Going for 100% Digital Teaching and Learning Environments:
The agony and the ecstasy

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Presentation to
Learning & Teach Week Showcase USQ
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Outline

Background

Learning and teaching goals

Complete project – dynamic education

Dynamic teaching

Dynamic learning

Virtual classroom

Desired outcomes

Implementation plan

The agony and the ecstasy

Support

Background

- Traditional teaching environment - synchronous
- Traditional learning – asynchronous (Jain et al. 2002)
- 'Holy grail'
  - create traditional feel within a digital environment
  - using power of e-communications & digital resources
  - to enrich e-learning & e-teaching
  - for solitary & collective learners
- Presentation describes
  - application of a number of digital technologies and media adopted
  - to close the 'soft' information gap between on-campus and off-campus students at USQ

Jain, L C et al. (ed) 2002, *Virtual Environments for Teaching & Learning*, World Science Publishing Co. Pte Ltd, Singapore.

Learning & Teaching Goals

Main teaching and research goal

- Provide a similar on-campus learning experience for off-campus students

Sub goals

- Increase the dynamic nature & level of teaching in courses through enhanced education technologies
- Enhance students' learning through innovative pedagogies (e.g. multi-media and 3-D education fiction/gaming)
- Improve retention, progression & grades of students and reduce the grade gap between on- & off-campus students
- Reduce the level of collusion in assessments

Main professional development goal

- Expand my pedagogical and educational technology capacities

Teaching and Learning Philosophy

- *Enquire by reading*
- *Learn by doing*
- *Understand by practicing*

Complete Project – Dynamic Education

Phase 1. Dynamic Teaching

Phase 2. Dynamic Learning

Phase 3. Virtual Classroom

Dynamic Teaching SEMESTER 1 2007

Objective

- Maximise student engagement
  - Move teaching from static to dynamic
  - Reduce gap between ONC and EXT students in 'soft' information imparted in classes
- Move away from didactic approach (Biggs 2002)
  - Increase diversity and inclusivity (James & Baldwin 1997)
- Reduce collusion (Boud 1995)

Biggs, J. 2002. The reflective institution: Assuring and enhancing the quality of teaching and learning. Hong Kong: LTSN Generic Centre.

Boud, D. 1995. Assessment and learning: contradictory or complementary? In P. Knight (Ed.) 1995. *Assessment for Learning in Higher Education*. London: Korgan Page, pp35-38.

James, R. & Baldwin, G. 1997. Tutoring and demonstrating: A guide for the University of Melbourne. Melbourne: Centre for the Study of Higher Education. Retrieved 11 December, 2006, from http://www.cshe.unimelb.edu.au/bookpages/contents.html

Dynamic Teaching SEMESTER 1 2007

Content
- Course – ACC2101 Financial Accounting Systems
  - Impart technical content and increase skills
  - Increase exercises, questions, practicals (Confusion approach)
- Behavioural approach
  - Observable change through pattern repetition (Mergel 1998)

Strategies
- Incomplete slide/course materials
  - Dynamic teaching classbook
  - Completed by students during class to increase use of more senses (kinaesthetic as well as visual and aural)
- Digital capture image, audio & writing
  - Capture all class activity in digital format including voice, video, annotations, questions and answers 'soft information'
  - Use of wireless technologies

Assessment
- On-line
  - Quizzes, exercises, multiple choice, each week for each module
  - diagnostics (pre-requisite knowledge)
- Randomised questions
  - Assessment items with a large bank of questions/transactions
  - Computer marking to reduce turn-around time (marking time reduced by 2/3rd)

Mergel, B. 1998. Instructional design & learning theory. Retrieved 12 December, 2006, from http://www.usak.ca/education/cpursework/802papers/mergel/brenda.htm

Dynamic Learning SEMESTER 2 2007

Objective
- Maximise student interaction through
  - Dynamic interaction with learners (one-way interaction)
  - Innovative pedagogies to allow off-campus learners to experience the classroom

Content
- Course – ACC2101 Financial Accounting Systems
  - Maximise student interaction

Strategies
- Extend the use of technologies adopted in Phase 1
- Apply electronic feedback methodologies and technologies to enable the lecturer to poll the class to gauge their understanding of concepts and to adjust the delivery dynamically (KEEPad and Turning Point)
- Identify and apply appropriate technologies to be able to upload multi-media teaching and learning events onto the StudyDesk (MediaSite)
- Conduct interactive sessions with students on three campuses that will be broadcast and recorded for all students to review (Elluminate & MediaSite)

Assessment
- Asking questions during class for instant feedback
  - Multiple choice, freeform, exercises
  - Use new technology solution (KEEPad)

Virtual Classroom SEMESTER 1,2 2008

Objective

- Maximise student interaction and engagement through
  - Dynamic interaction and engagement with learners (two-way interaction)
  - A virtual classroom environment which will provide the opportunity for students to attend the actual class session live
  - Innovative pedagogies to simulate real organisational environments in a interactive 3-D space
  - Develop schemas for problem-solving forensic investigations that build deductive reasoning skills using education fiction as a cognitive approach (Crumbley, Kratchman & Smith 1997)

Content

- Courses
  - ACC2101 Financial Accounting Systems from Phase 2
  - ACC8106 Forensic Accounting (Forensic Business Investigations)

Virtual Classroom SEMESTER 1,2 2008

Strategies

- Extend the use of technologies adopted in Phases 1 & 2
  - Real-time interaction in classes by students both on-campus and off that provides feedback to the lecturer that subject matter is being understood (KEEPad/vPad)
  - Apply feedback technologies to deliver content of sessions Real-time classes that students can join in and interact with on-campus students and staff (Elluminate, Wimba & MediaSite embedded in virtual classroom environment)
  - Streaming audio/video that can be played 24/7 anywhere (MediaSite & Moodle)
  - Conduct interactive sessions with students on three campuses that will be broadcast and record for all students to review

- Apply 3-D and education fiction for forensic accounting
  - Write education fiction scenarios that include the concepts of course content
  - Develop virtual 3-D crime scenes based on education fiction scenarios that include the concepts of course content (Alive Project)

Assessment

- Asking questions during class for instant feedback
  - Use new technology solution to gain feed back from on-campus, cross-campus and internet/mobile enables external students (KEEPad)

Desired Outcomes

- Courses
  - ACC2101 Financial Accounting Systems
    - Enhanced teaching and learning experience while reducing the 'soft' information gap
    - Enhanced course materials and learning environment
    - Test bank of randomised diagnostics, quizzes & assessment questions
  - ACC8106 Forensic accounting
    - New course at Masters level
    - 3-D simulations of real/fictional organisational environments
- Student evaluation
  - Enhanced student engagement
  - External student experience improved through engagement (access & equity)
  - Use of educational technologies (flexible delivery through TEL)
  - Use of education fiction
- Assessment results
  - Reduced gap between ONC and EXT
  - Increase progression and retention
  - Reduced collusion
- Professional development
  - Teaching enhancement through educational technologies & pedagogies
  - Research output
    - Papers and conferences
    - USQ LTEC grant
    - Carrick grant application

Implementation Plan

By S1 2007
- Gain Research funding from Faculty ✓
- Complete 1st trial for Dynamic Teaching (Phase 1) ✓
- Prepare Faculty LTEC funding application ✓

By S2 2007
- Gain Faculty LTEC funding ✓
- Complete Dynamic Learning (Phase 2) ✓
- Write paper on Dynamic Teaching – in progress
- Complete development of Forensic Accounting course and FBI Program ✓
- Review and revise ACC2101 for offering in S1 2008 ✓

By S1 2008
- Offer Forensic Accounting Course ✓
- Deliver ACC2101 in Dynamic Learning & Teaching mode
- Commence Virtual Classroom (Phase 3)
- Write paper on Dynamic Learning
- Obtain USQ LTEC grant
- Prepare Carrick grant application

By S2 2008
- Continue evaluation & development Virtual Classroom (Phase 3)
- Write papers on Dynamic Education project

The agony

- **Students engagement**
- **Technology support**
  - **acknowledgements**
- **Robustless technology**
- **Long hours**
- **Colleagues' indifference**

The ecstasy

- **Positive <u>response</u> from students**
- **Improvements in <u>course results</u>**
- **Breakthroughs in technology applications**
- **Engagement with peers across faculties**
  - **acknowledgements**
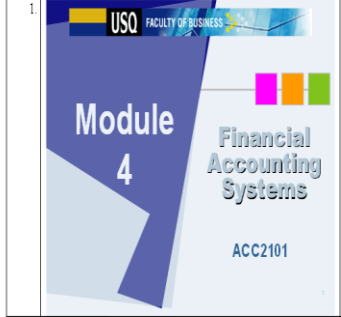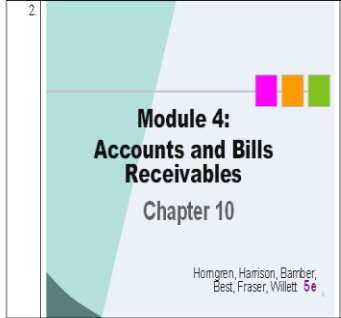
Support – critical success factor

- **ICT support**
- **LTEC/LTSU support**
- **Infrastructure support**
- **External funding support**
- **Your support and collaboration**

Questions and Comments

Dynamic Teaching Classbook

Students complete the blanks during a class presentation or while watching recording
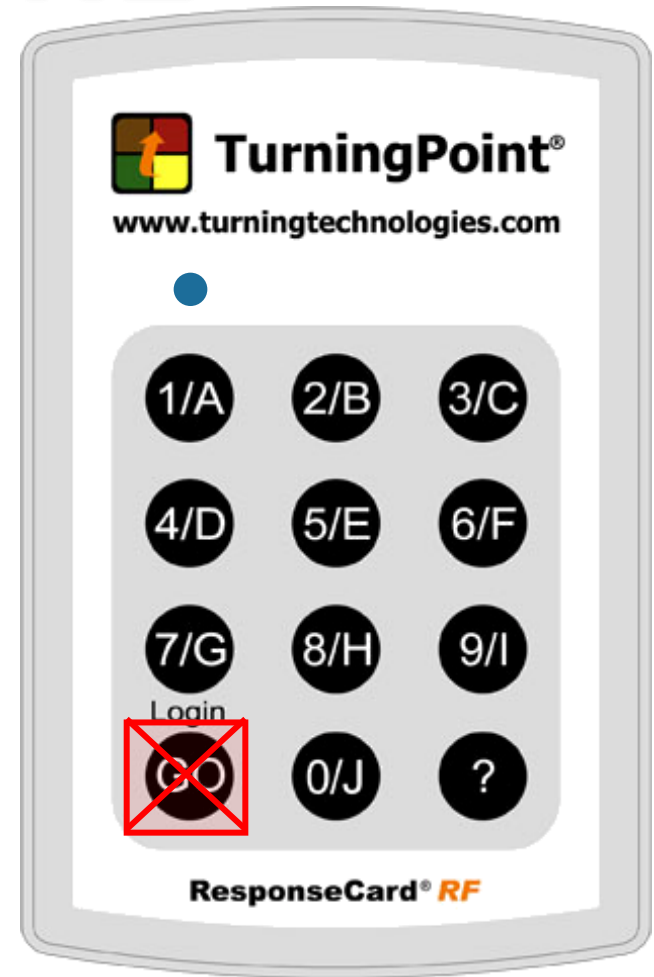
HOW TO USE THE KEYPADS

1. Choose your response from the keypad buttons.

2. The light will go **GREEN** to confirm your response has been received.

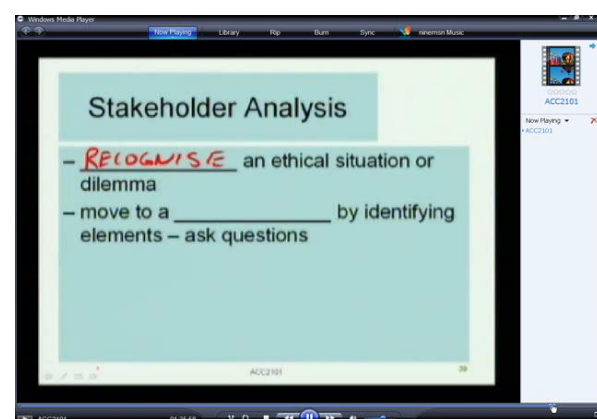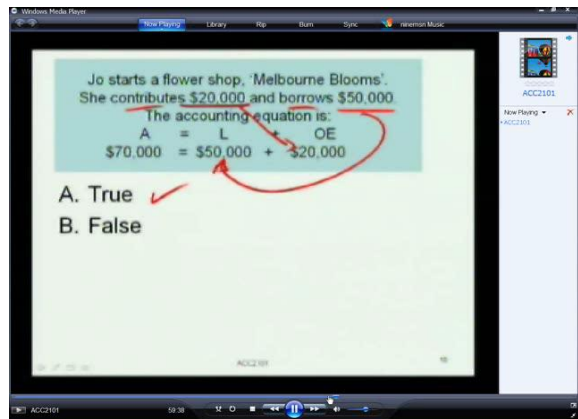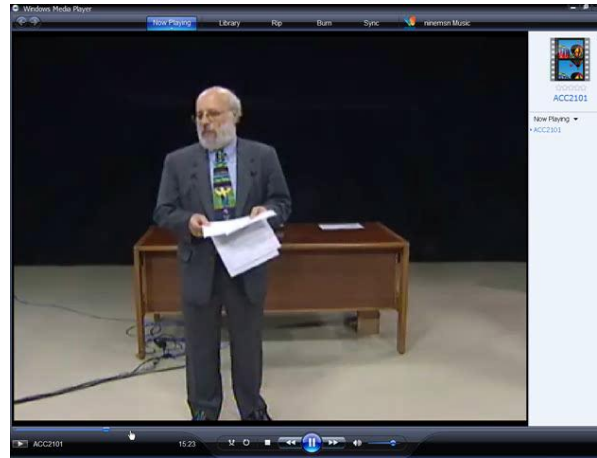3. You can **change your answer** by simply keying in your new choice.
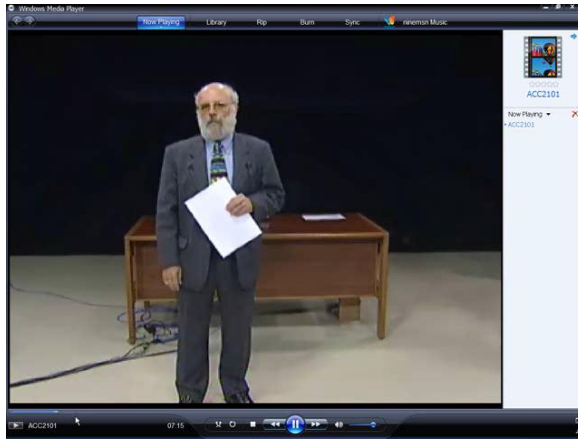
(The system will only count the last vote)

Please note: All responses are

ANONYMOUS

Semester 1 Recordings

[ShowCase011Feb08\ShowCase011Feb08.html](ShowCase011Feb08\ShowCase011Feb08.html)

Assessment

Diagnostic

Assignment 3
Randomly generated questions
On-line marking

Assignment 2

ShowCase02 MYOB Lab Session Feb08\ShowCase02 MYOB Lab Session Feb08.html

Semester 2 Enhancements

Flash Animation

Multi-media
Glossary

MediaSite
Lecture 1

SmartBoard

Elluminate

ShowCase02 Elluminate ExamPrep Feb08\ShowCase02 Elluminate ExamPrep Feb08.html

Elluminate within MediaSite

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vPad

- **PC labs or web enabled environments**
  - **a PC, notebooks, Pocket PC or PDA's, and mobile phones**
- **vPAD systems have same functions as other 'wireless' keypad systems, and more:**
  - **add text entry capabilities (Fill in the blank and Essay questions) that cannot be accomplished with most 'wireless' keypads.**
  - **supports Text Messaging**
  - **supports 'Moment to Moment' polling**
  - **supports 'Fastest Response First' slides where point values diminish as time runs off the countdown**
 - **also allows each student to contact the presenter with questions**

When technology works, it's great; but when it doesn't #?*!

Thanks for all the feedback. I am sorry that all the classes were not recorded but the technology let us down. We are looking for alternatives but these may not be available for this semester. I will post the completed slides and may have some other pre-recorded session from last semester loaded (see the M9 MYOB one). Unfortunately we are doing these extras on a shoestring with very little technical support. Please if you find them useful make sure you make the point on your feedback survey. Students have more influence in these matters than staff. Thanks again and keep the feedback coming. Joseph

ACC2101 Course Results
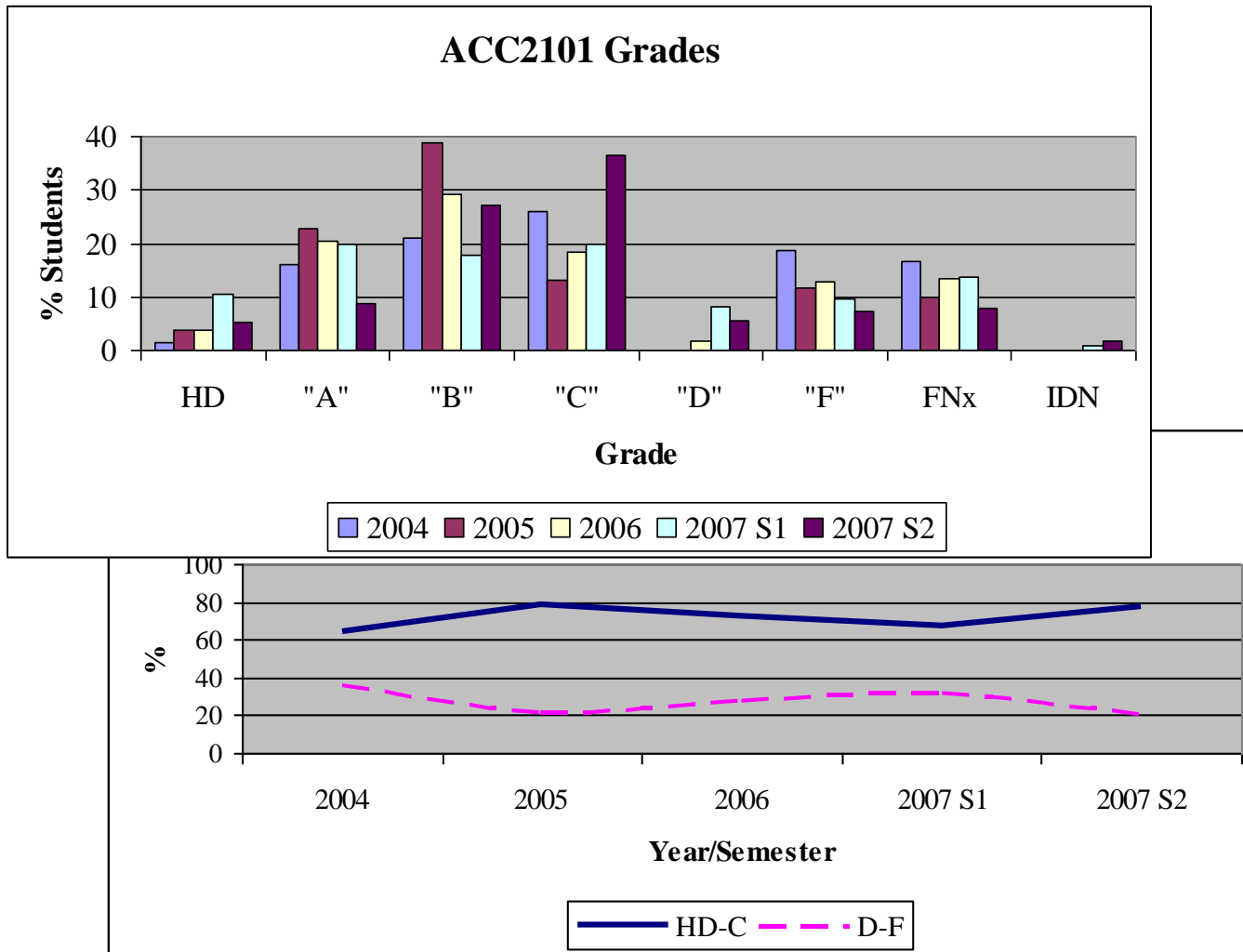
Student Feedback S1 2007

I was able to view the lecture! It was great! I had troubles at the start too. But I kept trying to connect and it eventually worked. It was pretty cool as I've never seen a real live lecture before. Cya! Kat
S1 2007

It was quite informative especially being about to see the "projector screen" shots (it was like actually being there with the other students) rather than just hearing what was being said (audio only). John S1 2007

As an external the live lectures were invaluable and enjoyed having you as a lecturer. Hope that I have you for other accounting subjects. Sharon S1 2007

I'm an external student and i am finding the recorded lectures very useful! And the classbook ensures that i'm paying attention! Thankyou for these additional resources in this course. Mel S2 2007

Student Feedback S2 2007

I'm an external student and i am finding the recorded lectures very useful! And the classbook ensures that i'm paying attention! Thankyou for these additional resources in this course. Mel S2 2007

As an external student the broadcast lectures are much appreciated. They motivate me to keep up with the study schedule. Tracy S2 2007

I think that the recorded lectures are great. I would be so lost without them. I wish that more of the other subjects would start recording their lectures aswell. As an external student i feel that the recorded lectures just make the information sink in that little bit better. So if possible please keep recording these. Thank you Kelly S2 2007

This is just to let you know that I have viewed the lecture regarding assignment 3 and as an external student found it helpful in filling in the bits of information I have missed esp as I have never used MYOB. I have watched it in bits over the last 2 days and am thankful such a resource is available...however it is strictly a broadband only proposition at 156MB!
Thank you for making this resource available and I hope there is some way those who do not have broadband can access such technology. Kathryn S2 2007

I am sure most of you agree, that Christina and Joseph deserve a special thank you for delivering a course in such a way that makes accounting interesting - if that is possible. The rescources that I have used through out this course have been fantastic and very helpful and I have not come across anything like this in any courses I have done before!! I am sure you will agree that they are both a credit to their faculty and USQ. Thanks again, And good luck Cheers Emma S2 2007

'Just want to say Thank you so much for your effort and help to make this course a very successful one. This is the best part of my studies so far. I've learned a lot on this subject and guaranteed that, i'm going to use this knowledge in the near future. Dave S2 2007