



Teaching with the tablet-PC

Mirza Faisal Beg
Engineering Science

Technology, particularly laptop computers in the classroom, has had a significant impact on lecturing. It is now common for instructors to present lecture material as PowerPoint slides within a more or less pre-choreographed presentation. While this has several advantages over the traditional chalk and board lecturing style, there are several disadvantages, too. One frequently cited disadvantage is that PowerPoint presentations are too fast to allow the mind to really absorb material. Some instructors present 60 or more slides in as many minutes. Another issue is the lack of flexibility inherent in PowerPoint presentations. PowerPoint content cannot be customized to satisfy the questions that may arise from the slides presented.

A recent innovation in laptop computers, the advent of the tablet-PC, heralds the promise of a significant advance in lecturing technology. A tablet-PC is a laptop whose screen doubles as a writing board, with an electronic pen taking the place of chalks or markers. Attached to an LCD projector in the classroom, the screen is projected much like a traditional laptop presentation. In essence, the tablet-PC acts as a virtual blackboard, with the lecturer writing on the tablet screen and with the writing saved as electronic strokes on the computer. The hybrid lectures given with the tablet-PC have several advantages over both traditional chalk-board style and conventional laptop style.

The tablet-PC can be used as a conventional laptop or as a replacement for the traditional chalkboard. It also allows a hybrid approach, combining the strengths of both methods. For example, lecturers who commonly use the chalkboard or overhead projector may drag multimedia files such as pictures, graphs, and movies onto the presentation screen and annotate them, which would not be possible using traditional lecturing methods. PowerPoint-based lecturers can use the electronic pen to write directly over their slides, thereby customizing their presentations on the fly. The tablet-PC lectures can be saved on the computer, allowing instructors to make their notes available to students for review, helping students to concentrate on the lecture rather than worrying about taking notes from the blackboard or overhead projector screen.

Tablet-PCs are not exorbitantly expensive, and student reviews have been quite enthusiastic ■

The Multi-access Classroom (MaC)

Simon Fraser University has a new kind of classroom. Called the Multi-access Classroom (MaC), the room enables off-campus students to attend classes at the same time as their colleagues on campus. The MaC's innovative use of a number of learning technologies makes this possible.

This pilot project was initiated by one of SFU's newest programs, the Quantitative Methods in Fisheries Certificate, to meet the demand from students living outside the Lower Mainland. Students from as far away as Vancouver Island, Washington State, and Kelowna are successfully completing the certificate courses "virtually," using their own computers. The remote students are able to engage in live lectures, view PowerPoint presentations and the whiteboard, and even ask questions using either VoIP (Voice over Internet Protocol) or text messaging.

A short video demonstrating how this technology works will be available soon at the LIDC. If you would like to see a demonstration of the technology, or have any questions, please contact John Moore at jnmoore@sfu.ca ■

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An online PDF version of this newsletter with links to full versions of the articles is available at:
www.sfu.ca/lidc/intouch



LIDC strategic planning

In November 2004, the Learning and Instructional Development Centre (LIDC) assumed responsibility for Surrey's eLearning Innovation Centre (eLINC). Then in April 2005, the Centre for Writing Intensive Learning (CWIL) was transferred from the Faculty of Arts and Social Sciences to the LIDC. The LIDC is now engaged in writing a three-year strategic plan to guide future activities. The process of preparing this plan includes soliciting feedback from LIDC staff and the SFU community. LIDC director, Dr. David Kaufman, has already consulted with many individuals and university groups with mandates associated with teaching and learning, including deans and associate deans, SFUFA, the Senate Committee on University Teaching and Learning (SCUTL), the Instructional Development Group (IDG), and the Learning Technologies Coordinating Committee (LTCC). Three focus groups also have been held, consisting of people who have used LIDC services over the years: one for classroom and technical services, another for media production, and a third for teaching support. In this session, a public forum will be held to discuss the current draft of the strategic plan.

LIDC's core mission (from the draft report) is to assist in the creation of an enriched academic environment at Simon Fraser University by:

- providing a strong, coordinated, and sustainable infrastructure to support the development and delivery of exemplary instruction, whether classroom-based, fully online, or in a blended model;
- using the same infrastructure to support research in technology-enhanced teaching and learning and to foster linkages between research and practice;
- delivering services and support, reaching new off-campus students, creating a strong sense of community for students and instructors;
- delivering professional development programs and events to faculty and staff ■

Video: Simply accessible

Video has come a long way from the days of black-and-white tubes. As it evolves, it has become easier to create and deliver to the masses.

For anyone wanting to get a message out, showcase an event, or create exemplary learning material, video is an excellent method of communicating with your audience. While delivering video presentations used to be difficult and complicated, requiring VHS tapes or DVDs and an audience collected in one place, these barriers are being eliminated, thanks to the internet. Webcasting allows video to be delivered to hundreds or thousands of people, synchronously or asynchronously.



LIDC has produced webcasts seen live in the United Arab Emirates, Australia, Taiwan, and many more countries around the globe. In keeping with SFU's heritage, we have even welcomed viewers in Scotland.

Live webcasting can be coupled with internet chat programs, enabling virtual audiences to participate in discussions from anywhere in the world. Webcasting can also be used to archive video, making the subject matter accessible to anyone at any time, so that even if they're in a different time zone, they can watch the material when it's convenient for them.

Webcasting can also protect the content that's being viewed, should you wish to change or remove it. Because the content can be viewed at any time, there really is no need for the viewer to save it; moreover, saving the content is not easily managed.

The future applications of this technology at SFU are vast. Webcasting a presentation or a lecture will soon be as simple as booking an overhead projector. Educators can have their videos turned into learning objects or supplementary materials for anything they choose. This new delivery method makes creating reusable, marketable media a simple process.

Soon it will be possible to create online courses and license them to educational institutions, then monitor the number of students viewing your material and the institutions from which the students hail, all while retaining control of your teaching materials. Video on the web can capture conventional lecture-style delivery, and migrate it to the mass delivery model of the internet ■



FOCUS ON INNOVATION

Visiting scholar in the LIDC

Dr. Gadi Alexander, Professor of Education at Ben Gurion University in Israel, is spending his sabbatical from April 2005 - February 2006 in the LIDC, working primarily with Dr. David Kaufman.

Dr. Alexander received his BA and MA in literature education and communication from Hebrew University. He moved to the US to study as a Fulbright scholar at UCLA, obtaining his PhD in the area of curriculum planning.

At Ben Gurion University, Dr. Alexander has headed both the Graduate Teacher Education program, and the Curriculum and Instruction program, among others. With colleague Dr. Ely Kuzminsky, he also founded a new graduate program in Learning Instruction and Technology.

In the mid 1980s, Dr. Alexander took a leave from the university to direct product development for Edunetics, an educational software company based in Tel Aviv and, in the US, Maryland. Edunetics produces computer-aided curriculum materials (courseware) for sciences and other areas of academic interest for schools around the world.

Another of Dr. Alexander's interests is implementing technology and enhancing creative thinking in schools, and among teachers. He has initiated several creative thinking projects in elementary schools, as well as a nine-part television series, produced by educational television authorities in Tel Aviv. The series presents both dramatized and documentary instances of creative thinking among archaeologists, architects, scientists, and others. The series is still on the air, with a teacher's handbook with activities covering possible uses of creative thinking across the elementary school curriculum.

Dr. Alexander brings his multi-faceted interests in educational technology and creativity to the Imaginative Education Research Group (IERG) at SFU. In July he will present a paper entitled "The Piano is not Necessarily the Music" at the IERG conference. This paper explores the relationships between computer applications and imagination.

Most of Dr. Alexander's articles reflect on computer applications from a critical, philosophical, and semiotic perspective. His most recent article (with Prof. David Gordon) deals with ways in which computers may undermine our ability to tell stories. The article is scheduled to be published in the summer issue of the OISE-based Curriculum Inquiry Journal.

At the LIDC, Dr. Alexander will examine the area of ubiquitous computing, with a focus on the future of mobile computing devices. He will be exploring how these devices can be effectively employed in teaching and learning in higher education. As always, he will be viewing the topic critically, though not, he says, as a Luddite.

You are welcome to contact Dr. Gadi Alexander at the LIDC (tel: 604-291-3910) if you wish to meet him or to exchange ideas ■



Web-based audio-conferencing at SFU

Synchronous audio-conferencing is moving beyond the teleconference and into the halls—real and virtual—of educational institutions. The ability to use audio conferencing through the web is making audio conferencing a significant educational medium (Laudrillard, 2002). It is online (so participants can view a common screen), synchronous (occurs in real-time) audio conferencing (participants can speak to and hear each other).

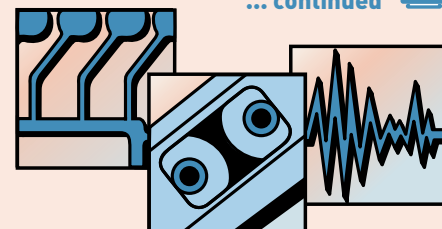
When considering using synchronous audio-conferencing, consider what it can do that a text-based, asynchronous environment cannot do. How can you use the strengths of each mode of delivery to create an effective learning environment? How can different modes of delivery support different learning styles?

SFU currently licenses a product called Elluminate Live (eLive). It has been used to stream face-to-face lectures to those who cannot attend in person, and to "bring in" virtual guest lecturers. Students have also used it to deliver PowerPoint presentations to the class and/or the instructor from a distance. It has served as a collaborative environment for smaller tutorials, an online demonstration area using application sharing, and a "virtual office" for drop-in office hours at a distance.

The web-based, synchronous approach is effective for gathering and delivering immediate peer feedback. It is also valuable as a tool for motivation, decision making, quick, intense communication, and focusing and directing real-time conversation via visuals.

See how synchronous audio communications can support good teaching practices

... continued 



The 7th Annual Symposium on Innovative Teaching

REACHING NEW HEIGHTS OF LEARNING AT SFU

May 18 to 20, 2005

Simon Fraser University (Burnaby)

This symposium will explore the challenges and rewards associated with the innovative curriculum changes that will take effect at SFU in September 2006.

THEMES

- Writing Across the Curriculum/Writing in the Disciplines
- Course Design to Meet the New Writing, Quantitative, and Breadth (WQB) Requirements
- Lessons and Examples from WQB Course Instructors and TAs
- Evaluating Student Performance
- Redefining the Roles of Instructors and TAs
- Learning Support Mechanisms

KEYNOTES

From Outcomes to Input: Entrusting Departments to Improve Writing

Chris M. Anson

Director, Campus Writing and Speaking Program,
North Carolina State University

Writing as Learning and Defining the Discipline: California State University, Monterey Bay's Integrated Writing Program in Earth Systems Science and Policy

Daniel Shapiro

Coordinator, Science and Environmental Policy Writing and Senior Capstone Programs Faculty of Science and Environmental Policy,
California State University, Monterey Bay

Capturing Innovative Teaching through the Scholarship of Teaching & Learning

Teresa Dawson

Director, Teaching and Learning Services,
University of Toronto at Scarborough

Information at:

www.sfu.ca/symposium2005/ ■

Upcoming Conferences Summer - Fall 2005

Society for Teaching and Learning in Higher Education (STLHE) Conference. A Fine Balance: The Student Experience of Learning.

June 8 - 11, 2005

Charlottetown, PEI.

www.upei.ca/stlhe

ED-MEDIA 2005. World Conference on Educational Multimedia, Hypermedia & Telecommunications

June 27-July 2, 2005

Montréal, Québec.

www.aace.org/conf/edmedia/

2005 HERDSA Conference

July 3-6, 2005

Sydney, Australia.

www.herdsa.org.au/2005/

Professional and Organizational Development (POD) Network Conference. A Gathering by the Waters: Exploring Possibilities and Engaging Ideas.

October 27-30, 2005

Milwaukee, Wisconsin.

www.podnetwork.org/conferences/2005/

Conference Searching Sites

T.H.E. Educational Conferences:

www.theconferencecalendar.com/

All Conferences:

www.allconferences.com/

Teaching Enhancement Services Summer - Fall 2005 Calendar of Events

1. Symposium on Innovative Teaching
May 18-20, 2005

2. Application Deadline: Certificate Program in University Teaching and Learning for Graduate Students
Friday, June 3, 2005.

3. Instructional Skills Workshops
August 24-26 OR August 29-31, 2005,
8:30 am - 5:00 pm daily

4. 20th Annual Fall Semester TA/TM Day
Friday, September 9, 2005,
8:30 am - 4:00 pm

5. Certificate in Web-Based Instruction (CWI)
Begins Monday, September 26, 2005 ■

Contributions, suggestions, and comments related to the newsletter are welcome. Please send email to lidc@sfu.ca

Managing Editor

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Editor

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David Kaufman
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Proofreader

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Graphic Designer

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Contributing Writers

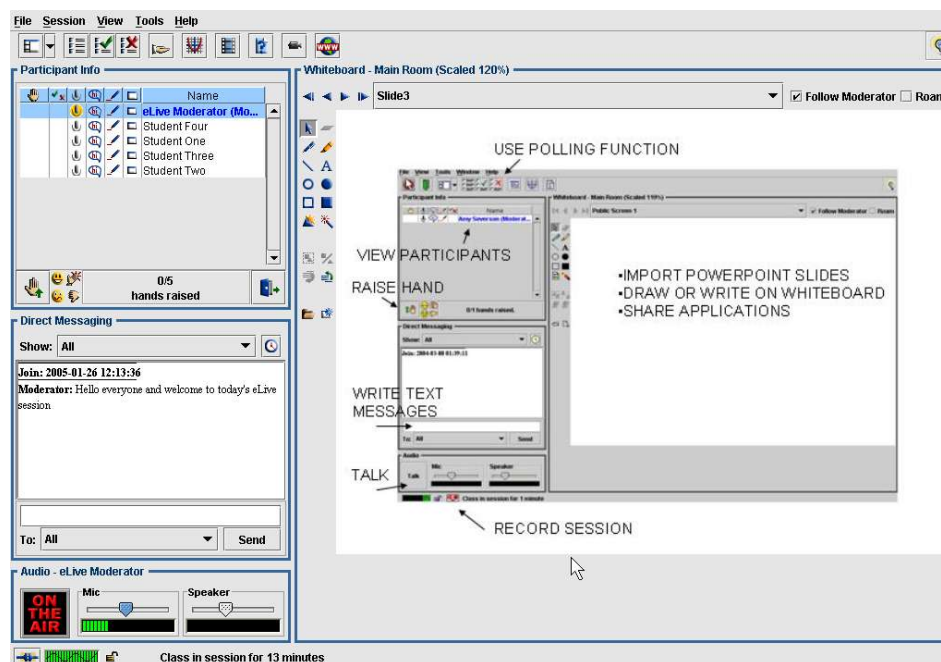
Gadi Alexander
Mirza Faisal Beg
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John Moore
Michael Pedde
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Full article (continued from page 3 of intouch)

How can web-based synchronous learning support asynchronous distance learning or face-to-face classrooms?

The addition of a shared whiteboard screen or application adds visual confirmation and direction to audio communications. The combination of audio and the shared screen supports different learning styles; gives students greater control over the direction of the discussion; and allows both instructor and student to give and receive instant feedback.



You can use synchronous environments to gauge student understanding and encourage students to interact with the material, with you (the instructor), or with each other.

What level is your course?

Inspired by a posting on Darren Cannell's blog (http://careo.elearning.ubc.ca/weblogs/vschools/archives/2004_12.html#009745) that outlines different levels of online learning, I have applied the idea to web-based synchronous audio-conferencing. The approaches change according to level of mastery of the tool and the specific learning objectives for each course.

LEVEL ONE is the equivalent of delivering a one-to-many online lecture. It may be recorded, and reach students at a distance, but without any collaboration or active learning built in. Delivering a lecture requires the least amount of technological know-how. Level one also includes a demonstration of the software.

LEVEL TWO mirrors the face-to-face tutorial. Students have multiple opportunities to voice questions and engage each other in discussion. This approach gives some of the responsibility for the session to the students—their questions and arguments will affect the direction of the session. Level two is not much more technologically advanced than Level One, though participants need a microphone, and must understand the on line etiquette and steps to speaking in the online environment.

LEVEL THREE is the most complex, and carries valuable learning opportunities. It encourages collaborative and active learning. Small-group discussion in breakout rooms gives participants more opportunity to interact with each other and engage in collaborative exercises. Tools such as webtour, application sharing, the whiteboard, and instant polls are used to engage students actively and repeatedly.

Engaging participants

Collaborative tools and techniques can make online audio-conferencing an interactive experience for participants and moderators.

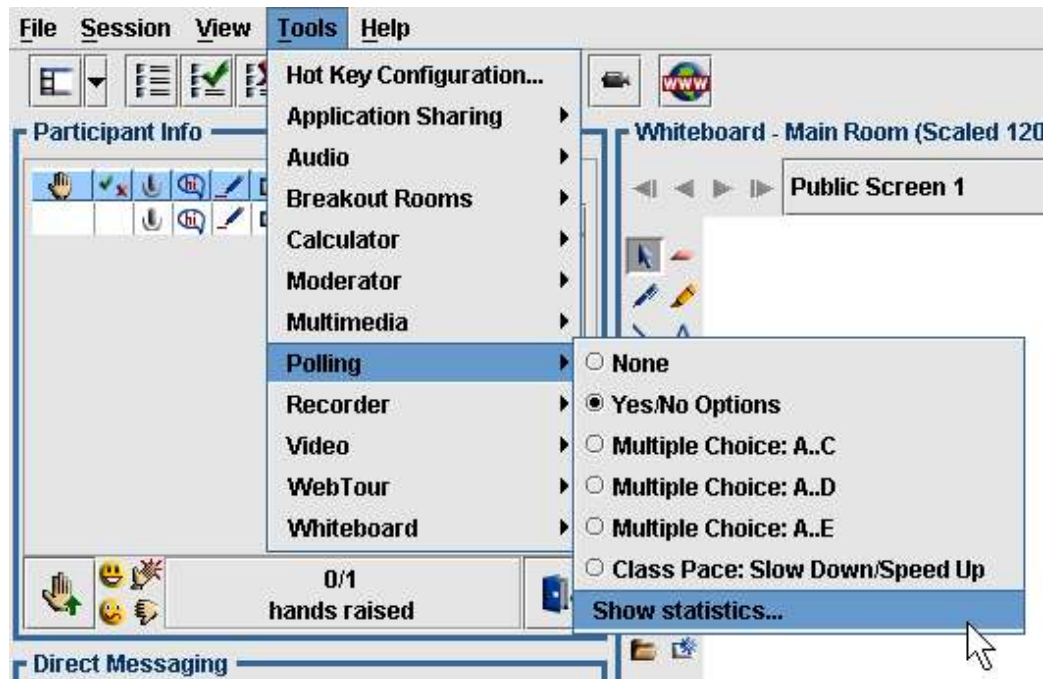
When we are online, we lack visual cues. Hence, it is difficult to assess non-verbal communication. Emoticons can make explicit what we implicitly understand through body language. Asking people to choose between the happy or confused icons is a means of quickly gauging comprehension or acknowledgment.



I stop frequently – at the end of every second slide – to ask explicitly if there are questions or if any clarification is needed.

Polling functions serve to track participants' opinions or preferences. This eliminates the need to pass the microphone to each person, and quickly tracks the opinions or preferences of participants. Polling results are, by default, anonymous, and so only the moderator will see the results.

Including the polling choices in a PowerPoint slide both reminds you to ask for feedback and gives the students their options in writing, so that they can reflect on their choice. Moderators can choose to see a summary of the results in real-time.



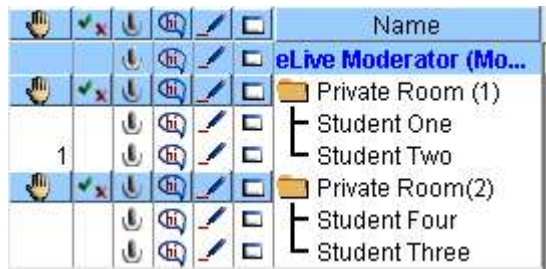
Participants may respond better to structured questions. Ask them to illustrate a theory with an example from their lives or from the media. Be specific when asking questions. You will not be able to read visual cues, and students cannot return later for the clarification possible in an asynchronous environment like a discussion group.

You don't have to rely entirely on emoticons, which can be limiting, or on sharing the microphone, which can be time-consuming. Create a blank page at any time in your presentation, and ask students to brainstorm the pros and cons of a question or ask them to highlight key terms from a short glossary to indicate terms they wish to discuss more.

Breakout rooms are frequently used to encourage discussion among smaller groups of people. Virtual breakout rooms provide many of the same benefits as face-to-face breakout rooms and require similar planning. Give students a time limit for discussion and a clear topic or question, and



state clearly what you expect each smaller group to bring to the larger group. Put different students in charge of moderating the small group discussion, summarizing the group decision, and reporting on their results to the class.



Planning content

In the eLive environment, you will not be able to see your students' faces, and so it is more difficult to improvise. It is especially important to plan your content and collaborative exercises ahead of time.

Ask yourself which learning objectives you wish students to achieve in each session. What tools or activities will best facilitate your objectives? Before you go live, on your own or with a TA, see, for example:

<http://www.sfu.ca/lidc/elive/ontheflyroom.htm>.

eLive provides you with an interactive environment – take advantage of it and create interactive activities for your students. It will increase their learning and maintain their attention. Promoting student feedback will help you track your students' understanding of the material, and help your students express and consider their learning.

How synchronous audio communications can support good teaching practices

Good teaching practices are outlined in the article **IMPLEMENTING THE SEVEN PRINCIPLES: Technology as Lever**, by Arthur W. Chickering and Stephen C. Ehrmann, (www.tltgroup.org/programs/seven.html).

These seven principles of good teaching, as shown in the table on the following page, highlight the need for interaction between the student, the material, and the instructor.

Good teaching principles	eLive tools
1. Student-faculty contact	Voice contact between faculty and learners. Polling feature tracks student understanding.
2. Collaboration among students	Breakout rooms for small group collaboration. Private messages for side conversations.
3. Active learning	Use application sharing to collaborate on a file.
4. Rich/rapid feedback	No delay between student questions and instructor feedback using synchronous communication. Polling allows student feedback.
5. Time on task	Application sharing: no need to send files back and forth. Changes immediately applied and viewed.
6. Communicate high expectations	New communication technologies expose students to new ways of approaching learning.
7. Diverse talents and ways of learning	Audio contact; recording sessions allow review; application sharing encourages hands-on learning.

Bibliography

Laurillard, D. (2002). *Rethinking University Teaching: A conversational framework for the effective use of learning technologies*. London: RoutledgeFalmer.

Chickering, A. W., & Ehrmann, S. C. (1996). Implementing the seven principles: Technology as lever. *AAHE Bulletin*, October 3-6. Retrieved September 17, 2003 from: <http://www.tltgroup.org/programs/seven.html> ■