic competence, telephone protocol, voice control, customer service, decision-making, impartiality, and technology expertise. Areas of knowledge identified are general world knowledge and specific knowledge pertaining to the deaf and hard of hearing

community and VRS. Personal attributes include physical, psychological/emotional, and professional traits.

In addition to an analysis of the interpreting process, this report also discusses implications for the deaf and hard of hearing community, and the potential impact on the interpreting profession, VRS companies, and interpreter education. Finally, recommendations for developing and maintaining a market of qualified interpreters, educating callers and conducting further research are provided.

Note: *The researcher invented all of the specific examples used in this report so as to protect the anonymity of callers, interpreters, and managers. The specific examples used were never observed or discussed during the interviews.*

Data Collection and Process

Two VRS call centers, one operated by Sorenson and one operated by SLA-CSD, were visited in two different states. Both companies agreed to have the researcher visit one of their call centers and have access to the managers and interpreters as they became available over a three-day period. Both companies were very generous with their time and resources in allowing the researcher unrestrained access to observe and interview interpreters, managers, and administrators.

The data was collected via observation, interview, and document review. The goal of the task analyses was to capture the specific skills, knowledge, and personal attributes exhibited in VRS interpretation. A total of 55 interpreters, managers, and administrators were observed and/or interviewed using a series of questions as a framework for observations and discussions. Some interviews included discussions pertaining to specific calls and were conducted immediately following the interpretation of a call. Other interviews focused on general issues of video relay work.

In addition, deaf and hard of hearing callers were interviewed. These callers were not necessarily users of any particular VRS company. Rather they were individuals local to the area who were asked to discuss their personal experiences with video relay services. These interviews occurred both individually and in groups. A total of 25 deaf and hard of hearing callers were interviewed.

Finally, to gain a greater understanding of the context, the researcher reviewed written documentation containing FCC regulations along with company manuals and publications.

A series of open-ended questions was used to elicit conversation with the participants. All information was documented through written notes taken by the researcher. The information contained in the interviews was then analyzed for common themes and categorized according to skills, knowledge, and personal attributes.

Findings

A high degree of consistency was found in comments and perspectives across all individuals observed and/or interviewed – deaf and hard of hearing callers, interpreters, and managers. Differences in perspective are also documented in this report.

Perspectives

Deaf and Hard of Hearing Callers

Some deaf and hard of hearing people used more than one VRS company to make calls. Reasons cited for choosing a service provider included waiting time to place a call, quality and reliability of interpretation services offered, and opportunity to reserve interpreters for pre-determined dates and times such as conference calls.

Call patterns

Deaf and hard of hearing callers reported that most calls originated from their homes, rather than from places of business or public video booths. Calls made during the day tended to be more agenda and goal driven, for example, trying to access information, make appointments, find out test results, and conduct business. Whereas, evening calls were more often related to social conversation, ordering food, and connecting with family members. School aged children tended to call friends and families, rather than place business related calls.

Interpreters

All interpreters interviewed were certified. Both SLA-CSD and Sorenson require certification as a minimum standard for employment. The type of certification varied according to locale and state standards. The vast majority of interpreters observed and/or interviewed held at least one national certification from the Registry of Interpreters for the Deaf (RID). Specific experience working for VRS ranged from one day to more than four years. Some of the interpreters had experience working for other VRS companies or the same company in different locations.

The length of interpreting experience (outside of video relay interpreting) ranged from 2 years to 45 years with an average of about 18 years of experience. Interpreters with only a few years of general interpreting experience tended to acquire ASL through their Deaf parents or were involved extensively in the deaf community for many years through work or personal relationships. For the most part, the VRS interpreters had experience with a wide range of working environments. Almost all had worked in community settings, with a few having only experience working in educational settings, K-12 grade and post-secondary work. Many of the interpreters continued to work in the community in addition to their video relay employment. Thirty-eight (38) of the fifty-five (55) interpreters held degrees, with nine holding more than one degree.

Uniqueness

Video relay is an extremely unique form of interpreting. The most obvious element that makes it different from traditional interpreting is the fact that it is done exclusively through a different medium – video, rather than in person. Because this medium is two-dimensional and greatly relies on the availability and reliability of high-speed access, the clarity of images on the screen varies significantly. The transmission could be clear on one end, while unclear on the other. The transmission could begin very clear and then decay as time passes, interfering with the interpretation, and thus the flow of the conversation between callers.

Another area of uniqueness is the requirement for interpreters to multi-task linguistically, physically, and mechanically. Interpreters are accustomed to multi-tasking while interpreting between parties who are in the same room together. The traditional work of interpreters is to listen to non-deaf persons and interpret what they say into ASL, and to watch signers and interpret what they sign into English. In addition to this highly technical skill of physical and mental linguistic gymnastics, video relay requires the manipulation of highly sophisticated equipment to receive and place calls. This kind of multi-tasking requires training, practice, adeptness, and fluidity. Because signing requires the use of hands, and mechanical manipulation of equipment also requires the use of hands, interpreters must develop additional eye-hand coordination to accomplish all of the necessary steps in receiving a call, making a call, connecting the callers, and visually and auditorily relaying information between deaf or hard of hearing callers, and non-deaf callers. All of this is done simultaneously.

Following is a chart summarizing the differences between traditional interpreting and VRS interpreting.

TRADITIONAL INTERPRETING	VRS INTERPRETING
Face-to-face communication	No in-person contact
Three-dimensional perspective	Two-dimensional perspective dependent on high speed compression with times when the quality decays
No physical limitation on signing space	Restricted signing space due to technology
Uses contextual and environmental cues for making meaning	Contextual/environment to support cues are lacking
Relationship between parties is commonly known (e.g. doctor/patient, employer/employee)	Relationships between callers are often unknown
Sociolinguistic factors (gender, age, ethnicity) are overt	Sociolinguistic factors are not always known
Assignments are made in advance	"Immediate" assignments
Ability to accept or turn down assignments (e.g., legal or medical interpreting)	Must accept all calls regardless of content or caller (e.g., young children, new immigrant with limited signing abilities, computer techie)
Potential for extensive preparation	Relies on prior experiences rather than preparation
Generally works alone or with one other interpreter	Team environment
Often self-employed	Works for a corporation
Interpretation is the only role	Multiple roles occurring simultaneously (e.g., operator, customer service representative)
One locale with a relatively limited and predictable number of deaf and hard of hearing consumers (e.g., number of "jobs" in a day often range from one to five)	Wide variety of callers and content (e.g., number of calls in a day can be over 100)
Often regional signs are known	Often regional signs are not known
Consumers see each other and are able to monitor reactions visually and auditorily.	Callers are not able to see or hear each other or monitor reactions.
No special need for technology competence	Technology competence is a necessary skill
Dual-tasking at linguistic and physical levels	Multi-tasking at linguistic, physical and mechanical levels
Generally greater demand for English to ASL interpreting	Greater demand for ASL to English interpretation
Most consumers are experienced using interpreters	Many inexperienced callers placing phone calls
Very little use of intimate register	High number of calls requiring the use of intimate register

Competencies

The task of video relay interpreting is extremely complex and therefore numerous competencies were identified as being necessary to perform the task successfully. As one interpreter reported,

“Working as a video relay interpreter in a call center is different from working in other call centers like a credit card company where employees’ primary role are that of operators, which does not entail interpretation working in two languages or second callers, or negotiating meaning between people. Video relay interpreting work is very demanding physically, mentally and emotionally. It requires expertise in two languages and a minimum of two cultures.”

The competencies observed and discussed were divided into three groupings: skills, knowledge, and personal attributes. There was no attempt to make categories discrete, only to place the competencies in the most applicable category.

Competencies Summary		
Skills	Knowledge	Personal Attributes
<ul style="list-style-type: none">• Experience• Adaptability• Linguistic• Telephone Protocol & Voice Control• Customer Service• Decision Making• Impartiality• Technology	<ul style="list-style-type: none">• World Knowledge• World Knowledge – Deaf Related• VRS Knowledge	<ul style="list-style-type: none">• Physical• Psychological/Emotional• Professional and Ethical Conduct

Skills

Experience

The primary goal of video relay is to accurately convey callers’ meaning and intent in ASL and in English, resulting in successful interpretation of the calls. Video relay work is very challenging. Interpreters must work as linguistic and cultural mediators while at the same time switching between two additional roles, that of “operator” and “customer service representative”. With this in mind, it is paramount for interpreters to have a wide range of experiences from which to pull in order to make quick decisions about which role they are taking on at any moment, changing to other roles as required, and conveying the message in an effective manner.

Adaptability

Along with experience, interpreters must be quick minded. There is no limit to the types of calls that require interpretation. For example, calls may be made that

are very familiar to interpreters such as calling a doctor's office to set up an appointment for an annual physical examination, or calling a secretary at school to notify the teacher that son, Pete, is sick and will not be attending school. Other kinds of calls are more difficult to interpret, for example, when colleagues are talking to each other using acronyms that are unfamiliar to interpreters. Or when several callers are on the line for a conference call, it may be difficult to identify who is talking, in addition to what they are talking about if it is highly technical or heavily laden with inside humor.

Some deaf and hard of hearing callers will make several related phone calls in a sequence, allowing interpreters the opportunity to know the content of subsequent calls in advance of placing the call. Interpreting for subsequent calls, for example looking for a specific appliance at various outlet stores, is an easier task because interpreters know what to expect. This is very different from callers who place several calls that are different from one another, for example, one call to the doctor's office to make an appointment for a child, another call to a mother letting her know what time to come to supper tonight, and still another to an employer letting him know that the deaf caller is ill and will not be showing up to work that day. Interpreters have to adjust to each call. Some calls like inviting the mother over for dinner that night and calling in sick at work might be incongruent to interpreters, causing moments of uncertainty. Thus, the need to be adaptable at all times is extremely important. In this latter example, interpreters must quickly glean information, often from subtle nuances, and make quick decisions to match the intent of each call.

Another example of the need for great adaptability is when a variety of callers each make short 5-minute calls. In five minutes, interpreters must become familiar with the deaf or hard of hearing caller's signing style, determine how best to convey the information when the hearing caller answers the phone, and negotiate the information between both parties. All of this must be done without knowing any background information. Interpreters must piece together the information using every strategy they can employ based on experience as interpreters and as general citizens of the United States. When calls come in one after another in quick succession requiring different skills and knowledge sets, interpreters must be very adaptable.

Linguistic

As linguistic and cultural mediators, interpreters must have a tremendous range of expertise in a variety of topics including content and vocabulary associated with a multitude of subject matter. As mentioned earlier, the content of calls can be of any nature. Interpreters must be linguistically fluent in numerable topics, both in ASL and in English.

Arguably the greatest difference between traditional interpreting and VRS interpreting is the amount of interpreting into English as the target language. Every VRS interpreter interviewed reported that more than 50% of video relay work was interpreting from ASL to English. Some interpreters said that it was as high as 75% on an average day. This percentage is much higher than traditional environments interpreters have experienced.

VRS interpreting from ASL to English is challenging for a variety of reasons, not just the two-dimensional video medium. The majority of interpreters reported that their experience was primarily in one or possibly two different deaf communities. Video relay work includes callers from across the country, including people with different dialects with which interpreters have had no previous experience. Significant variations can occur among rural and urban signers, east and west coast signers, and northern and southern signers. In addition, age, ethnicity, and gender play significant roles in language use, as well as educational levels. All of these variations affect not only lexicon, but also pragmatics and discourse usage. Deaf and hard of hearing callers may or may not be fluent in ASL. This may be because of their educational background, or due to the fact that they are from different countries and ASL is their fourth or fifth language. All of these situations pose challenges to interpreters. It is very different interpreting for a 75-year old Caucasian female from New Orleans who is a fluent ASL signer, than an assertive corporate 30-year-old African American male fluent signer from Los Angeles. It is also different interpreting for a young 10-year-old girl from rural Wisconsin who uses Signing Exact English than an 18-year-old boy from New York who uses ASL. All of these calls could occur within a 15-minute period of time.

Once the linguistic skills of managing entire conversations with people who are extremely diverse are mastered, the specific details of clearly articulating signs come into play. Many of the interpreters interviewed reported that they fingerspelled at slower rates than when in a room with deaf or hard of hearing people. Occasionally, fingerspelling was adapted slightly to more clearly show differences between certain letters such as “p” and “q”, or “m” and “n”. In addition, signing space was adapted to fit the size of the video screen more easily. Interpreters who tended to sign in a very small space signed larger, and interpreters who naturally signed using a larger space, reduced their use of space to fit the screen. Several interpreters mentioned the fact that facial expression was hard to read and their strategy for rectifying this weakness in the technology was to actually sign information rather than relying solely on facial expression. For example, rather than only using eye brow raises for questions, interpreters were signing “yes, no” or signing a small question mark. Adjustments such as these were also made for visually impaired individuals.

The use of register was a critical element of discussion among all of the groups interviewed. Deaf and hard of hearing people wanted to be sure they sounded articulate. Some times they were in doubt that interpreters were saying what they wanted and how they wanted their message said. There was no way for deaf and hard of hearing people to know whether or not their message was being relayed accurately except by evaluating the responses from the non-deaf caller. If the responses were on track, then the interpretation was accurate. If the non-deaf caller started saying things that were unrelated, then the interpretation was inaccurate and adjustments had to be made by clarifying the message.

One point that came up regularly in interviews with VRS interpreters was the intimate nature of many calls. Examples of this include a woman making several calls to let people know that her father had unexpectedly died and she needed help in making the necessary funeral arrangements. Another example is that of

a young teenage girl calling a friend and talking about the sexual abuse that she experienced at the nearby playground. These kinds of interpreting situations require interpreters to be extremely sensitive and display a high level of competence both interpersonally and linguistically. Other forms of intimate conversation that occurred were not necessarily related to the topic of conversation, but more the content of it. For example, in one call a husband and wife were talking to each other and the husband wanted to know how the appointment went for their son at the recruitment fair. The conversation contained specific name signs related to the son, the coach, the teacher and other members of the family. The content of intimate conversations itself may be so dense with “inside” or intimate knowledge that it poses problems for interpreters in articulating the message between callers. Interpreters need to have strategies to deal with both of these areas of intimate interaction between callers.

Other register issues included interpreting for a young child and trying not to act “too young” or “too sophisticated”. When interpreting for deaf children it can be difficult to sound like a child without “acting” like a child and sounding foolish. Interpreters need the ability to sound like a child, but still sound like an adult speaking, that is, interpreting for a child. Interpreters need to be aware that their highly educated, natural persona is probably not what children sound like. Children, most of the time, should sound like children without being too sophisticated. The need constantly arises to adjust the interpretation to match the callers in terms of register.

Handling emotions is another aspect of register that requires specific attention in the interpretation. Excitement, anger, love, and frustration all require sophisticated techniques to convey the subtleties of meaning in both English and in ASL. Strategies for conveying these emotions vary depending on who is exhibiting the emotions. For example, women and men may sign or say things differently because of their gender, ethnicity, or religious background.

Telephone Protocol and Voice Control

Interpreters handle the interaction between callers and strive to keep both parties engaged in a natural flow of communication. Non-deaf callers rely solely on the interpreter’s voice without seeing the mannerisms, appearance, or expression of the other caller. Generally, non-deaf callers are unaccustomed to talking through an interpreter or listening to an “interpretation” which can sound less than natural. Therefore, interpreters must integrate, to the best of their ability, everything they see in ASL into their spoken English interpretation and more specifically into their voice production. This requires many facets to the work, including turn-taking behaviors, backchannel feedback, and the use of pausing and silence that are typical and expected by non-deaf callers.

A few interpreters found it difficult to realize that non-deaf callers were hearing nothing except silence, resulting in uncertainty as to what was happening with the deaf caller. Conversational fillers were found to be useful ways to fill in the dead air along with prosodic markers like pausing, intonation, and repetition to create flow and maintain the floor when one party continued to talk. One interpreter used the strategy of repeating in English what the non-deaf person

said while signing to the deaf person so that the non-deaf person didn't interrupt until after the message was interpreted and the deaf person had an opportunity to respond.

Strategies allowing interpreters extra time to process information into meaningful chunks were often employed. Because the callers cannot see each other, it is incumbent on interpreters to make it known that one party is either signing or speaking. Sometimes, especially at the beginning of utterances it was difficult for interpreters to jump in with the interpretation until additional information was provided. Interpreters circumvented this difficulty by starting to sign or speak, but not yet commit to the message. For example, the deaf caller started talking about a specific name, "Faux", and the interpreter waited to determine if the name belonged to a person, place or thing before committing to the interpretation. However, rather than simply remaining silent, the interpreter began an uncommitted interpretation such as, "Well, what I wanted to discuss was..." This strategy avoided a prolonged silence and allowed the interpreter additional time to see what the deaf person was talking about before saying, "Well, what I wanted to discuss with you was related to the kind of flooring you recommended for the kitchen. The "faux" flooring does not look good in the evening."

One notable comment made by deaf and hard of hearing VRS users was about the importance of eye contact with the interpreters. Deaf and hard of hearing callers reported that interpreters' use of eye contact was critical in making a connection with callers. When eye contact was averted, for example while talking to the non-deaf person, deaf or hard of hearing callers felt "left out" and felt as though they had lost control of the call they were making. This issue also surfaced when technology was used to put deaf and hard of hearing callers on "hold". Callers wondered what interpreters were doing and imagined interpreters talking about the caller or the content of the call to the interpreters' colleagues in the call center, or wondered if the interpreter needed a snack or a drink and that was why they were put on "hold". This was not the same issue as the non-deaf caller putting them on hold. The caller had no problem with this issue of being placed on hold by the non-deaf caller when the interpreter interpreted this to the deaf caller, except the irritation that many callers feel when they have to wait, deaf or non-deaf.

Most interpreters reported feeling very comfortable incorporating English terminology and phrases commonly used on the telephone. For example, "Is there anything else before I let you go?" Or when the deaf person needed to get some information from a prescription bottle in the other room, the interpreter comfortably said "could you hang on a sec while I get that for you?"

Interpreting meaningful environmental noise also served to facilitate the VRS process. For example, deaf and hard of hearing callers found it helpful when interpreters let them know when they heard a "click" indicating that the call was forwarded to an answering machine and a voice mail message could be left. This sound, prior to an auditory message, is a subtlety that most non-deaf callers recognize immediately and either begin mentally planning their message or decide to hang up the phone and call back later. All of these sounds that non-deaf callers become habituated to must be relayed within the task of

interpretation to the deaf and hard of hearing callers. It provides deaf and hard of hearing callers equal access to information that non-deaf callers have experienced for many years.

Video relay interpreters are not only acting as interpreters, but also as operators. Their role must be made clear to the deaf and hard of hearing callers, as well as the non-deaf callers. It was confusing to deaf and hard of hearing callers when interpreters would not “chat with them” while the non-deaf caller put them on hold. Deaf and hard of hearing callers were not sure how much they could say, or whether or not they should say anything like, “Where are you working? Is it cold?” Or “Do you have deaf parents?” What deaf and hard of hearing callers considered “chatting” appeared to them as not acceptable. Interpreters told them that they couldn’t answer these kinds of questions due to company policy. Also, some deaf and hard of hearing callers felt that when interpreters, presumably in the role of operators, talked to the non-deaf caller explaining the relay system, the deaf or hard of hearing caller was being excluded from the conversation and in essence, the deaf or hard of hearing caller was put on hold while observing the “operator” explain how the system works.

Customer Service

Video relay services are in the business of attracting and retaining a large and highly satisfied customer base. Interpreters working for VRS have an additional role – that of a customer service representative. As a result, it is imperative that interpreters display politeness and courtesy with all callers whether they are deaf, hard of hearing, or non-deaf callers.

It was disconcerting to some deaf and hard of hearing callers to see interpreters who looked tired. They reported that it was much more enjoyable to see smiling faces when the callers were connected with the interpreter. Expressions that conveyed discomfort or frustration were particularly difficult for deaf and hard of hearing people to accept. Several reported that they would rather hang up and call again, hoping to get a different interpreter who was not so “emotional”.

Many, but not all, deaf and hard of hearing callers realized that they were not supposed to carry on personal conversations with interpreters, even while on hold with the non-deaf person. Interpreters had to curtail these conversations following the policies and procedures of the video relay service where they worked. On occasion, non-deaf callers tried to chat while the deaf person was out of view and asked questions like, “How long have you been doing this?” or “Can you really see the deaf caller right now?” Deaf people also wanted to chat and asked questions like “Where are you?” or “Do you have Deaf parents?” All of these questions are common for people waiting for the other person to return to the conversation. It is natural for people to fill the void with conversation while waiting. It is up to interpreters to maintain their friendly customer service approach and at the same time follow company policies.

Decision-Making

Interpreters must constantly make decisions. In addition to the constant linguistic decisions required to relay calls, interpreters must decide on a variety of other matters. A few examples include when to call managers and other interpreters for assistance; for whom to interpret when both parties are talking at the same time; whether or not the picture clarity is sufficient to continue the call; and whether or not to accept one more call after interpreting five calls in a row, or even one 20-minute call. When making moment to moment decisions interpreters realized that decisions were not just about their own work, or about one specific call, but also the work of other interpreters in the call centers and how their behaviors based on their decisions had a ripple effect. Further, the outcome of any decision made can affect caller expectations, who may rightfully assume that the particular behavior of this one interpreter is common to all interpreters. It can affect the reputation of the company in that the behavior resulting from decision-making can add to the positive reputation of the company or take away from the reputation.

The decision to ask for assistance may be critical to the success of certain calls. Sometimes assistance is required to help understand a non-deaf caller from overseas who speaks with a strong accent. Other times assistance might be required because the hard of hearing caller is making a personal call and would prefer to have a male interpreter, rather than a female interpreter. This switch to a different interpreter cannot always be accommodated due to the nature of the call center. It may not be possible because there is no male interpreter working at the time, or the males that are working are not available to accept the call. After using one's best interpersonal skills and best practices for customer service, either the call has to be made with a female interpreter or the hard of hearing caller will have to call back at another time.

When both parties are speaking and signing at the same time, interpreters have to make choices about whom to interpret for. Is it the person who is the loudest or most forceful? Does the company have a policy that dictates who should receive special consideration? Is it the person who initiated the call? Interpreters must decide and act on their decision with tact and diplomacy so that neither caller feels less important, or feels that the interpreter or the other caller is not listening to them.

Because of the nature of technology and, at times, the lack of consistency provided by customers' equipment, the quality of transmission can vary greatly. If interpreters determine the picture quality is not sufficient, then they must decide how to handle the situation before proceeding. Alternatives include asking the deaf person to adjust the lighting in the room from where they are calling. Making sure that the interpreter's equipment is adjusted to the optimal level of clarity is also a viable solution. As a last resort another option is to ask the deaf person to call back in hopes that the next connection will have better clarity than the current connection. If interpreters relay calls while struggling with the picture quality to see the caller, interpreters are actually doing a disservice for other interpreters who will be expected to interpret for calls with the same minimal picture quality.

Part of the decision making process includes pacing oneself so that the quality of interpretation is consistent across all calls and all callers. This is important within individual interpreters, within call centers, and within companies offering video relay services. It is not fair to callers to have interpreters suffering from fatigue and negatively affecting the interpretation work. Taking regular breaks, scheduled and unscheduled, are part of the work environment. When making decisions about whether or not to take another call, interpreters must be sure they have sufficient reserves to continue a call for at least ten minutes, as per FCC regulations. The call, of course, may be shorter or longer than ten minutes, but this is the minimum. As needed, interpreters may arrange for a break. The duration of a break can last just a few minutes or include enough time to have a meal. Interpreters need to decide how long they need in order to return refreshed to the task of interpreting. The more options interpreters have available to assist them in making good decisions, the greater the likelihood of positive outcomes.

Impartiality

Experienced interpreters are versed in maintaining a sense of impartiality when it comes to the task of interpreting. When interpreters provide video relay services there is no opportunity to skip a call, like there is when deciding whether or not to accept community assignments. Because of the varied nature of calls interpreters may find themselves “pushed out of their comfort zone”. For example, interpreting for emotionally charged conversations like abortion or ending a marriage, illegal activities like selling drugs or scamming, graphic sexual conversations or even interpreting for “uninteresting” calls requires interpreters to maintain neutrality and impartiality while interpreting.

Impartiality also must be maintained whether one knows the caller or not, and whether callers are calling from the office or calling from their bedroom. These differences require interpreters to be consistent in monitoring their behaviors so that callers are comfortable making their calls and do not sense any judgment or bias.

Although impartiality is required, there are limits to what interpreters are expected to accept. When abuse is directed toward interpreters they may disconnect the call after following the company guidelines which may include telling the caller to stop the abuse or calling a supervisor to deal with the situation. At times, deaf and hard of hearing callers can be distracted from continuing the call, for example, children playing with the caller’s hair and running in front of the camera. At other times, a caller may be breastfeeding with her hands wrapped around her infant and therefore the conversation can be difficult for the interpreter to grasp. Impartiality does not mean interpret when interpreting is impossible.

Another issue that includes the need for impartiality is when deaf and hard of hearing callers have no experience working with interpreters. In some instances, VRS users call from communities where no formal interpreter education is offered. Some of these callers are used to “interpreters” who are friends, or hearing children of deaf parents who live in the area, but have no formal interpreter education. The interpreters’ behaviors, and thus their relationships

with the deaf and hard of hearing community, are different from video relay interpreters. Some of these deaf and hard of hearing callers hold different expectations of video relay interpreters and are disappointed or frustrated with how the communication process is executed. Interpreters reported that in this situation there is a strong urge to “help and explain” the service and interpreters’ conduct to the callers.

Technology

The technology required for video relay interpreting is very unique. Each company has specific software and hardware for the transmission of the video and auditory signals of incoming and outgoing calls, and connecting callers with one another. Interpreters are required to manipulate equipment, press keys, use a mouse, and adjust cameras and headsets. For seasoned interpreters technology was reported to be the most challenging part of video relay interpreting. Once the requisite skills were mastered, less time and attention was given to technology and more attention was given to the finer points of actually interpreting calls. Less experienced interpreters reported that the technology was easier to master than the interpretation work.

On occasion, interpreters instructed callers on how to improve their visibility to the interpreter. For example, adjusting the lighting in the room or sitting closer or farther away from the camera made viewing substantially better. Also, directing non-deaf people to speak up when their voices were faint is included in dealing with technology.

Knowledge

Many of the interpreters observed employed strategies for developing their knowledge base. Some of these examples included reading about topics that they were confronted with on calls, but felt they didn’t have a solid knowledge base in; keeping a log of new vocabulary items that came up in ASL and in English; personal tutoring; and sharing information on certain subjects with colleagues.

World Knowledge

All of the interpreters reported that while having excellent interpreting skills and interpreting strategies is the most important skill, having a strong general knowledge base was the second most important skill in providing effective interpretation between callers. Every call, as well as every caller, is different. Having socio-cultural knowledge and experience with everyday American culture was reported as very helpful in interpreting accurately. Having a sense of “knowing how things are done in the world” made interpreters feel capable of handling a variety of contexts and callers. Interpreters use prediction skills in navigating deaf and non-deaf interactions. Knowing how to make reservations at a restaurant, or how to hire a contractor to lay carpet, or how to make a claim on one’s car insurance policy were all possible phone calls that could occur that day or week or month. The more experiences interpreters had, the easier it was to translate these experiences into helpful background knowledge required for the interpreting work at hand.

Knowing the geography and politics of not only the United States but also the world was helpful. Callers made calls to other parts of the country and the world, and spoke about traveling to other places. When interpreters were weak in geography or politics, it was evident in their interpretation. The same was true when interpreting for religious, medical or legal conversations. If interpreters had no experience with these settings, the interpreting suffered.

It is important to note that some states have laws requiring that only interpreters who hold legal certification can work in legal settings. Therefore, some interpreters although very skilled, have had no experience, or limited experience, dealing with legal matters. However, video relay services require all interpreters to interpret for whatever calls come in, including legal discussions like lawyers calling clients and discussing their upcoming case.

It is important to know how to talk about sports and use terminology like dribbling and free throws in basketball when a young child calls home to talk about the game he just won. It is useful to know how to use sexual discourse when partners who have been away from each other for several weeks start talking about their love life and how much they miss each other. There is no end to the amount of information that is helpful for interpreters to know about the world and the infinite number of topics that can be discussed via the telephone.

World Knowledge - Deaf Related

It is essential that interpreters are knowledgeable about topics related to deafness because there is a high likelihood that these topics will be discussed. For example, knowing about deaf communities in the United States, including local, state and national organizations run for and by deaf and hard of hearing people, will come in handy when callers refer to the upcoming national conference in a particular city. Also interpreters reported that having familiarity with equipment that is typically used in the community such as pagers, TTYs and vibrating alarms is also helpful. Often callers refer to these items when they give other callers information on how to best contact them or when their equipment needs repair.

Another aspect of knowledge related to the deaf and hard of hearing community is that of power dynamics between them and the non-deaf community. It is important for interpreters to understand the significance of deaf and hard of hearing people having simultaneous access to the non-deaf community. The ability to speak directly to individuals, albeit through an interpreter, provides a level playing field for many individuals for the first time. On occasion, deaf and hard of hearing people choose not to inform the non-deaf person that they are deaf or that they are calling through a video relay service. They prefer to conduct their call directly without interference from relay interpreters identifying themselves or their company. Interpreters must have the respect and flexibility within their work to provide this service.

VRS Knowledge

As mentioned earlier, interpreters must have skills and knowledge related to their work as linguistic and cultural mediators. In addition, they must possess knowledge specifically related to work as video relay interpreters working for a

VRS. They must have the understanding that VRS companies are profit-making ventures with a high priority on customer satisfaction. Interpreters must know their rights and responsibilities as employees working for a VRS company. Further they must be knowledgeable about and agree to adhere to the FCC rules and regulations that dictate certain aspects of their work.

Three different roles of video relay interpreters have been described above. They include operator, interpreter, and customer service representative. Several interpreters reported that the roles of operator and customer service representative were difficult to master. They felt the roles were “murky” and required more information and specific training in order to feel more comfortable in performing these roles.

Personal Attributes

Physical

The physical demand of video relay interpreting requires interpreters to be very aware of their health. The environment of working in a cubicle for potentially long periods of time can have detrimental effects. Wearing headsets can alter how interpreters hold their heads by leaning to one side or the other. Using cameras can constrict signing space. Sitting for long periods of time can affect the back and shoulders. All of these factors can affect the body alignment and therefore how it functions with the possibility of acquiring repetitive strain injuries. It is important that interpreters maintain good physical health.

Almost all of the interpreters interviewed had concrete strategies to help them in maintaining their health. Some of these strategies were eating well, exercising regularly at work (e.g., walking outside in the sunshine, walking up and down stairs) and outside of work, and getting plenty of rest so that their mind and body had time to “rejuvenate” between shifts. “Balance” was brought up several times in the interviews as well as the importance of “endurance”. Several interpreters mentioned that with a balanced life outside of work their level of endurance while doing video relay interpreting was at an optimal level. Without the balance, shifts felt very long and “dragged out”.

Psychological/Emotional

As stated earlier, VRS interpreting is a relatively new phenomenon and perhaps, as a result, incidents of burn out were not evident in this study. None of the interpreters interviewed had experienced burn out as a result of their VRS work. Some mentioned that if their cubicle didn’t have light or a view of the outside this negatively affected them. But nothing close to feeling burned out came out in the interviews, just an occasional sense of “feeling low”. Generally interpreters described their psychological state as very satisfied with the challenge that VRS work provided them and were eager to return to work each day.

Stress is exhibited in individuals in different ways. It is often how stress is perceived and how it is handled that makes the difference in the effects of stress on the body and mind. Several interpreters interviewed had strategies to assist them in dealing with the stress of working as a video relay interpreter. These

included talking to oneself and saying things like “I am doing my job”, “I am doing the best job I can do”, and “just let this run off my back”.

Several interpreters reported that working for a company was very different from working independently as in interpreter. They found the layering of the organization awkward at times. They weren’t certain who was “calling the shots”. When changes occurred they some times did not feel consulted, as they thought they should be.

Only a few interpreters expressed feelings of “serving a function and not necessarily an asset like in community interpreting”. One interpreter stated, “You get us what we want, meaning interpreting minutes which is equivalent to money, the all mighty dollar sign. Therefore, you’re useful.” Another interpreter mentioned that feeling “watched” resulted in internally feeling devalued because interpreters had to “punch a clock”. This is very different from freelance work in which interpreters experience a great deal of control and status. In traditional settings, interpreters are used to getting “strokes” on a regular basis contributing to their morale and self esteem. Working “just” in a call center did not give the same kinds of “strokes”. “You, the interpreter, are there for whoever pops up on the terminal. Deaf and hard of hearing people say what they want or don’t say anything at all.” Some interpreters felt they had no control, “feeling like a slave”, selling out and trading off money for community work, and wondered “for how long is it tenable?”

For the most part, interpreters appreciated the predictability of driving to and working at one location, knowing whom they were going to work with, how many hours they were going to work, and how much they were going to be paid. This predictability was not afforded to them as independent contractors working as community interpreters.

The need to monitor oneself and to take breaks was mentioned by several interpreters. In contrast to community interpreting where there is often plenty of “down time”, VRS interpreting is constantly demanding. The level of stress this causes individual interpreters varies. For some interpreters it is a simple fact that needs to be dealt with. For other interpreters, it is an “issue” to take a break because someone wants to make a call and is waiting. For still other interpreters, “the clock is ticking and if I have a break, then the company is not making any money”.

Lastly, some interpreters had difficulty with deaf or hard of hearing people not saying “goodbye” at the end of calls. They felt as if they were being “turned off”. To some interpreters this came across as being hung up on 18 or 100 times a day and resulted in stress. They “felt like a machine being turned on when you were wanted, and turned off when you were no longer needed.” It was a shock to some interpreters that after interpreting a 40-minute call there was “no goodbye, nor a thank you”.

Professional and Ethical Conduct

Confidentiality is a key element in any interpreting work and is critical for the success of VRS work. It is a significant part of all professional codes of conduct

for interpreters. Applying confidentiality to video relay interpreting includes not talking about the callers or the content of the calls. It also includes maintaining confidentiality about the proprietary information held by the companies where interpreters are employed. In addition, it includes not talking about co-workers and colleagues outside of the work environment. Basically everything said and done in the call center stays in the call center. Breaching confidentiality can result in immediate dismissal. Interpreters must be able to abide by this highly strict code of conduct to work successfully as video relay interpreters.

Implications of Video Relay Services

Deaf and Hard of Hearing Communities

The implications of having video relay services available to deaf and hard of hearing individuals across the United States are far reaching. VRS directly affects the day-to-day lives of deaf and hard of hearing people. The greatest effect reported by deaf and hard of hearing people was that the “phone barrier has been removed.” The phone barrier has often plagued deaf and hard of hearing individuals by preventing them from equal access to the non-deaf community. According to some of the deaf and hard of hearing people interviewed, the removal of this barrier is “unparalleled to any other technological advancement in recent years.” They now can reach “top notch” interpreters regardless of where deaf and hard of hearing individuals live. Their sense of isolation is greatly reduced.

Deaf and hard of hearing people reported that for the first time in their lives, they have telephone access to colleagues and clients at work, friends and families, religious workers and professional consultants. They are empowered. They are privy to the inner lives of family members and colleagues like never before. They can advance in their careers because they are able to make daily contact with non-deaf individuals and conduct business freely through video relay services. One example of this was a deaf individual who worked for the same company for several years without a raise or promotion, after only a couple of months using VRS this individual received “a promotion and TWO raises”.

Deaf individuals who are not fluent English users have been denied access to the telephone, including TTY access, because it has been text based, English based. With the creation of video relay, these individuals are now able to use the phone just as their non-deaf counterparts have been using for years.

Interpreting Profession

Implications for interpreters are also numerous. With the advent of VRS companies, interpreters have one more viable job opportunity available to them. They can work specific hours matching their personal schedules and receive regular paychecks. Unlike community work where much of their day is taken up with driving to different appointments, working in a call center they can work with a more diverse consumer base, covering topics from “A to Z”, and be exposed to a range of registers with great depth. They can enhance their skills because of this diversity.

Certified interpreters reported that what they do in a 5-hour shift as video relay interpreters would take a week or a month or might not ever occur in their community interpreting work. For example, interpreting for a discussion with a lawyer on the process for getting a divorce, discussion with a doctor and patient on the medical treatment options for someone suffering from a rare disease, and talking to the principal about children attending the local public or private school might be opportunities not available to interpreters in certain communities. VRS interpreters also appreciated the opportunities to work with interpreting colleagues on a regular basis. As one interpreter stated, “VRS work actually enhances interpreters’ skills, and requires additional skills and knowledge never before tapped into.” Another interpreter said, “This is what certified interpreters dream of ... challenge ... climbing above the plateau they have been working on for years.” By working on a regular basis with a variety of callers and a team of other qualified interpreters, the chances of personal and professional growth are phenomenal.

VRS Companies

Interpreters are key to the provision of video relay; therefore, VRS companies are constantly developing their work force. They are hiring at astronomical rates. They are training interpreters to do the work of video relay and at the same time they are dealing with the federal bureaucracy of having a newly regulated enterprise. They are dealing with a workforce that has primarily been underpaid and independent. They are developing standards both technically and operationally within and across call centers.

The presence of VRS call centers also had implications for the community. When call centers initially establish themselves in a particular community, they are interested in employing the most qualified interpreters they can find. This can put a drain on the local interpreter referral service if several of their experienced interpreters no longer are available to accept appointments in the local community. This being said, many, not all, interpreters interviewed stated they also continue to accept community assignments. Some of the reasons given included wanting the regular “personal touch”, and recognizing the need for interpreters in the community and wanting to continue “to help out, feeling a duty or responsibility” to the deaf community.

Interpreter Education

The implications for interpreter education include the need to design, develop and deliver new curriculum that addresses video relay as a specialty area like educational, legal, and medical interpreting. Raising the bar of what is required from interpreters and what they can achieve will require highly sophisticated materials and curricula. Introducing more work into interpreter education using video samples that show a greater variety of consumers and topics will enhance interpreters’ ability to generalize their skills across more diversity. Of special note is the need for working with children. Most interpreting programs follow an adult interpreting approach to curricula and have very little time devoted to working with children. VRS work includes children. Therefore, programs must begin to address this in their curricula if they prepare students to be effective VRS interpreters.

It is important to decide what group or groups of interpreters should be targeted for this specialized training. Who makes good video relay interpreters? Can new interpreter graduates do the work? Should monies go toward interpreters who have experience, but aren't yet certified? Of all the interviews conducted, only one interpreter stated that new interpreters who were young would be more adept at the technology and would also be an asset when working with younger age groups of deaf, hard of hearing, and non-deaf callers. Other than this one exception, all of the people interviewed expressed the importance of having interpreters with wide ranges of experience and certified for a number of years, before they begin work as video relay interpreters.

Recommendations

Based on the data collected, and the current reality, the following recommendations are made.

- Increase the pool of interested non-certified interpreters who after specialized training and additional experience can become certified and effective VRS interpreters:
 - Assist non-certified interpreters in becoming RID/NAD certified by committing financial and personnel resources.
 - Educate students in interpreting programs about VRS interpreting at the level of career possibilities, technical requirements and foundational skills, knowledge and personal attributes necessary for future employment.
- Increase the pool of interested certified interpreters who may be qualified to work as VRS interpreters.
 - Offer specialized training addressing the skills, knowledge and personal attributes required to be effective VRS interpreters.
- Design, develop and implement model curricula with appropriate supporting materials (e.g., DVD/videotapes of mock phone calls, interpretation models of VRS work, diverse samples of callers who are children, individuals with developmental disabilities, and people with different socio-economic backgrounds, religions and ethnic identity) that specifically address the skills, knowledge and personal attributes required of VRS interpreting work. The curricula would assist in standardizing VRS work across the country. Curricula would include learning strands related to:
 - VRS work environment (e.g., regular hours, team approach, contract and full time options).
 - Role of VRS interpreters including the role of operator and customer service representative.
 - Requisite skills, knowledge and personal attributes that are unique to VRS work.
 - Career advancement opportunities.
 - On-going skill development modules for current VRS interpreters (e.g., legal and medical interpreting, strategies for handling automated phone calls with number-trees).

- Design, develop and implement model curricula with appropriate supporting materials (e.g., DVD/videotapes of effective and ineffective mock phone calls, signed examples of telephone number-trees and strategies for working with interpreters) for providing education to deaf and hard of hearing callers. Curricula would include learning strands related to:
 - Callers' rights and responsibilities when placing calls.
 - Telephone norms and etiquette (e.g., how answering machines and phone number-trees work, for example press #1 for accounting, press #2 for hours).
 - FCC rules and regulations.
 - VRS general policies (e.g., chatting with interpreters).
- Research in greater detail and scope exactly what this new phenomenon of VRS interpreting is and what it is not. The following areas of research would contribute significantly to the success of VRS over the next several years:
 - Create a 'best practices' document that details appropriate strategies and practices for VRS interpreters to use and seek consensus from the field, employers and consumers.
 - Identify current and desired industry standards and expectations for video relay interpreters by expanding the number of observations and interviews contained in this report to include other regions across the United States, as well as discussions with interpreters who have left VRS and no longer interpret in this environment.
 - Interview deaf and hard of hearing callers in different parts of the country to gather data that is larger in sample size and more representative of the nation.
 - Conduct interviews with non-deaf callers as to their experiences making and receiving calls through VRS to gather data that will influence training of interpreters to better meet the needs of non-deaf callers.
 - Analyze VRS interpretations to determine patterns that are effective and less effective including:
 - Customer satisfaction
 - Time saving strategies
 - Comprehension strategies
 - Strategies for dealing with a lack of context when placing calls.
 - Use of register variations to convey meaning (e.g., intimacy, emotions, urgency).
 - Analyze feedback received in various companies from callers (e.g., compliment-complaint files), if available, and feedback given to the FCC to document the systemic patterns occurring in the provision of VRS.
 - Analyze the effective of current training practices and their application by new and experienced VRS interpreters over time to the quality and consistency of services to customers.

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Conclusion

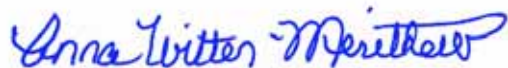
As this report indicates, there is an insufficient supply of qualified interpreters to meet the growing demands of the marketplace. This reality was present before the advent of Video Relay Services, but is more apparent as a result. The gap between the work readiness of IPP graduates and certification standards is significant, and must be addressed by collaboration between all stakeholders. The gap can and must be reduced or eliminated by the creative use of promising practices in the education and induction of new practitioners.

In addition to the recommendations made by the researcher as a result of the Task Analysis Research Project, the DO IT Center further encourages collaboration between VRS vendors and interpreter education stakeholders to increase the pool of work-ready and certifiable IPP graduates by:

- Improving the state of interpreter education through use of the CIT's Self Study Review and newly formed Accreditation process.
- Advance the state of interpreter education through the development of articulation agreements between 2 and 4 year institutions.
- Development of model curricula based on entry-to-practice competencies for implementation by IPPs, so that graduates possess work-ready competence.
- Development of a Learning Object Repository (LOR) with Units of Learning that can be utilized by interpreter educators nationwide.
- Create a system of formal induction for new/entering practitioners targeting their compliance with certification standards.

These recommendations can only be achieved through collaborative efforts between the field of Interpreter Education, VRS vendors and other stakeholders in the Interpreter Education System.

Respectfully Submitted,



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