TEACHING VIA VIDEO CONFERENCE

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Introduction

What is video teaching?

Video teaching uses technology to transmit audio and video signals to deliver course content from one location to students who are physically in other locations. Deakin University has over 150 rooms across 4 campuses equipped to teach by video conference or EchoSystem. These vary from theatres to small seminar rooms. Video teaching may occur **between** campuses of Deakin (for instance participants in Burwood, Geelong and Warrnambool connected together) or may include **external** participants (for instance including participants from Sydney, Tokyo, Brisbane, Wodonga or Bairnsdale).

Deakin uses two key types of video teaching:

- a class is given in one theatre, and received via video to another theatre. Generally, there is only one person speaking or presenting. This is called a video class.
- a seminar session held between two or more locations. Many people will speak and discuss concepts and questions. This is called a video seminar.

Video teaching is one of many methods you may choose from to assist with teaching. Deakin has a long history of teaching via video, and has used video teaching since 1998. Of course, there have been many improvements in the underlying technology in that time. Academics can now expect video teaching between campuses to be reliable, high quality and be free from problems such as blurry images and poor audio quality that have detracted from video teaching in the past.

At Deakin you will also have access to other forms of teaching in the cloud, for example using EchoSystem, eLive, Deakin Sync or Jabber. We won't be covering these technologies in this fact sheet but you can find a list of resources to help you with them at the end of this document.

Getting technical help

More detailed information about how to access rooms with video conferencing equipment can be found in **Part C** later in this resource. eSolutions and Deakin Learning Futures can provide many resources to help you locate an appropriate teaching space, discuss the appropriate technology for your needs and help you set up your session if you require help.

For now we'll concentrate on looking at the teaching and learning benefits of video teaching.

Part A: Overview

This section provides some answers to frequently asked questions about video teaching.

Deakin University is encouraging the use of many new forms of technology for teaching and more general business communication, video conferencing is only one of them. Take a look at the video below for more information about the benefits of video conferencing to Deakin University.

(http://www.youtube.com/watch?v=0OPpJZM6040, 2012)

Why would I use video teaching?

There are a number of reasons you would spend the time gaining the skills to work with audio-visual technology:

- adding video teaching to your repertoire assists you to keep current with technology and explore new teaching delivery methods

- video teaching may allow you to extend the reach of your unit, for instance, you may be able to attract additional enrolments from students in regional or rural areas who are able to participate in classes and seminars via video, allowing students who would previously have missed out to take your unit

- video teaching may also allow you to offer your unit at additional campuses without needing additional teaching staff, particularly where there are low enrolments at other campuses, helping your faculty to avoid penalties associated with low enrolments

- video teaching is an effective means of acknowledging Deakin's Graduate Learning Outcomes, providing students with specific opportunities for Communication Skills and Digital Literacy.

How does video teaching differ from face-to-face teaching?

The technology used for video teaching, although important, is only part of the whole learning experience. Technological skills should be combined with appropriate teaching and learning knowledge. Video teaching is similar to traditional face-to-face classes and seminars in many ways, often using the same teaching skills. However, video teaching requires far more structured planning, the need to 'go a little slower', and the need for a specific etiquette to be established.

A more detailed discussion of important teaching and learning factors follows in Part B.

How do I decide whether video teaching is right for me?

Gillies (2008) identified six key elements to consider when choosing whether video teaching is right for your students, your unit and you:

- **What does video teaching offer the student?** Students will more readily accept and be involved with video teaching where they can recognise how they will benefit from its use.

- **Have the students already been exposed to technology?** Generally today the answer to this question is yes, however, the more your students have been exposed to teaching in the cloud, the more suitable your unit will be to video teaching

- **What are the English language skills of the students?** If the students have a mix of English language backgrounds consider this when choosing a delivery system and if teaching by video, ensure that the class is delivered at a measured pace and that microphones are positioned for clear delivery.

- **What is your level of experience with the technology?** Again, most of the staff at Deakin will have had some exposure to teaching by video. If you are unsure of the technological requirements of the room you are using, the staff of eSolutions will be happy to assist – plan ahead and check out your room and the equipment available.

- **What type of content does your course have?** Content requiring students to use objects such as instruments or tools may be difficult to organise across campus via video teaching. These tasks should be used with more experienced groups and teaching staff. Content, which is primarily audio or static visuals (e.g. PowerPoint diagrams, pictures, direct speech) is ideal for teaching by video.

What are the issues and challenges of video teaching?

Some consideration will need to be given to the issues outlined below:

- Multi-site timetabling can be quite complex.
- Slower pace of teaching has the potential for less content to be covered.
- More structure is required when planning sessions.
- Added layer of complexity.
- Additional training is required to manage video equipment.
- Necessity of developing materials that keep students across campuses engaged and feel included.
- Occasional technical issues may interrupt video connections.

Deakin at Your Doorstep (Associate Degree of Arts, Business and Sciences): Case study

The Associate Degree Deakin at Your Doorstep is taught to a number of sites across Victoria via a video conference system. The course is facilitated at a number of TAFE locations. Deakin's Warrnambool and Waurn Ponds campuses have dedicated learning centres that enable students to participate in lectures. The majority of the lectures are offered to the satellite TAFE campuses via video conference and are to some extent designed to be interactive. Students have the capacity to answer and participate in conversation by pressing a microphone on the desk, the camera then locates them in the room so their face is beamed across to the other sites as they make their contribution. This is a little bit intimidating initially for students but most seem to gain confidence quite quickly and soon feel that communicating this way is very ordinary. Facilitators are available at each of the TAFE sites to work with students in a tutorial environment. The combination of video conferenced lectures, interactive video conferenced sessions and follow up on-location tutorials has broad appeal with students.
(http://air.deakin.edu.au/public/media/interactive+videoconferencing/0_d794a3w8, 2013)

Part B: Teaching and learning by video

This section looks at the nature of teaching and learning via this medium. It covers things such as designing learning experiences, facilitating learning activities, managing communication and discussion effectively, and looking at how you may evaluate the impact of your teaching by video on student learning.

Pedagogy

As with all teaching and learning contexts, certain approaches are more suitable to teaching via video than others. The traditional lecture approach where teaching staff 'deliver' content to students may not suited to video teaching. Given that video teaching is a visual medium designed to encourage interaction between participants in different locations, a better utilisation of the medium should encourage these discussions and should be facilitated by the presenter.

The notion of active learning, which is a widely used pedagogy in face-to-face teaching sessions, can be adopted effectively in video teaching. This approach will do more to engage students in learning than one based on students sitting in a remote site simply watching teaching staff talking on a screen. In this instance an on-demand recording of a class using Echo might be a better alternative.

For effective interaction between sites to occur, video teaching sessions need to be carefully planned. The spontaneity of face-to-face teaching and learning environments becomes more limited in video teaching, and necessitates built in opportunities for questions and discussion between sites.

Learning design

Planning a video teaching session requires attention is paid to several aspects of teaching and learning.

Content

The video medium does not lend itself readily to a simple transfer of content from teacher to student, as can be done in a theatre. Even in a theatre, regarding teaching as transferring content is not always the most effective means of promoting effective learning.

The strength of the video teaching medium is to allow people from many locations to participate in learning; students need to be able to participate in 'receiving' the content. This may be done by discussing topics or it may be done by students downloading resources from the CloudDeakin unit site and bringing it to the video teaching session for discussion.

Alternatively, as happens in theatres and seminars, students at each site may be allocated time within the session to discuss topics in their own group, or between two sites perhaps.

Active learning strategies

If you are clear on the objectives of the session, and the students are alerted to them, then you need to plan strategies to facilitate learning. Strategies, which encourage active learning are more likely to be successful than a teacher dominated approach.

For example:

- a quick quiz – perhaps using technology to answer the quizzes e.g. an electronic clicker, a mobile phone and websites such as Poll Everywhere www.polleverywhere.com
- small-group discussion around the sites with a contribution reported back from each group
- role-play or interviews between sites
- debate
- guest speaker from a remote site

- electronic presentations from various sites; using anything from a PowerPoint to a movie prepared and shown by students.

How and whether you use these techniques will depend on the size of the groups you are teaching and on your skills and experience in this environment.

We have included some resources at the end of this document, which will give you some further ideas.

Video teaching techniques

If you are teaching via video, it is advantageous to clearly establish how the session or sessions will be managed right from the beginning.

You probably have expectations of how face-to-face classes are managed. This may involve some signal that the class is now starting. You may explain what the objectives of the session are. Perhaps you pause and ask for questions from the students. Or perhaps you pose questions to them. If a student wants to ask a question in class, the usual ritual is to put a hand up. That is, it is a visual cue. So too, is the body language being displayed by the students in front of you.

These visual and auditory cues may not be so obvious via video technology, so it is advantageous to explain from the start what techniques can be used to ensure people at all sites are involved in the session. These techniques will be as relevant to you as a presenter as to students when they are communicating during the session.

For example:
- remind students that chatting from other sites can be easily picked up by the microphone and be heard by the other sites, it may be useful at times to suggest that external locations put their microphone on mute, perhaps while group activities are taking place, ensure students are familiar with this technique at the beginning of the sessions
- speak slower than normal and in a clear voice – check regularly that the other sites can hear clearly and pause regularly to allow the other sites to signal when someone wants to speak
- monitor conversations so that only one person is speaking and not being talked over
- as with face-to-face settings, maintain eye contact with the 'audience' – remember that the camera is part of your 'audience'
- ensure the microphone is strategically located at each site
- ensure that if a speaker cannot reach a microphone (perhaps in a theatre) that any questions are repeated by someone with access to the microphone so all campuses can hear
- suggest that if someone wants to ask a question that they raise their hand and wait until acknowledged
- try to use people's names and suggest speakers use their names before asking a question or otherwise participating
- stay in camera range.

Most students will be familiar with communicating in some electronic format and the need for a media specific etiquette, it is still useful to outline the above points to make sure everyone is clear about what is expected. Your students may have some extra items that they have found useful in other sessions.

Evaluating learning

Some of the techniques may be different but the same principles of evaluation apply to face-to-face teaching and video teaching.

Some strategies you may use to evaluate student learning in a video teaching environment include:

- announce that in 3 minute's time you are going to pause and ask for questions – this allows some thinking time for students

- pause occasionally and ask students to tell you (and their peers) one thing you have learnt in this session

- build revision quizzes into the planning of the session

- allow students a few minutes to write down one question they would ask if they were able to, and then select a few to contribute

- allow students time to look back at the learning objectives and try to align them with the content of the session

- having students complete concept maps during the session encourages them to make connections between concepts, and is particularly effective with visual learners

- perhaps at mid trimester (if you are presenting a series of video teaching sessions) ask students to complete a short survey or evaluation form on video teaching from their learner perspective.

Some ideas

Below are some ideas to enable you to get the most out of your video teaching. By including these suggestions into your sessions you will be able to better interact and elicit responses from your video teaching locations.

- Include experts from the professions in the delivery of some of your sessions as a means of creating a more authentic learning experience.

- Think about including a video teaching folder in your unit CloudDeakin site – it may include resources and guides for students; unit notes for video teaching sessions; and a discussion space dedicated to video teaching.

- Explain to students that video teaching is a different form of teaching and learning which needs time for them to become familiar, familiarise them with the techniques which will help to make the video teaching a great experience (see above) and ask them to reflect on this when completing SETU feedback.

- Avoid feeling you need to cover everything and rush through content knowing that the session is only booked for a certain time span.

- Perhaps initially, having someone experienced with the technology at each site for the first session may be a useful strategy.

Interactive videoconference supported teaching in undergraduate nursing: Case study

Celikkan, Sinuzun, Sari & Guneri Sahin found in their 2013 study that Ege University in Turkey had implemented a learning system which interactively transfers the visual and practical aspects of ECG from a nursing skills lab into a classroom where the theoretical part of the course is taught. The students and the instructor in the classroom observe the activities in the skill lab in real time, while communicating with the nurse in the lab via audio and video links. An experiment was performed with the participation of second year nursing students—36 of who were assigned to Videoconference group and 34 were assigned to Traditional Classroom groups. In the experiment, ECG knowledge levels of participants were measured by repeated tests to compare pre-test, post-test I and post-test II students in both the videoconference group and the traditional classroom group and data were analysed with repeated measures of variances and covariance, the results demonstrating that videoconferencing contributed significantly to the improvement of ECG skills of the participants. In addition, a questionnaire was given to students along with post-test II, the result of which indicated overwhelming satisfaction with videoconference based lecture.

Designing a checklist for planning a video teaching session can be helpful. You may wish to prepare something like this before your session:

Checklist

Room booking	✓
Inform students about the session including location	✓
Learning objectives set	✓
Learning activities planned	✓
Prepared and sent required materials to each site	✓
Required materials loaded in CloudDeakin	✓
People involved and notified	✓
Facilitator appointed at each site	✓
Ensure contact details are available at each site – yours and the contact details for eSolutions. See the 'Resources' list below	✓
Etiquette and 'rules' defined and to be announced	✓
Plan if things go wrong (e.g. sites facilitated independently)	✓
Reflect on session's strengths and issues, gain feedback	✓

Links and resources

If you have decided to use video teaching, or are already using it and are looking for some more information, you will find this section helpful. This section includes helpful links and information about further resources.

Facilities and assistance for video teaching

Deakin has a variety of video teaching spaces on each campus. Details may change, so it is wise to check the latest information at: http://www.deakin.edu.au/its/videoconference/facilities.php.

If you are video teaching in a seminar setting, maybe from a small meeting room or a dedicated small videoconferencing environment, you will need to have some basic knowledge of using the technology, principally the Tandberg videoconferencing unit. Once you have learned the basic skills you should find the process very simple.

eSolutions also provides some tips for teaching using a video conferencing environment which you can find at https://www.deakin.edu.au/its/staff/videoconference/video-teaching.php.

eSolutions has guides to assist you set up your video conference system, help you with any issues, to let you know about the variety of facilities available. Access the eSolutions information at: http://www.deakin.edu.au/its/staff/videoconference/.

Video teaching with external sites

Video teaching to external sites (such as regional Victoria, interstate, overseas) can be facilitated. eSolutions can survey the external site first to identify the most optimal connection method and may be able to help with connecting your session.

For further information on external sites, please go to
http://www.deakin.edu.au/its/staff/videoconference/external.php
or
http://www.deakin.edu.au/its/publications/document/help-videoconf-connect-with-external.pdf

Additional cloud-based teaching applications

You may wish to use streaming video or a web-based communication system. If so, you can find links to these two systems below.

EchoSystem theatres and assistance

EchoSystem is another electronic teaching method, it is a presentation capture and playback service that incorporates both visual and audio content of classes and presentations.

EchoSystem technology may seem daunting at first, but it is generally very simple to use.

You can find specific assistance for the EchoSystem, and a list of Echo enabled teaching spaces at http://www.deakin.edu.au/learning/clouddeakin/clouddeakin-guides/video-and-audio/echo.

If you have further questions about EchoSystem, contact the CloudDeakin support team via email Clouddeakinsupport@deakin.edu.au or call the CloudDeakin help line +61 3 925 17500.

eLive

As an alternative to videoconferencing, eLive is a synchronous communications tool that can facilitate communication and collaboration between staff and students, it can be a very useful teaching tool. eLive allows you to:

- talk online in real time
- chat via text online
- share videos, presentations and applications.

You may wish to watch this cloud concept describing eLive:
http://air.deakin.edu.au/public/media/sid-manay-elive/0_l4htsnyu

For further information about eLive and to gain assistance with any issues see:
http://www.deakin.edu.au/learning/clouddeakin/clouddeakin-guides/communication/elive.

Contact details

IT service desk:

	Internal phones	888
	Geelong	03 5227 8888
	Melbourne	03 9244 6888
	Warrnambool	03 5563 3888

All video teaching spaces and EchoSystem theatres have telephones which directly access the eSolutions service desk.

External resources and research

Brade, I 2007, *Videoconferencing in learning and teaching: a literature review*, Monash School of Rural Health, retrieved 6 September 2013, http://webct.med.monash.edu.au/videoconf/docs/vc-project-lit-review.pdf.

Caladine, R 2008, Enhancing e-learning with media-rich content and interactions, Information Science Publications, Hershey, Ebook, Chapter 13, retrieved 30 October 2013 http://encore.deakin.edu.au/iii/encore/record/C__Rb2325136.

University of Cumbria – 'Video conferencing for teaching and learning', retrieved 6 September 2013, http://as.exeter.ac.uk/support/educationqualityandenhancementprojects/pastprojects/videoconferencing/ (contains some useful practical advice on a range of video teaching issues).

University of Tasmania: 'The first videoconference tutorial', retrieved 6 September 2013, http://www.utas.edu.au/__data/assets/pdf_file/0006/166353/the_first_tute.pdf.

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Gillies, D 2008, 'Student perspectives on videoconferencing in teacher education at a distance', *Distance Education*, vol. 29, no. 1, pp. 107–118.