



Technical Information

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Information Technology

WHAT IS VIDEO CONFERENCING?

By Marie Martin WELB

What is videoconferencing?

The simple answer is that videoconferencing is basically interactive television. It enables participants in two or more geographically distinct locations to see and talk to each other in real time.

Videoconferencing can also, of course, be used effectively between schools in the same geographical area. It enables them to work together in a stimulating and highly motivating way on education topics of common interest. For the teachers involved it has the added value of personal contact with their colleagues who are engaged in the same discipline in other schools. This 'extended staffroom' helps to overcome the sense of isolation often experienced by teachers in a variety of situations.

Why use videoconferencing?

There are numerous sound educational reasons for using videoconferencing to complement and extend both traditional and distance teaching and learning situations.

Perhaps, a general observation can be usefully made at this point. Videoconferencing largely overcomes the restrictions imposed by time and distance. It has the potential to connect learners of all ages and abilities to colleagues, experts, other communities and experiences in a virtual but meaningful interpersonal way that will enhance their education and enrich their lives.

Videoconferencing will play an important role in this project. It will bring together teachers who are separated by great distances. It will be used for social contact, keeping the human element to the fore as well as for planning conferences and for interactive music "jamming sessions".

Preparing for a session

Detailed guidelines and etiquette are set out in Marie Martin's book, "Videoconferencing in Teaching & Learning", a copy of which is being made available to every school in the project.

The most important of these are:

- careful planning of agenda for each session to ensure agreement on key points, such as format, structure and content.
- pre-testing of videoconferencing systems to ensure compatibility;
- assessment of need for technical support;
- contact details of each site in case of difficulty;
- appointment of chairperson; (A good chairperson is an essential element of a successful videoconference. Cf. p93 of "Videoconferencing in Teaching & Learning")

Live conference

A good videoconference does not just happen. During the session, the following elements are important:

- good chairing;
- social interaction at start
- adhering to agreed agenda;
- keeping strictly to time;
- interactivity involving as many of the participants as possible ;
- summary of key points at end;
- plans for follow -up activity.



Points of videoconference etiquette:

- Look at camera to ensure eye contact.
- Listen carefully. Do not interrupt a speaker.
- Speak clearly. Take into consideration differences in accents and cultural background.

Expected outcomes

Bonding of participants through visual contact in real time and interactive discussion of live issues;
 Re-energising and re-motivating of participants;
 A common understanding of the aim of the project and of the requirements for its implementation;
 Facilitation of planning of the project, giving ownership to the participants;
 Maintaining momentum through interactive music “jamming” sessions in real time and immediate follow-up discussion of issues arising from these.
 Experience for the teachers of a new technology and a heightened awareness of its educational potential.

(Many of these outcomes were realized at the Cultural Ireland videoconference held on June 7, 2000 between the participants from Ireland and the USA.

See “Videoconferencing in Teaching & Learning...” Pp 77-78)

Videoconferencing technical needs

The live conference imposes technical demands which are as important as the actual VC equipment. The organizer(s) of the session should be familiar with the following points.

I.S.D.N. line/s, how many, if bonded and their numbers?

One ISDN line = two channels, each channel = 64kbps, so, one ISDN = 2 channels = 128 kbps, 2 ISDN = 4 channels 256kbps and three ISDN = 6 channels = 384kbps (kbps = kilo bits per second and is the speed of transmission)

Countries involve in session? – Time zones!

Type of V.C. equipment at each location, i.e. the make and model, are the units dedicated or computerised?

The need for a test to establish compatibility, prior to the day of the session

The local time for starting/ finishing the sessions – especially if using a bridge*

The lay-out required for the session, this may affect the positioning of microphones

Testing of microphones

If needed the pre-setting of camera zooming/focusing positions, up to 9 locations on some units. Ideal if participants are seated – speeds up the camera re-adjusting for set locations.

The purpose and lay-out of the session may also determine the need for additional cameras – with any additional cameras demanding manual support

The need for auxiliary equipment, i.e.

LCD projector/s (dependant on audience size)

Back projection screens

Document camera (preference for printed material to be of a regular size suitable for the camera, so as to restrict camera re-zooming + focusing)



Video player to download video tape
 Video/ digital player for recording session
 For Power point presentations the need for a computer

Ideally the décor of the room should enhance the transmission of pictures, so background colours should be gentle on the viewers eye

If the session is multi-point, is it transmitted as a discussion session or a lecture session? (The discussion session in broad terms is where all mic's are left open and the strongest vocal signal takes the screen**. The lecture session is coordinated so only the speakers mic is live, all other mics are muted so the speaker has the screen until an agreed handover)

If multi-point do the participants require to view the speaker only or all participants live

Book the facilities

Agree on which site is placing the call. This site will then be responsible for paying for the call.

* **A bridge is a unit, which controls multi ISDN lines and their dedication, these control from 30 upwards channels (1 ISDN line = 2 channels). The bridge is computerised so once channels are dedicated to a session and the allocated time set – the computer will terminate the discussion at that set time!!**

** **This can be preset by the user to show all sites live or to be voice activated where the most vocal site takes the screen**

Web cams

- Used via a PC
- PC must have either modem or ISDN card
- PC must have Sound Card, Microphone and Speakers (although telephonist headset is acceptable for single user)
- PC must have necessary disc space available
- PC or Web Cam must have video capture card
- Normally used with Netmeeting or similar software
- Depended on the ISP (internet server provider), of each site being compatible
- Normally uses telephone lines – quality poor. Would suffice for pen-pal type discussions, i.e. low key. Movement greatly disturbs picture so more the one person on-screen at either site is not recommended.
- Can be used to transmit pre-recorded messages

Consideration should be given to dual use of camera, some units come with a self contained memory so can be used as a digital camera, from which pictures can be taken remotely and downloaded to computer at a later stage. Web Cams are priced from £20+, you get what you pay for, units costing about £150 usually have in-built capture cards and or act as a stand alone digital camera some even with capacity of capturing a short video burst.

Recommendation would be for the units to be purchased and the necessary software/ hardware installed by the PC suppliers.



WRITERS BIOGRAPHY

Marie Martin

Marie Martin – A former teacher of Modern Languages, currently International Officer with the Western Education & Library Board in Northern Ireland. Responsible for North/South (Ireland), European and International links and projects and for promoting the International dimension as a means of raising standards in education. A member of the Northern Ireland Teacher Education Group which supports the professional development of teachers in ICT. Has been engaged since 1995 in action research on the application of videoconferencing in teaching and learning across all phases of education. Author of “Videoconferencing in Teaching & Learning - Case Studies & Guidelines” published by the WELB in January 2001.

By Marie Martin (International Officer, WELB)



WEB MANAGEMENT
by Michael Hallissy NCTE

Web management by the teachers is to be in accordance with Windmill's design and functionality of this site and the school web site. Windmill are currently developing a template and a detailed implementation document for management of the site.

All the sounds and compositions from the exercises are to be uploaded to the school web site and the teacher journals written up there. From there, the teacher then selects a range of sounds and compositions to upload onto the project web site.

If the children do additional exercises/homework then samples should be uploaded to the project web site. It is recommended that the children use the school web site to write their journal. They can transcribe any work written on paper to the site before going on to the next exercise.



SCHOOLS WEB SITE

By Michael Hallissy

Director of Educational Software in NCTE Dublin

What is a school website?

A school Web site is like an electronic brochure containing text, graphics, sound or video related to your school. Web sites are a popular medium for informing the world about your school and the activities being pursued within. It is a medium through which teachers and students can publish their work to a worldwide audience. This can be a huge incentive for children when they realise that an audience of millions can view their picture, project or poem.

What should I publish on our school website?

A school site is not like any other site on the Internet. Many of the commercial sites on the Internet are created by graphic artists and provide information of use to their customers. A school website should contain quality information and work carried out by pupils and staff. In addition to student work the site should inform visitors about the school, its location, history and achievement record (Music, Sport etc.).

Rather than creating new or additional work, current projects and assignments can be documented on the school website. If students are working on a history project they can publish their images and text on the school website. School or class newsletters can also be published on the Web to expose children's work to a world-wide audience. When designing your website involve the students in deciding what information is going to be published and in how it is going to be displayed. Older students may even form a website management team to assist other teachers in uploading new material and in archiving out of date content. An active school website should involve the entire school but this often takes time to achieve. Start small and constantly build and refine the site.

Before you commence planning and building your website visit the NCTE Web Publishing Centre where you will find additional information <http://www.ncte.ie/wpc>. Here you will find all you need to know about creating a school website from a technical and aesthetic perspective. Other Issues to Consider

Safety

Publishing appropriate content on the Web is extremely exciting but we must take great care when it comes to publishing student photographs and accompanying details. Inform parents that students will be publishing material on the Web and obtain the necessary sign-off sheets. For more information on Internet Safety please visit <http://www.ncte.ie/support.htm>.

Copyright and Web Publishing

Publishing on the Internet is similar in many respects to conventional publishing. As such, Internet publishing is similarly constrained by laws, which safeguard authors from having their work abused whether intentionally, or by oversight. Ensure you receive clearance for all text, graphics, sound or video files before publishing them on the Web.

Final Word

Creating a school website is an ongoing task. Schools are constantly updating and improving their websites. Those that give greatest pleasure involve students and teachers working together to publish relevant curriculum resources. We look forward to seeing your material on the Web in the near future.



WRITERS BIOGRAPHY

Michael Hallissy

Michael Hallissy - a primary teacher currently seconded as National Co-ordinator for Interactive Software in the Curriculum to the National Centre for Technology in Education (NCTE). Holds a Masters in Education Technology from Boston College and worked closely with the Department of Education and Science in developing their IT 2000 policy document. Has developed guidelines for teachers in evaluating educational software so teachers can share their experiences of using particular programs with their students. Extremely interested in promoting the creative use of Information Communication Technology (ICT) in all schools and believes the Cultural Ireland Project will make a valuable contribution to this research.



Web Minimum Technical Requirements

The following is a listing of the various technical parameters Windmill (the company who developed this site on behalf of Cultural Ireland) recommends for the development of the Discovery of Music and Sound program website.

Browser Requirements

The site will have to conform to a number of minimum requirements in terms of the technologies required to access the various interactive and multimedia elements presented. The Discovery of Music & Sound program website will be viewable on the following DHTML enabled browsers:

- Microsoft Internet Explorer Version 4.01 or higher
- Netscape Navigator 4.06 (with Java, JavaScript and Cookies enabled) or higher

Software Requirements

Other software requirements are as follows:

- Scorch plugin (download from www.sibelius.com)
- Flash & Shockwave player (download from www.macromedia.com)
- Realplayer Basic (download from www.real.com)
- Windows Media Player 6.4 or above (download from www.microsoft.com)
- Adobe Acrobat Reader (download from www.adobe.com)

Hardware Requirements

Hardware requirements can be synthesised as follows:

- The site will be compatible with both PC and Macintosh environments.
- 33.6kbps modem minimum, 56kbps modem or faster recommended
- 800x600 minimum screen resolution
- 16-bit minimum colour depth
- Soundcard and speakers