

INTERPRETING VIDEOCONFERENCE SESSIONS

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ABSTRACT

This paper is a report on research and evaluation related to effective technologies and best practices for professional interpreting service provision for deaf individuals using videoconferencing technologies. A total of 16 videoconference scenarios were conducted in 2012 and 2013 where technical configurations, mix of hearing and deaf audience participants and meeting format were controlled so effect could be analyzed. Hopefully this research will provide guidance for the successful implementation of video relay services (VRS) as it is more widely used in education and business. Factors that were manipulated for the studies include the size and degree of technological sophistication of the videoconference systems, the location and placement of interpreters, the level of realism in the video display and the quality of audio. An evaluation instrument consisting of 17 questions was used for all 16 scenarios. All subjects, including interpreters, completed the questionnaire and then participated in a brief discussion for each scenario. Summary reports include recommendations for meeting organizers, interpreters and user interface design recommendations for systems manufacturers. Full reports are available on the project website (Monikowski, et al., 2012, 2014). The 12 months between the first systematic investigation and second effort saw a dramatic increase in the availability and wider acceptance of videoconference systems. While there are more technical options and individuals are more comfortable using videoconference systems, the provision of professional interpreting within more formal settings still requires planning on the part of meeting organizers, professional interpreters and technical support staff to ensure successful events.

Overview

The National Technical Institute for the Deaf (NTID) is one of the nine colleges of Rochester Institute of Technology (RIT). A total of 1,281 deaf and hard-of-hearing students study and reside on a campus that includes 16,200 hearing students at the baccalaureate, master's and doctoral levels.

The Center on Access Technology (CAT) at NTID received a grant to evaluate the use of videoconferencing systems and deaf education from the

Silicon Valley Community Foundation, following the recommendation of the Cisco Accessibility team. This paper will focus on summarize the findings from two years of research on the variables that impact the quality of professional interpreting within different videoconferencing environments.

Factors that were manipulated for the studies include the size and degree of technological sophistication of the videoconference and TelePresence systems, the location and placement of interpreters, the level of realism in the video display and the quality of audio. Additionally the professional interaction among interpreting teams and the techniques used to manage the communication flow were also considered.

During the 2012 studies, the scenarios had a hearing person leading a discussion or lecture to a mixed group of deaf and hearing participants at remote and local locations. For the 2013 studies, the majority of the scenarios were structured so that the lead presenter and content specialists were deaf, and the local and remote audiences were a mix of hearing and deaf participants.

Technological recommendations are offered, as well as best practices for videoconference management and interpreting services are suggested and how emerging and improving videoconference system capabilities presents both benefits and challenges when hearing and deaf individuals use videoconference systems.

2012 Study

Variables Within Interpreted TelePresence Scenarios

Within nine scenarios, key aspects of the communication situations were modified in order to measure the impact on communication success. The primary variables within the scenarios were: 1) the number of hearing and deaf persons participating, 2) the level of interaction among participants, and 3) the level of technology “emersion” or sophistication of the actual TelePresence system. A fourth variable was the location of the interpreters. Interpreters were stationed locally within the same room as the presenter/students, remotely with the presenter/students or at a third site. The key evaluation element for all the scenarios was the level of satisfaction and effectiveness of the professional interpreting for the deaf and hard of hearing participants. This was measured with a feedback questionnaire and guided discussions at the end of each session, where detailed notes were recorded.

All of the scenarios were designed to model a typical university instructional presentation paradigm as the primary structure; namely a hearing teacher with a mix of hearing and deaf participants at local and remote locations. Professional interpreters were placed at remote or local sites for comparison. For a few scenarios the interpreters were placed separately from either the presenter or students in order to model true “remote” interpreting. Three interpreters participated in the study; two served as interpreters for each

scenario, one served as interpreter for the follow-up discussion of all participants so the two working interpreters could fully participate.

The level of interaction for deaf participants varied among scenarios: 1) one-way communication, 2) two-way or “interactive”, and 3) “full participation” within a meeting and related multimedia resources.

The level of TelePresence systems deployed ranged from personal devices and desktop computers to middle and high-end Cisco systems. Using the Cisco terminology of “TelePresence Immersion Curve”, the systems ranged from “personal” (scaled Presence), “multipurpose” (Team Innovation) and “immersive” (Business Transformation). Because NTID has three TelePresence systems within its academic complex, it was possible to run nine scenarios between Cisco CTS1300, CTS3210 and Cisco C20 systems, along with other computer and tablet devices.

2012 Findings

The findings of the 2012 research was reported at the 2013 CSUN Conference and published by the NTID Center on Access Technology o. Essentially the findings included the following

1. Voice activated cameras shifted to show the speaker who was using voice and did not move to show a signing person or interpreter. The issue of voice-activated cameras continued throughout all nine scenarios.
2. Deaf and hard of hearing participants wanted to be able to see themselves on the video display. Being able to display the local side of the meeting, which is an option in most low-end videoconference systems should be included in the more sophisticated TelePresence systems.
3. Specific recommendations for meeting planning, communication protocol and meeting management as well as specific recommendation for interpreting services were listed in the 2012 reporting.

2013 Study

Variables Within Interpreted Videoconference and TelePresence Scenarios

After a review of the 2012 scenarios and outcomes, it was clear that an alternative perspective needed to be considered. Scenarios were designed, where the primary presenter or leader of sessions was deaf, and the audience was a mix of deaf and hearing persons.

Within seven scenarios, key aspects of the communication situations were modified in order to measure the impact on communication success. The primary variables within the scenarios were: 1) the number of hearing and deaf persons participating, 2) the level of interaction among participants, and 3) the level of technology “emersion” or sophistication of actual TelePresence systems. A fourth variable was the location of the interpreters.

The scenarios included 1.) A deaf manager explaining employment opportunities to deaf and hearing students; 2.) Simulated job interviews with a deaf human resources specialist and deaf and hearing applicants, and 3.) A series of professional educational development workshops, conducted by a deaf faculty member in Rochester, to a group of hearing and deaf participants in Massachusetts.

An additional variable introduced during this group of scenarios was the use of Google+ Hangouts as a videoconference platform and resource for providing local and remote interpreting service. Users found the Google+ environment offered considerable flexibility in individual preferences for display layout and control, while the video quality was judged acceptable.

As with the 2012 studies, interpreters were stationed locally within the same room as the presenter/students, remotely with the presenter/students or at a third site. The key evaluation element for all the scenarios was the level of satisfaction and effectiveness of the professional interpreting for the deaf and hard of hearing participants. This was measured with the same feedback questionnaire from 2012 and guided discussions at the end of each session, where detailed notes were recorded.

2013 Findings

Initial review of the data yields the following general findings and recommendations from the 2013 research. A final report on the 2013 findings is available on the project web site.

1. Quality of video was judged high for TelePresence to TelePresence and TelePresence to Videoconferencing systems.
2. Good flow of communication using Google+ Hangouts once users passed the initial learning curve.
3. Communication flow was much more successful when using all systems, once turn taking and speaking guidelines were established, communicated and followed.
4. Video quality of Google+ was adequate, but meetings longer than 60 minutes were tiring.
5. Ability to control one's own display on Google+ was appreciated by all users.
6. As with the 2012 scenarios, participants preferred to have the primary speaker and interpreter sharing one screen.

Overall Recommendations

Some general recommendations from the data analysis have emerged from this series of videoconference scenarios.

1. Establish communication guidelines before every meeting.
2. Ensure all participants understand how to use the videoconference systems prior to major meetings.

3. Turn off all audio on systems when using Google+ in order to combat echo and feedback problems. Separate, landline audio conference calls with speakerphones functioned much better than audio within the individual videoconference systems and computers.
4. Provide voice interpreters with remote microphones so they can work off screen and away from the system microphones.

Ongoing Research and Reporting

The 12 months between our first systematic investigation of interpreting within videoconference environments and our second effort saw a dramatic increase in the availability and wider acceptance of videoconference systems for both computer and tablet platforms. While there are more technical options and individuals are more comfortable using videoconference systems, the provision of professional interpreting within more formal settings still requires planning on the part of the meeting organizers, professional interpreters and technical support staff to ensure successful event.

As was mentioned above, D/HH people are becoming more and more comfortable with advanced technology (FaceTime, Google+, Skype); the use of VRS interpreting services also continues to grow. At this writing, there are no statistics to indicate an increase in the use of VRS services but anecdotally, D/HH people have come to accept it as a “given” in their daily lives – interacting with their physicians, their real estate agents, their friends. But the application to a formal professional environment is still in its infancy. This work done with videoconferencing, TelePresences and Google+, with sophisticated D/HH individuals from the National Technical Institute for the Deaf who are in constant contact with technology, and with skilled interpreters indicates that there are still challenges to be addressed and overcome if this is to become more widely accepted in the general D/HH community.

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