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EDITORIAL

The availability of videoconferencing technologies in educational institutions has been accompanied by an increase in the variety of applications used by professionals in education.

This case study describes a pilot project developed by chapter members of the professional education organization, Phi Delta Kappa, to provide a convenient, cost effective method for meeting a need of its officers in the state of Montana. The authors discuss the rationale for using interactive video, describe the planning process, and summarize the results of the evaluation of the project. They provide tips on planning for videoconferencing, procedures for implementing the conference, and recommendations for other professional organizations considering the use of this technology in meeting the needs of their members.

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OFFICERS' LEADERSHIP CONFERENCE PILOT PROJECT: UTILIZING INTERACTIVE VIDEOCONFERENCING TECHNOLOGY TO OVERCOME GEOGRAPHIC CHALLENGES

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INTRODUCTION

To say that Montana is geographically challenged is an understatement. Montana is the fourth largest state in the Union, measuring 300 miles north to south, and 600 miles east to west. To solve the problems associated with this geographic challenge, the Montana chapters of Phi Delta Kappa (PDK), a professional education organization that advances educational research, service, and leadership, developed a pilot project to deliver the Officers' Leadership Conference (OLC) using interactive videoconferencing. In the past, Phi Delta Kappa Officers from Havre, near the Canadian border, had to travel 412 miles round trip to attend the Officer's Leadership Conference in Helena, and PDK Officers in Billings had to travel 478 miles round trip. Not only are there extensive miles between destinations in Montana, but weather extremes create hazardous driving that can add additional time (not to mention added stress) to an already long journey, and although OLC occurs in May, late spring snowstorms are not uncommon in the state.

But geography and weather are not the only challenge. Kappans are busy educators with responsibilities that go beyond an eight hour day; they are also people who have families, friends, and other commitments. As Kappans in this large, rural state, our challenge is to find a viable means for making opportunities, including meetings and conferences, available to our membership without involving extra time, travel, or expense. Montana has a technological solution that allows chapter members to travel instantly to sites across the state: Interactive Videoconferencing. This article describes how the Montana chapters of Phi Delta Kappa teamed up to use interactive videoconferencing technology to shorten the distance between chapters as a means of meeting the challenges they faced with attendance at the Officer's Leadership Conference.

In May 1995, eight out of approximately forty-five officers in Area 1D attended the OLC held in Helena, Montana. Disappointed with the attendance, these officers proposed the possibility of using interactive videoconferencing for training and discussion in 1996. The rationale for using interactive video included the following:

* Every officer should be able to attend OLC which would generate more ideas and training for everyone. Interactive video would be an ideal way to get everyone involved because attendance should be closer to 100% of the area officers.

* Kappans would save time because they would not have to travel long distances to reach the conference site. Interactive video allows people to attend OLC locally because it is available at 10 sites in Montana which covers the six Area 1D PDK chapters. In some cases, such as Alaska, this could be an alternative to air travel (Storck and Sproull 1995).

* Training time is reduced. Since Kappans receive materials, agenda, and instructions prior to the conference, preliminaries are eliminated; attending officers are prepared for the conference ahead of time, eliminating the need to use valuable conference time to educate officers on policies, procedures,

and roles. Two to three hours provides the quality time to interact and accomplish the goals of the OLC.

* Interactive Video is cost effective. The charge per site is \$40 an hour. Six Chapters can be connected for \$240 an hour, or a total of \$480 for an entire training/discussion conference. This eliminates the expense of driving, a conference room, meals, and overnight accommodations. Expert speakers or groups outside the state can connect with Montana if they have compatible equipment. Presently this costs about \$68 an hour, and Kinkos copy centers in larger cities is one resource that has compatible equipment. This is an incredible budgetary feature that would allow the International President of PDK to attend an OLC in Montana for \$68.

* The benefits to be gained are not just monetary; interactive videoconferencing is a tool to help make urgent decisions quickly and to get the right people involved. In the business world where the element of time can make or break a company, video meetings have reduced development time of some products by as much as 30% (Kupfer 1992).

VIDEOCONFERENCING FOR EDUCATION ORGANIZATIONS

The education world can also benefit from this factor of expediency that interactive video facilitates. In addition to the rationale described above, there are a number of other reasons why professional education organizations, such as Phi Delta Kappa, should take advantage of interactive video technology: to share scarce resources, especially for scattered or rural populations; to deliver information on rapidly changing topics in a timely manner; to provide a virtual experience when the real experience is not feasible; to facilitate collaboration, information searching, problem solving, and decision making within a learning environment based on dialogue, distributed expertise, and problem solving; to connect with external resources. Global experts can be enlisted to help with organization videoconferencing because they can help validate understanding, provide feedback, and introduce practical examples without having to disrupt their own schedules to travel to remote areas. Real-world connection with expert practitioners can greatly improve motivation for members.

WHAT IS TWO-WAY INTERACTIVE VIDEO?

Two-way, interactive video systems transmit live, high quality audio and color video between several sites (Burns Telecommunications Center 1996). Two or more people at different locations can see and hear each other at the same time. Interactive videoconferencing is not the same as being there, but it is efficient, convenient, and cost effective, especially for a group of people at geographically distant sites. Because it establishes a visual connection, participants can see as well as hear in real time and use conversation and body language to enhance communication.

There are two types of videoconferencing systems. The first is Room Videoconferencing: high quality audio-visual components, sophisticated codecs, and feature-rich interface devices to create an experience suitable for a room full of participants. Room Videoconferencing was used for the Montana PDK Officer Leadership Conference described in this article. The second type is Desktop Videoconferencing; Desktop videoconferencing systems are utilized for workstations and personal computers, especially in the business world. While both of these videoconferencing systems include special hardware and software to code and decode signals, desktop videoconferencing uses cheaper components and is most appropriate for individual or small group use. Desktop systems often include a document-sharing feature which allows participants to see and edit a computer document as they see and hear each other. Document sharing and the relatively low cost of desktop systems make this an ideal tool for communication, collaboration, and learning.

Videoconferencing requires audio-visual equipment (monitor, camera, microphone, and speaker) as well as a means of transmitting information between sites. A Broadband satellite connection with studio-quality equipment produces an excellent full-motion video connection, but the equipment and transmission expense is great. Recent advances have sparked interest in compressed video systems which transmit information via today's Internet or telephone network, greatly reducing the cost of videoconferencing.

COMPRESSED VIDEO (CODEC):

So what is the magic that allows videoconferencing over regular telephone lines? The answer is a piece of equipment, called a codec (short for coder-decoder), that compresses video. The codec transmits information via a smaller "pipe" than a televised broadcast. Since the camera and microphone take in more information than the "pipe" can handle, the video and audio information must be processed by a piece of equipment called the codec before it can be transmitted. The codec takes the analog video signal and codes (digitizes and compresses) it. The codec also has to decode (un-digitize and decompress) the received transmission.

All of this processing takes its toll on the resulting picture and sound, and it often results in one or more of the following:

1. Video "ghosting" or "image softness" to compensate for rapid information flow. This creates a "jerky" picture.

2. Audio delays can occur because it takes between .5 to 2 seconds for information to compress, travel, and decompress.
3. Interactive video users often say that video meetings are more tiring than face to face meetings.

COMMUNICATION

Phi Delta Kappa Professional Education Organization encourages exchanges of ideas and information by a variety of methods, including electronic means, in order to extend the knowledge of its members. This pilot project, using a technology new to its members, required training for effective communication. The members in Area 1D carefully studied this new way to communicate several months prior to the teleconference, and local experts provided communication advice to make everyone comfortable as well as ensure success in this OLC training session.

Research provided us with some of the following tips for planning our interactive videoconferencing.

- 1) Focus on learning to use the videoconferencing system well in advance of the date of the OLC; experiment and practice.
- 2) Distribute an agenda and other supporting materials to all site facilitators and participants prior to conference (Appendix A).
- 3) Assign a pre-session activity or begin with discussion.
- 4) Make certain that each site of the conference is facilitated by one person.

Facilitators should do the following in order to maximize the videoconference experience:

1. Maintain eye contact and use peoples' name in order to make the audience feel more comfortable and to help maintain their attention. ("Eye contact" means looking at the camera and monitor rather than local audience. If you do not look into the camera, the audience will feel as though they are just watching, not participating. Envision the camera as one of the members in the audience.);
2. Maintain appropriate on-camera positioning. Position yourself on-camera according to the elbows and wrists rule: when you stretch out your arms, the edge of the screen falls between your elbows and wrists.
3. Avoid rapid motion to reduce the effects of "ghosting". Move and gesture slowly and smoothly; avoid swaying, rocking, pacing.

The main facilitator must pay special attention to all participants. One strategy to help achieve this is to compile rosters of names from each local site and exchange them with other sites well in advance of the teleconference. To help the remote audience participate and feel included, relate directly to them by looking directly into the video camera. Double your usual wait time after asking a question or

soliciting comments. Bring audience into each interaction by repeating every question or comment made, ensuring that the other sites can hear.

Other strategies that can be used by the videoconference facilitator to ensure success include informing participants ahead of time about proper interactive videoconferencing behaviors: avoid interrupting and use of visual cues, such as nodding. Instead use verbal affirmations. Facilitators should also encourage dialogue within the first five minutes of the conference. Try a name game or ask a compelling question that taps their affective domain. Engage audience with variety and interaction. Frequent interaction increases understanding and encourages more personalized instruction because trainees actively voice their questions and needs. Interactive teaching strategies such as questioning and discussion can also help engage and motivate learners. Use small group or hands-on activities to get them out of the passive "viewing" mode. Remind participants that this is two-way video and not one-way TV. Alternate lecture format with activities or discussions. Involve others in teaching. For example, encourage strategies such as participant presentations, small and large group work, participant and guest speaker demos, role playing, and debates.

The videoconference facilitator and all the participants should realize that video meetings are more intensive and have fewer distractions than conference meetings where all the members are present in one location (Kupfer 1992). Reduce distractions that may occur by devoting 30%-65% of each hour to activity with the participants.

VISUAL AIDS

Photos and color graphics can be used quite effectively on video, and they can help convey a difficult concept or simplify instructions. Furthermore, the use of creative visual aids will help to maintain the attention and interest of participants. Tools such as book illustrations, cartoons, graphics, diagrams, photos, charts, and posters add variety and clarity to the presentation. Allow time for viewing; if a visual is non-text, three to four seconds is adequate. Use large, bold text for instructional "slates". Simple fonts and concise, bulleted information make the message stand out. Color must be considered as well. Black on white will create a glare; black on pastels is better. In general, colors that are in the middle of the color spectrum, such as yellow on blue, are the most effective. Keep video segments brief; (such as the PDK International Headquarters video used in this instance, which was 20 minutes in length). If videos are necessary for training, but too lengthy, send them to the facilitator at each site for individual site viewing outside of the videoconference.

DRESS

The videoconference facilitator should wear plain clothing (preferably blue, dark or neutral colors; no white). Avoid complex patterns, such as plaids or stripes, because they may cause the camera's focus to oscillate and destroy picture clarity. Omit shining jewelry to prevent glare!

MONTANA PHI DELTA KAPPA AREA 1D TRAINING

After researching and organizing interactive videoconferencing for OLC this past year, PDK chapters in Montana are more than satisfied with the results. To understand the process, this segment of the article includes the procedures followed prior to the OLC, the OLC videoconference itself, and recommendations for other professional organizations to utilize this technology.

LOGISTICS: These are the steps the PDK chapters of Montana took to make videoconferencing work for their professional education organization:

1. Since we had access to a telecommunications center on a university campus, we found a sponsor to facilitate billing for our chapter. We contacted the Dean of Education, Dr. Randy Hitz, who is also a Phi Delta Kappa member, since our interactive videoconferencing system is through the Montana State University system.
2. We then contacted our local/area Interactive Videoconferencing System (MetNet in Montana): we reserved date, time, and sites; we did this well in advance to assure our desired date and time. We researched information about the particular system so we would know how to use it. Example: visual aids are 5" x 8" through MetNet (MSU); other systems use 4" x 6" visuals.
3. We contacted our organization's headquarters, in this case, Phi Delta Kappa International, and had materials for OLC sent directly to individual chapters to help them prepare for the conference.
4. We created an agenda, and prepared pre-session activities. One agenda was a skeleton outline to be sent to the chapters well before the videoconference date so that they could prepare for their participation in the videoconference. The other agenda, for the main facilitator, included all details with times allotted for each section; the main facilitator's agenda should be carefully scripted and practiced to fit the tight time schedule. In planning our agenda, we realized we had to be especially conscientious about time; a two hour session must end in exactly two hours.
5. We took the video received from international headquarters to the videoconferencing center prior to the training so the technician could test it with the equipment. All of the Montana chapters wanted to make a video of the conference, so we asked the technician if this was possible and then purchased a blank tape for filming at the OLC once it was confirmed.
6. We designated facilitators for each remote site and gave them details and assignments for the

specifics of the event. We also provided contingency plans, such as a group activity, in case of a disruption in the video connection. Technical interruptions are usually quite temporary, but we wanted to be prepared so everyone could keep on target.

7. We wrote to and called all chapter facilitators to make sure they had adequately prepared all of their chapter members so that everyone understood the date, time, and place; we also gave assignments for the event, in this case OLC, which included reading the Chapter Handbook prior to the meeting and considering Membership Goals.

8. We created an evaluation to be completed immediately after the meeting time. After the videoconference we had all the groups plan time for the evaluation. We emphasized the importance of quality feedback for improving this new method of delivering OLC.

9. We mailed copies of the agenda, evaluation, and any last minute information to all chapters prior to the video conference.

10. We did not plan for a food policy, but we realize that in planning for the Montana PDK OLC Videoconference II, we will need to decide on a food policy. Some sites may prohibit food and drinks. If some chapter members eat during the session, it may be distracting to those at other sites, especially if they're hungry! Ask each site if there is a food policy in the conference rooms. A consideration might be that OLC should not be scheduled during the dinner hour or that officers should meet prior to the session for a bite to eat.

PLAN AHEAD

Reservations for the May 15 meeting were made in February; each organization seeking to join the videoconference should check with their local telecommunications facilities early because booking may need to be done more than three months in advance. Early reservations are necessary to be sure that all sites can be included for the date and time requested. Since classes and lectures are offered through interactive videoconferencing, it may be difficult to schedule during class semesters. Consequently, we opted for an evening after the spring semester had concluded.

We collected relevant material and finalized the agenda at least a month prior to the OLC. We outlined the agenda with times estimated for each area and determined that two hours would be adequate, considering the time saved in handing out materials, reading the Chapter Handbook, and doing evaluations, all of which could be done prior to or after the training session.

TRAINING CONTENT

We followed the agenda exactly as it was written. People responded well when asked to introduce themselves at each site, and, actually, it felt like we were in the same room. People really listen with this technology because if they talk, the camera zooms in on them, and they become the focal point for a captive audience at all of the sites. After a few opening words, introductions of new Officer's, and some dates and reminders, we watched the International Headquarters video. The film explained new membership policy quite well; however, we determined that it was too long for interactive videoconferencing. It would have been wiser to show only a segment.

The most effective part of the entire evening occurred when the Chapters took over from the Conference Facilitator and exchanged concerns, ideas, and issues. We had about 48 attending, and there were many good ideas that evolved.

IMPLICATIONS AND RECOMMENDATIONS

Interactive videoconferencing proved to be an effective tool to help the Montana chapters of Phi Delta Kappa communicate without traveling long distances and incurring extra expenses such as motel and food. The Montana members met for under \$100 per chapter with nearly 100% attendance, compared to about 18% last year. Certainly, interactive video should not replace all conferences, but Montana District 1D thinks this technology has lots of potential for our future. Some of the suggestions from our local chapters for other uses for this technology include the following:

- 1) Use it as a means for providing continuing education credit. Such use may motivate members to get more involved in the organization;

- 2) Symposia;
- 3) State or national meetings where all chapters could connect and hear someone at the international level; and
- 4) Create a Traveling Delegate. Have state delegates compete for the position of "Traveling Delegate for Phi Delta Kappa" by discussing and debating the issues that need to be resolved at Biennial. State delegates would then vote for one representative, and that person would represent the state at the International Biennial. This would get more local people involved, and people would be more prepared and focused on the voting issues at Biennial.

EVALUATION

Immediately after the video conference, we had all of the participants at each site complete an evaluation form (Appendix B) because we wanted feedback from everyone to determine their thoughts and reactions to the video conference experience. The PDK President at each site mailed the completed evaluation forms to the Area Coordinator to be compiled into a report. We planned to use this evaluative feedback both to report our experience to other organizations and to improve our OLC

video conference the following year. Even from the outset, we had plans to make this an annual event because of the low participation rate at previous OLC annual meetings.

The following is a summary of the evaluations made by the 40 participant
s of this video conference:

Site 1 = 10 participants

Site 2 = 8 participants

Site 3 = 7 participants

Site 4 = 7 participants

Site 5 = 4 participants

Site 6 = 4 participants

[Questions 1 - 3 were rated on a scale of excellent, good, fair or poor.]

Question 1: Was this an effective means for participating in Officer Leadership Training?

Site 1 = 10 excellent

Site 2 = 6 excellent, 2 good

Site 3 = 5 excellent, 2 good

Site 4 = 4 excellent, 3 good

Site 5 = 4 excellent

Site 6 = 1 excellent, 3 good.

Question 2: How effective was the content of the teleconference?

Site 1 = 9 excellent, 1 good

Site 2 = 1 excellent, 7 good

Site 3 = 5 excellent, 2 good

Site 4 = 2 excellent, 4 good, fair

Site 5 = 2 excellent, 2 good

Site 6 = 4 good.

Question 3: How effective was the teleconference technically?

Site 1 = 10 excellent

Site 2 = 6 excellent, 1 good

Site 3 = 5 excellent, 2 good

Site 4 = 4 excellent, 3 good

Site 5 = 3 excellent, 1 good

Site 6 = 2 excellent, 2 good.

[Questions 4 - 8 were responded to with either a yes or a no.]

Question 4: Would you prefer traveling to a common site for OLC?

Site 1 = 10 no

Site 2 = 1 yes, 7 no

Site 3 = 2 yes, 5 no

Site 4 = 7 no

Site 5 = 3 no, 2 ?

Site 6 = 4 no

Question 5: Were the opportunities to interact with people at all the sites adequate?

Site 1 = 10 yes

Site 2 = 7 yes

Site 3 = 6 yes, 1 no answer

Site 4 = 6 yes, 1 ?

Site 5 = 3 yes, 1 ?

Site 6 = 3 yes, 1 no answer

Question 6: Did you have any apprehension about the technology prior to the conference?

Site 1 = 3 yes, 6 no

Site 2 = 1 yes, 7 no

Site 3 = 7 no

Site 4 = 1 yes, 6 no

Site 5 = 2 yes, 2 no

Site 6 = 4 no

Question 7: Did you have any apprehension about the technology prior to the teleconference?

Site 1 = 10 no

Site 2 = 1 yes, 7 no

Site 3 = 1 yes, 6 no

Site 4 = 1 yes, 6 no

Site 5 = 4 no

Site 6 = 1 yes; 3 no

Question 8: Did lack of personal contact with facilitator or other participants deter your learning?

Site 1 = 10 no

Site 2 = 1 yes, 7 no

Site 3 = 6 no, 1 ?

Site 4 = 7 no

Site 5 = 4 no

Site 6 = 4 no

Additional comments from each of the six sites specific to some of the questions may be obtained from the authors (see Note).

SUMMARY OF EVALUATION COMMENTS

A summary of the responses to questions four through eleven are noted below.

4. Would you prefer traveling to a common site for Officer Leadership Training? Although 92% responded "no", several preferred personal contact when possible. However, time, distance and money make codec more practical.

5. Were there adequate opportunities to interact with people at all the sites? Ninety-seven percent agreed the opportunities were sufficient. Positive comments included good participation from all sites; Patti's (the facilitator) work with each site and her format; enough time allowed for interaction and communication; and good use of technology. One person noted that only leaders seemed to talk.

6. Did you have any apprehension about the technology prior to the conference? Fourteen people reported prior use, thus they felt no apprehension. Others indicated the experience was non-threatening, good technicians eased fears.

7. Was OLC less enjoyable because of lack of personal contact with facilitator? Patti was cited as familiar to the chapters/officers and she used a good format to allow participation. Most agreed the procedure was fun and personal. Several compliments were given to local technicians who eased fears. Two people preferred personal contact, if possible. Ninety percent responded positively.

8. Did lack of personal contact with facilitator or other participants deter your learning? Ninety-eight percent said no. The format allowing each site's input, familiarity with Patti, as well as fun, motivating groups at each site contributed to the good marks for the session. One person preferred personal contact and one person would have preferred more time for the conference.

9. What did you like about the technology? Seeing colleagues, using modern technology, and having Patti as a good facilitator with a good format to include all sites, were deemed positive factors in the success of the conference. But the overriding comment focused on the fact that less time and money were spent in not having to go to a single site.

10. What did you not like about using the technology? The video from International elicited the most complaints. Other objections included occasional delays in moving from site to site, camera shyness, a desire to see the whole group at one time, and the need for breaks. One person commented that this was an idea sharing session, not a leadership conference.

11. What suggestions do you have to improve this videoconference? Seven people would delete the training video from International. Five people wanted food/water on the tables. Practical suggestions included a way to know when their site was on-line and a method to see all sites at once, keeping focused, just providing a theme, and advanced notice of concerns and questions.

Other comments: Congratulations to the lead facilitator for the great organization and effort were written by nine participants. Deletion of the "terrible" video as dry, boring and having no appeal, received four comments. Several suggestions for additional time and food. One person suggested creating a home page for our state newsletter.

SUMMARY

In a state with sparse population and great distances, this technology is a necessity. Education encourages the use of technology and we, as educators, should become familiar with its use. While many participants indicated past experience and ease with the technology, several acknowledged unease prior to the conference but seemed positive about its use after participating. The major complaint of the conference was the use of the International video. The lead facilitator was complimented on her skill as a facilitator and her devotion to PDK as evidenced through her personal contact with each chapter.

A few final points are offered in closing. Invite others from your local educational community to join in on the teleconference, as space permits. This is a great way to get exposure for your organization, while providing a learning experience for interested educators. Consider videotaping the interactive session. Review the tape for assessment purposes and make it available to all members of your organization, whether they participated in the videoconference or not.

Note: Appendices A and B and additional information on the videoconference are available from the authors.

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REFERENCES

Videoconferencing for Learning. 1996. In Pacific Bell Knowledge Northwest Explorer [Online]. Available: <http://www.kn.pacbell.com/wired/vidconf/index.html>.

Burns Telecommunications Center. 1996. Two-Way Interactive Video Handbook. Montana State University: Bozeman.

Distance Education Clearinghouse. 1996. In University of Wisconsin Extension [Online]. Available: <http://www.uwex.edu/disted/home.html>.

Emery, M., and M. Schubert. 1993. A trainer's guide to videoconferencing. *Training* 30(6):59-63.

Kupfer, A. 1992. Prime time for videoconferences. *Fortune Magazine* 126(14):90-95.

Secondary School Videoconferencing. 1994. North-Eastern Education and Library Board [Online]. Available: http://ms.edsm.ulst.ac.uk/media_servias/pages/neelb1.html.

Sheridan, D. 1992. Off the road again: Training through teleconferencing. *Training* 29(2): 63-66.

Storck, J., and L. Sproull. 1995. Through a glass darkly: What do people learn in videoconferences? *Human Communication Research* 22(2): 197-219.

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