

## **Remote Access Interpreting: Providing Service and Training for Interpreting Interns**

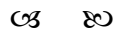
**Nanci A. Scheetz**

Valdosta State University  
Valdosta, Georgia

### **Abstract**

Remote access sign language interpreting through the use of video conferencing technology is beginning to emerge on college campuses and in K-12 settings. Through the use of laptop computers, Polycom ViaVideo cameras and Tandberg units; interpreters are able to provide interpreting services to remote locations for deaf and hard of hearing students.

Through this pilot project it has been determined that remote access interpreting can be provided through video conferencing technology. The pros and cons of utilizing this mode of delivery are discussed. In addition, the benefits of providing ASL/Interpreting interns with the opportunity to utilize this technology, under supervision are also described.



## **Remote Access Interpreting: Providing Service and Training for Interpreting Interns**

The face of deaf education has changed dramatically in the past thirty years. No longer do the majority of K-12 students attend residential schools; rather, they are included in public school settings. According to the National Clearinghouse for Professions in Special Education (1997) 80% of deaf and hard of hearing students are enrolled in inclusive settings. This has prompted the need for a myriad of support services, including the request for the skills of highly qualified sign language interpreters.

Educational interpreters must be skilled and knowledgeable about education and the field of educational interpreting to work as competent members of educational teams (Maroney, 1995). A report by the National Task Force on Educational Interpreting (Suckless, Avery, & Hurwitz, 1989) discussed concerns about the failure of school systems to provide certified and qualified educational interpreters to the growing number of deaf and hard of hearing students being educated with the related services of educational interpreters. As local public school systems work to comply with federal mandates to serve students who are deaf and hard of hearing in general educational classrooms, the need for educational interpreters increases.

Although the metropolitan areas may frequently have enough skilled professionals to meet this demand, the rural areas often find themselves with no qualified individuals. As a result students are either bused to adjacent school districts where services are available or they are placed in classrooms with “signers” who have marginal sign skills. In the worst case scenarios deaf students remain in classrooms where they rely on their speech reading abilities and teacher and /or student generated notes to access classroom information. In essence, these students are denied equal access to their education.

## **Using Technology to Provide Interpreting Services at the College Level**

In an attempt to examine ways to help alleviate this problem a pilot project was initiated in the fall of 2002 at Valdosta State University. Using video conferencing technology, remote sign language interpreting services were provided to a college student enrolled at South Georgia College. Initially one college class was interpreted in the fall. However, by the spring, 2003 three additional courses in three different locations were added to the slate of those being remotely interpreted.

It was determined that this would be undertaken on a small scale in a setting where an interpreter could easily enter the classroom and provide traditional interpreting services in the event that the equipment did not function properly.

### **Technology Requirements**

For the initial pilot project, Polycom ViaVideo cameras were used by both the interpreter and the deaf consumer. The interpreter worked from a PC while the deaf consumer connected the ViaVideo camera to a laptop. The Polycom ViaVideo is a very small, lightweight camera that fits easily into laptop cases making portability possible. The student would arrive in the classroom five to ten minutes before the class would start, connect the camera to the laptop and call the interpreter utilizing an IP address.

Throughout the project both computers operated on Standard IP protocol. The computers will function best with a minimum of 256 MB RAM and although the system will function on other operating systems we have found that they have worked best for us on the Windows XP Professional operating system. If the computer system will meet the system requirements for the Windows XP operating system the camera and software should work fine. We have also found that additional RAM can improve performance. During the setup for Polycom both software packages should be set to use the same transmit speed. We have used 384 mb and the quality is very good. The speed could be reduced to 256 mb but that should be as low as one should go. Any lower and the quality is degraded too much for reliability.

### **Initial Trial and Error: Discovering Problems – Finding Solutions**

A developmental reading class was selected for the pilot project. The classroom, in which it was housed, provided a challenge for both the technicians and the interpreter. Located in one of the older buildings on campus, the classroom was designed with linoleum floors and no acoustic tiles in the ceiling. In essence, it provided an acoustic nightmare. Chairs moving across the floor were amplified, the instructor's voice echoed, and when she moved throughout the room her voice was not audible.

In an attempt to enhance the sound quality the project team began experimenting with both directional and lapel microphones. Of the two types of microphones that were used, it was determined that in this setting the lapel microphone was the most effective. Thus, the instructor utilized one for the duration of the semester. In addition, throughout the same time the technicians experimented with upgraded sound cards to see if they could enhance sound quality.

Throughout the duration of the pilot project the quality of the video was clear with very little evidence of time delay or robotic signing. However, it was determined for this to be successful and effective that the quality of the instructor's voice would have to be enhanced.

### **Spring Semester, 2003: Providing Additional Remote Interpreting Utilizing Video Conferencing Technology**

In the spring the deaf student was enrolled in an Algebra class, a history class and an economics class. All of these courses were scheduled in two different buildings on campus. Furthermore, all of the classrooms where the student's courses were taught were equipped with carpet and acoustic tile. This made a tremendous difference in the sound quality. For the first time the instructors could be heard through the microphone housed within the camera, thus eliminating the need for the lapel microphone.

At the conclusion of the spring semester, 2003 it was determined that remote sign language interpreting using video conferencing equipment could be successfully implemented at the college level. At that point it was decided that another institution of higher education would be contacted to ascertain if there was another deaf college student attending classes on their campus who would be willing to receive remote interpreting services.

### **Using Technology to Provide Remote Interpreting in the Public Schools**

However, before that call could be made a technical assistance request was received in the fall, 2003 by the Georgia State Outreach and Technical Assistance Center (SOTAC/PEC/PEPNet) from a rural school district in Georgia. The school district contacted the SOTAC because they had been unsuccessful in recruiting a qualified sign language interpreter. The SOTAC Outreach Specialist discussed the possibility that Valdosta State University might be able to assist them in providing remote interpreting services for the deaf student enrolled in their school. At that point the SOTAC Outreach Specialist became the liaison between the school district and the university. After engaging in several conversations with the Superintendent of the school district, it was agreed that remote interpreting would be provided for a sixth grade student enrolled in a public school approximately 70 miles from Valdosta State University.

### **Student Characteristics**

The student engaged in the project was enrolled in the sixth grade in a rural public school in South Georgia. She was fully included throughout the day, and followed a typical schedule of a middle school student. She had previously attended a school in a district that employed full-time sign language interpreters and was accustomed to receiving her instruction through this mode of communication. Because the school district had not been able to locate an interpreter at the beginning of the school year, she had been relying on an amplification system to access classroom instruction.

Prior to the initiation of the remote interpreting, the interpreter, who would be providing the service, and the technician, from the local school district, met with the student and the teachers at the school to explain what was involved. At that time two classes were identified as ones that would receive remote interpreting services. They included a language arts class and a science class. Each provided instruction using different formats that provided the interpreter with the opportunity to test the video conferencing technology under varying classroom conditions.

### **Interpreting in a Language Arts Setting**

The instructor in the Language Arts class followed a very organized schedule that consisted of a combination of instruction, student interaction, and seat work. She quickly

became accustomed to repeating student responses when they were directed from the back of the room and not clearly audible. She also became very adept at describing information that she wrote on the board. The textbook for the class was given to the interpreter to use throughout the duration of the course. This was extremely beneficial, especially when students read selections from the text.

Within this classroom, the laptop and Polycom ViaVideo camera were located at the front of the room across from the student's desk. This setup enabled her to see the instructor as well as the interpreter. The instructor was very instrumental in integrating the technology into her classroom, demystifying it for the students thus providing them with a learning environment whereby they could continue with their daily routines. Furthermore, her acceptance of the technology enabled the interpreting to take place with minimal intrusion or disruption in the classroom.

### **Interpreting in a Science Classroom Setting**

Interpreting for this science class was particularly challenging. Seated at small tables, students frequently engaged in interactive discussions, science experiments, and small group work. Frequently the instructor would begin the class by having the students read from the book and then assign activities for them to complete. Oftentimes these activities included hands on experiments and group discussions.

The computer and camera were located on one side of the room several feet from where the instructor was lecturing. This, required the student to sit at the side of the room where the computers were located, rather than joining her peers at the small tables. In essence, she was not automatically included in classroom activities and had to divide her time between watching the computer screen and interacting with her peers.

Students would respond to questions in a rapid fire manner making it difficult for the interpreter to hear clearly all of the comments. As a result, occasionally the class had to be interrupted while the interpreter asked for clarification. Unlike the language arts class where students responded in an orderly manner, in this situation overlapping conversations were frequently heard. Although the quality of the video remained clear, the format of instruction that occurred in this classroom was not as conducive as the language arts class to lending itself to effective interpreting. Oftentimes, student comments were lost in a sea of voices, providing the student with only partial information.

The intent was to have student interns interpret these same classes the following semester. However, in January of 2004 the school district determined these services would no longer be needed.

During the same month, the Department Chair of the Department of Special Education and Communication Disorders received a call from another rural school district within Valdosta State University's service area stating that they had received a grant and would like to donate a Tandberg unit to the Interpreter Training Program. In return they requested that interns enrolled in the interpreting program be allowed to complete some of their internship hours interpreting for deaf students attending their school.

As a result the Tandberg unit was installed and three ASL/Interpreting interns, under the supervision of a nationally certified interpreter began taking turns providing remote interpreting services for two students.

### **Utilizing a Tandberg to Provide Remote Interpreting Services**

The Tandberg is a brand of video conferencing equipment we have used successfully. It is a system that does not require a computer. It does, however, require a television with RCA inputs. The system has other external inputs that make it possible to use various other teaching aids such as the input from a PC. It has a camera that is controllable on 3 axis. It has pan, tilt and zoom controls that can be controlled at the local level as well as from the remote user. This is a very desirable feature as it allows the remote user to adjust the camera position for the best viewing (with obvious limitations). We have found it to be most useful installed on a mobile cart so it is easily moved from room to room. When connected in this manner we only have to connect to a power source and the network. The unit also has a wireless network capability so if one had a wireless network system installed, one would only have to connect the power source.

### **Spring Semester, 2004: Using a Tandberg Unit to Provide Remote Interpreting Services**

Throughout the spring, 2004, two deaf students enrolled in another rural public school in South Georgia began receiving interpreting services through video conferencing technology. During an eight week period daily remote interpreting was provided to both students attending classes in a resource room. For two hours every afternoon these students received instruction in reading, math, spelling and social studies.

All of the instruction was highly interactive thus creating an atmosphere for both the instructor and the students to engage in frequent dialogues. This afforded the interpreters the opportunity to assess the quality of the equipment from both a sound perspective as well as a video perspective.

### **Student Characteristics**

During the time that the interpreting took place two students were attending class in the resource room. One was a Hispanic male enrolled in the sixth grade with a moderate hearing loss in his right ear and a profound loss in his left ear. His right ear was aided and supported with an FM system. He followed a regular education curriculum with the support services of a full time sign language interpreter.

The second student was a Black female enrolled in the eighth grade. She experienced a severe to profound bilateral hearing loss, was aided bilaterally and was also supported with an FM system. She followed a special education curriculum with the support of a full time sign language interpreter.

Both students received instruction simultaneously from the instructor through the sign language interpreter. This allowed them to interact with each other and well as with the instructor. Initially, video segments would freeze and packets were dropped. However, once the run speed was adjusted between both computers, the clarity of both the audio streams as well as the video streams was markedly improved.

### **Valdosta State University ASL/Interpreting Students: Practicum Experiences**

The interpreting program at VSU is designed to give practicum students the opportunity to observe working interpreters for the duration of one semester in preparation for their internship the following semester. As a result, throughout the fall semester, 2002, when this project was initially undertaken, three senior students enrolled in the ASL/Interpreting practicum had the opportunity to observe a nationally certified interpreter using this cutting edge technology to interpret the initial reading class that was interpreted utilizing video conferencing

equipment. This provided them with the opportunity to become familiar with the student's signing style and the technology.

Then, with the onset of the spring semester, 2003 the three interns again had the opportunity to remotely observe this same college student who was enrolled in three additional classes. As the semester progressed, the interpreting interns eventually assumed the role of the interpreter under the direction of a nationally certified interpreter. At a halfway point in the semester the interns were afforded the opportunity to provide traditional interpreting services in the classroom while their instructor observed them and served as a team member providing them with signs as needed. This afforded them interpreting experiences both in a traditional and a non-traditional setting.

Beginning in the fall, 2003 three additional interpreting practicum students had the opportunity to observe the deaf student enrolled in the public school where the equipment was initially field-tested off campus. Toward the end of the fall semester, they were provided with the opportunity to interpret, under supervision, the language arts class.

In the spring, 2004 the interns were again given the opportunity to interpret, under supervision for the two students attending class in the second rural remote location. By the end of the semester, the interns had assumed full responsibility for the interpreting at this remote location.

### **Additional Uses of the Video Conferencing Equipment**

During the initial project year, two practicum/intern sign language interpreters who were enrolled in Valdosta State University's ASL/Interpreting program were also employed by two different school districts as full time interpreters. In order to observe these students at remote sites the video conferencing equipment was further utilized. This permitted the University supervisor to evaluate their interpreting skills. Equipped with a laptop and Polycom ViaVideo camera, interpreting students would set up the equipment in the classroom with the camera focused on them. This allowed the University supervisor to complete her evaluations remotely without intruding on the dynamics that were taking place within the classroom. It also afforded the opportunity to provide feedback to the interpreting intern at the end of the session once the students had exited the room.

### **Insights into the Pilot Project: Positive Aspects, Drawbacks and Limitations**

Valdosta State University has only begun to explore the possibilities of using video conferencing technology to provide remote access interpreting in both the K-12 and the postsecondary settings. However, during this limited amount of time several insights have been gained into the overall process.

On the positive side it has been determined that interpreting services can be successfully delivered on both a college campus and in public school settings utilizing both Polycom ViaVideo cameras and Tandberg units. It has also been demonstrated that the clarity of both the audio streaming and the video streaming enables both the deaf consumer and the interpreter the opportunity to engage in successful communication exchanges.

Limitations of this project include time and class constraints. To date, only a few classes have received interpreting services by using this type of technology. Additional classes will need to be interpreted and studies conducted to further test the validity of facilitating communication through this domain. Furthermore, it has been determined that depending on the type of equipment used student interactions, particularly among hearing students can be difficult

to hear if the speech is soft or if the students are sitting in a location out of the range of the microphone.

It has also been ascertained that in the event the instructor writes large amounts of information on the board, a camera that can be controlled at the interpreter's site is a necessity. Without being able to see what the instructor is referring to makes referencing in ASL difficult, if not altogether impossible.

Additionally, although small group discussions can be interpreted utilizing this equipment it requires that group members must assemble around the computer and camera or someone in the class must move the equipment to where the discussion is being conducted.

## **Conclusion**

Video conferencing technology is beginning to find its way into the educational arena. As technology continues to improve it will provide the conduit for rural areas to access the services of highly qualified interpreters. Furthermore, it will eventually afford sign language interpreters the opportunity to work from remote sites thus eliminating the need for extensive travel. This in turn will provide both a savings in time and travel costs for service providers. In addition, it has the potential to connect content specific qualified interpreters to facilitate communication in remote rural areas where skilled professionals are not available.

Remote video interpreting provides a very unobtrusive way to provide support services to students in educational settings. Through the use of a laptop and camera students can access information without drawing attention to the interpreter standing in front of the classroom. A great deal of research needs to be conducted into the effectiveness of utilizing this equipment in educational settings. However, the amount of success that has occurred throughout this initial pilot project indicates that the use of the technology merits further study.

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