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Ontario's Distance Education & Training Network
Le réseau d'éducation et de formation à distance de l'Ontario

INSTRUCTIONAL DESIGN CONSIDERATIONS

Of all the distance teaching technologies, videoconferencing is probably the most similar to classroom instruction, however, there are a few key differences in the teaching and learning process that require attention in order to use videoconferencing successfully. Once you have learned how to manage the technical components of the videoconferencing system, significant time and effort will probably be needed to adapt/create course materials for successful videoconferencing. The following strategies should be considered when designing your videoconferencing session content.

Planning and Preparation

Effective teaching via videoconferencing is the result of careful and detailed planning. Everything must be done much farther ahead of time than is the case with face-to-face instructions. Impromptu or last-minute planning is almost certain to be unsatisfactory.

Providing sufficient support material ahead of time will improve communication and encourage learner involvement. You may consider some of the following suggestions as you prepare your support materials:

- Create and distribute an agenda so participants at all sites will know what to expect during the session.
- Pre and post session activities should be well-defined and expectations clearly communicated well ahead of the session.



Materials sent to each site in advance of the videoconference should be well labeled, numbered, and/or colour-coded for quick and unambiguous reference. Include the course name, number, and instructor on each sheet.

- Assignments should be defined in detail, prepared and distributed in advance.
- Print materials that will be referred to during class sessions need to be sent to each site well ahead of time. Include space for note-taking on handouts.
- When feasible, include graphics shown during the videoconference in the printed material.
- When explaining a learner activity or assignment, display a slide or whiteboard with simple, bulleted instructions. Leave the slide displayed during the activity for reference.

Setting Expectations

The videoconference experience may be new to some or all of your learners and a certain amount of trepidation is quite normal. Most of us are not accustomed to approaching or getting to know those we see on “TV” and learners may not expect to actively participate in videoconferencing. However, as they see that they are considered individually important by the instructor, they are likely to follow the instructor’s lead and learn more about their fellow participants. This in turn makes the course more comfortable and enjoyable for all and increases the likelihood of productive participation and interaction.

Instructors can help learners understand the expectation of interaction and active learning by communicating these expectations prior to the initial session. A letter of welcome to each student from the instructor should include:

- Suggestions for preparing for the first class session.
- A picture of the instructor with biographical information.
- A description of how the class will proceed (including the importance of participation by each student).

At the first session, personal introductions, written mini-biographies, shared experiences, or one participant introducing another are all reasonable options. A list of all participants should be available to each learner, and first name cards with large letters (10 cm or more) could be placed in front of each participant so that the camera can pick them up clearly. Using first names throughout the course is nearly always a good idea as doing so provides a more informal, collegial tone.

Efforts to humanize your course should be thought through just as clearly as your content outline. *Humanizing the process means keeping the importance of “people” at the forefront and ensuring that a group rapport is established.*

Instructors should prepare learners for an active experience by getting them involved early and often. The following additional ideas may help you communicate these expectations:

- At the beginning of each class, remind learners that they are required to participate.
- Emphasize that the videoconferencing is two-way, not one-way like TV (remind them that their actions and comments may be seen and heard by all!).
- Discuss etiquette required for two-way video.
- Assign activities ahead of the meeting to get the students more involved.
- Allow learners to participate in equipment operations where possible. This will help you delegate tasks so that you are able to facilitate and monitor interactions as well as manage the classroom.
- Model different types of active learning behavior in your own presentation style.

Engaging Students with Variety and Interaction

Inspiring motivation is important in any learning environment, but it is critical in videoconferences. If students are to master the course materials, it will be because they involve themselves with the instructional process. Fortunately, videoconferencing is a visual medium, so there is ample opportunity to incorporate variety in the teaching and learning activities.

The technology of videoconferencing can help to motivate students if the lesson is purposefully designed to engage all participants. Very special attention must be paid to creating a high quality visual presentation, especially when students are viewing prepared screen images (see also Videoconferencing: Planning and Preparing Visual Materials).

Peripheral equipment (e.g. cameras, computers, etc.) can help to motivate as well. The document camera is a great tool to use to show objects as well as photos and graphics to help explain difficult concepts or to simplify instructions. PowerPoint slides can also be used to emphasize points or shift focus to a learning activity.

Even when the camera focuses on other students or the instructor, a clear focus, reasonable zoom length, and the dress and surroundings of the instructor can contribute to a professional image. While videoconferencing cannot be expected to provide the same pacing and variety as high-end television productions, the principles involved that keep viewers' attention are sound. Variation in what is on the screen over a one-hour period will help keep students watching and mentally involved.

Suggestions for Engaging Students at Remote Locations

- **Design activities that require explicit involvement from the outset.**
- **Emphasize that students must be diligent in completing assigned advance preparation. Encourage students to note questions they want to ask in class while reviewing any advanced material.**
- **Have students from other classrooms solve different problems at each site and then share the procedures and answers with others.**
- **Have a list of students and a seating chart if possible for each site.**
- **Encourage and assign group work, both in and out of class.**
- **Randomly call on students from the sites to show their work.**
- **Be aware of body language and do not hesitate to address students that appear discontented, confused, sleepy, preoccupied.**
- **Use guest speakers, group activities, student presentations and occasional breaks to add variety, especially to longer classes.**

Reducing Distractions

It is important in videoconferencing to avoid or reduce distractions as much as possible. Movements such as tapping your fingers or pen, turning back and forth in your chair, wiggling, chewing gum, rustling papers or having side conversations are exaggerated during a videoconference. The microphones are often very sensitive and any noises will be amplified. Use the mute button when you do not expect to be speaking for a long period of time.

Encouraging Dialog

All participants need to be deliberately involved in discussions, especially if some are reluctant. People often will not speak up uninvited and asking a question can be daunting, but you can help them by making note of their body language and taking the time to ask if they have understood. At first, imposing a rigid structure may make it easier for students to participate than if they simply had to volunteer. Having each student ask a question of another at a different site, for example, may help break the ice for doing so throughout the course as well as establishing more comfort with the equipment.

Eye contact and use of names both help make participants feel more comfortable. These techniques are obvious and natural in a traditional classroom, but may seem awkward in a videoconference. You can establish a sense of eye contact by looking at the camera rather than at the remote site monitor. This requires some practice, but is an effective technique for humanizing the experience for your participants.

Practicing and Repetition

Most students need to have the opportunity to interact with new material more than once in order to learn it. Videoconferences are limited by the fact that there is no opportunity for review or self-pacing by the student. Once the words are spoken and the picture has changed, there is no more chance to study or contemplate the material. This can, of course, be alleviated if the presentations are taped for repeated use, but this can be cumbersome or expensive if a class is large.



The videoconference should be used primarily for activities that provide students with opportunities to interact with the content, the teacher, or other students.

This is the time for practice in using the materials, for feedback on the results of that practice, for examples or elaborations of the basics, and for discussion of issues that arise from the content.

Practice with the new material can take many forms. Short mock quiz sessions, for example, can provide practice as well as some other valuable side effects. Students will be obligated to participate and resulting discussions can pinpoint where misunderstandings may have arisen. If quiz items are similar to those that will appear on real tests for the course, students have an excellent idea what to expect and prepare for (it may even be appropriate for some of these practice items to recur verbatim on tests, providing incentive for students to remain attentive).

Practice is also required for higher-level objectives that are less adaptable to traditional test items. However, these more sophisticated “thinking” skills can certainly be taught using distance technology. Practice in applying concepts to new situations as well as analyzing and evaluating ideas are all skills to be learned via well-directed discussion, a teaching strategy that can be used readily in videoconferencing.



In order to allow participants as much exposure to course content as possible, provide the bulk of the factual content to be taught ahead of time, either printed or accessible online. This gives students materials to read, study, and review on their own time.

Summary

Compared to face-to-face teaching, successful videoconference classes will require detailed and timely planning and preparation. More organizational effort, both before and during the classes, and a greater emphasis on visual materials and communications are also necessary. In addition, creativity in attending to group dynamics and engagement will contribute to effective teaching and learning in your videoconference class.

Resources

Videoconferencing. 1997. Contact North.

Videoconferencing Instructional Strategies (AT&T Knowledge Network Explorer)

<http://www.kn.pacbell.com/vidconf/instruct.html>
accessed *March 12, 2012*

Engaging Students in Video Conferencing (East Baton Rouge Parish School System)

<http://instructionaltech.ebrschools.org/explore.cfm/videoconferences> accessed *March 15, 2012*

Introduction to Videoconferencing. 2004.
University of California, Washington Center.
Washington, DC

Brady, J. Strategies for Effective Teaching: Using Interactive Video in the Distance Education Classroom. 1997. Florida State University.

Videoconference. (World Bank Institute)
<http://go.worldbank.org/X4AVPTH7Y0> accessed
March 26, 2012

Videoconference Teaching Strategies: Some Hints and Tips. Centre for the Advancement of Learning and Teaching. <http://www.utas.edu.au/tl/teachtechnology/videoconferencing.html>
accessed on *March 26, 2012*

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