What’s Possible in Higher Education with Educational Technology?

PHEA’s ETI
Partnership for Higher Education in Africa’s Educational Technology Initiative
Presentation Plan

- Objectives
- Feedback in Learning
- Five Educator Challenges
- Online Learning Environments
- Discussion
Objectives

• Provide a conceptual framework for thinking about educational technology choices
• Exposure to a range of technologies used for teaching and learning purposes
• Facilitate reflection on possibilities of appropriate use in the local context
• To present a few possibilities which are on the horizon as well as those which are immediately available
A Cautionary Note

Educational Technology will not solve all your problems

Time and money spent on technology and online teaching will be wasted unless interventions are driven by good educational design.
Universities have a familiar system based on books, lectures and tutorials/ lab sessions that works well in many respects.

1. What can we do using educational technologies to gain maximum benefit from this system?

2. What can we do using educational technologies to extend and deepen learning interactions?
Learning Interactions

Anderson (2003)
Five Challenges for Educators

1. Read Course Materials
2. Explore within the discipline
3. Engage in Learning Conversations
4. Practice New Skills
5. Produce/Perform
1. Read Course Materials

2. Explore within the discipline

3. Engage in Learning Conversations

4. Practice New Skills

5. Produce/Perform
Read Course Materials?

This used to mean the textbook and prescribed readings ......

But now we can also use ......
Read Course Materials

- **Use audio files** to support reflective learning on the move – even downloadable to a cellphone.

- **Use digital video in your teaching either on the Internet or on a local network** eg [TeacherTube](http://TeacherTube)
Educators Want Students to:

1. Read Course Materials
2. Explore within the discipline
3. Engage in Learning Conversations
4. Practice New Skills
5. Produce/Perform
Explore within the discipline?

This used to mean reading books and paper based journals but now there is a tsunami of online information. How do we help students to deal with this?
Explore: Information Literacy

Education includes developing a critical approach to assessing the relevance and credibility of information.

“Technology has increased the intensity and complexity of literate environments.”
- Will Richardson
Explore: Make the Web Come to You!

Newsfeeds mean that you no longer need to come to a web page to see what’s new. Instead you can **gather all of this in one place** and click through to what interests you.

<table>
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<tr>
<th>Source</th>
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<tbody>
<tr>
<td>Moving at the Speed of Creativity</td>
<td>Podcast282: A Conversation with Superintendent Doug Taylor</td>
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<td>Google Blog Search: +&quot;onli&quot;</td>
<td>Online Learning Specialist</td>
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<td>IT’s Academic</td>
<td>Research Hacks: Tips &amp; Tools for the Busy Scholar - The vast print</td>
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<td>eLearning Technology</td>
<td>Examples of eLearning 2.0 - During my presentation last Thursday</td>
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<td>The Tech Savvy Educator</td>
<td>Test, test......is this thing on? - For those of you who haven’t</td>
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<td>Google Blog Search: +&quot;onli&quot;</td>
<td>Online Course Offers Guide to Online Media Law for Bloggers -</td>
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Explore: Discipline Specific Portals

Sometimes Subject Based Information Gateways are more useful than general web searches. Eg Intute offers portals for a wide range of disciplines.
Explore: Open Access

There is a wealth of information available as Open Educational Resources and as Open Access Research including resources from many of the world’s top universities.
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Engage in Learning Conversations?

This used to mean a discussion in a tutorial or lab session or individual consultations.

but now ..

Online discussions

Online chats

Blogging

Text messages
Qualities of Conversation
Mobile phones as the only pervasive form of connectivity in Africa

Different generations and feature sets

Some centres of innovation in Africa eg Research on mobile communication in education and ICT4D at Makerere University

An Evaluation of the Mobile Research Supervision Initiative (MRSI) at Makerere University

PHEA’s ETI

Partnership for Higher Education in Africa’s Educational Technology Initiative
Identity does not stay constant.
Posted by CELE ZAMANDOSI | 24 Aug, 2008
People do not see the same and their views are different which make different people see one in different ways. This can prove that one can have not only one identity but identities because people see one in many different ways and to these people one have unique identity. One person can look identity in the gender side, another in sexual side, race, social and ethnic group side. All these people are looking at one person but in different prospective. Which make a person to have multiply identities but one can argue

- strong authorial voice
- separation of content from appearance
- easy to start
- easy updating,
- listing of postings from most to least recent
- collection of recommended links
- Newsfeeds/ RSS
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Practicing Skills

This used to mean drill and practice of standard techniques, but now ....

Interactive Spreadsheets
Simulations and Role Plays
Games

How can we facilitate student learning of skills and techniques with real world application?
Skills: Spreadsheets

Example of an Excel based exercise on metal fatigue that runs on a local network
Skills: Simulations

Internet based simulation on chemical reactions and a virtual microscope
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Producing

Students must be able to produce knowledge in forms such as reports, models, performance or media....

The newer tools include collaborative writing environments and specialist production software to support flexibility and creativity.
1. Bibliographic information (dates of birth and death, nationality, profession)  
2. Major works (with publication dates)  
3. Historical context (prevailing socio-economic conditions and events which influenced the writer)  
4. Normative issues (values underlying the economic ideas)  
5. Economic issues (focus of that writer, e.g. price determination, distribution, role of money)  
6. Historical antecedents (i.e. whose ideas did the writer draw on?)  
7. Followers (who took up this writer’s ideas at a later stage?)  
8. Legacy (i.e. lasting contribution to economic theory)  
9. Methodology (any special aspects of the methodology employed)  
10. Policy implications  

Comments

"If it be asked how much of his work will stand, the provisional answer may be that we are too near it to judge. On the other hand, Marshall lived long enough to put his teaching to the proof over a generation of men... If some fridges drop, his robe of honour will still be ample to preserve his fame" James Bonar 1925 (Groenewegen,1995)
Often students will need to use specialist software to develop and show professional skills eg CAD software for architects, film editing software for Film and Media students in a production stream.
Such specialist professional tools can enhance well designed products.

However they can’t disguise poor design.
Online Learning Environments

Containers/ Toolkits/ Integrators

Learning Management Systems

Online Learning Environments?

Proprietary or Open Source?
Uses of Online Learning Environments

Educators want students to:

- Read course materials
  - Lectures
  - Presentations
  - Books
    - Course Outline
    - Online Resources
  - Search Engines
    - Online Resources
      - e-mail list
      - Discussions
      - Announcements
      - Chats
      - Wiki
- Explore within the discipline
  - Online Resources
- Engage in learning conversation
  - Games
    - Simulations
    - Tests and Quizzes
  - Professional Products
    - Presentations
    - Essays
    - Assignments
  - Practice new skills
    - Simulations
  - Produce/Perform
Learning environment as Walled Garden
Environments: Virtual Worlds

In countries with ample bandwidth many universities are starting to use virtual worlds such as Second Life for research and teaching.
Learning Environments: What Now?

From Global Voices
“in new paradigm networked societies, boundaries are more permeable, interactions are with diverse others, linkages switch between multiple networks, and hierarchies are flatter and more recursive. Though computer networks have not caused this paradigm shift, they have aided it”

Wellman, Koku and Hunsinger 2006
A Next Generation Learning Environment?

Ali Jafari, Patricia McGee, and Colleen Carmean, Managing Courses, Defining Learning: What Faculty, Students, and Administrators Want

Or do we really need Personal Learning Environments instead?
And with low/ no bandwidth?

- Everything on the local network – resources, software, online learning environments
- Caching of websites for local use
- CD-Rom/ DVD
- Flash memory including generic (cheap) mp3 players
- Mobile phones
Educational Technology Beyond e-Learning

**Learner Management Systems:**
It is taken as a ‘given’ that these systems should be in place, operational and maintained.

- Moodle (Open Source)
- Blackboard (Industry standard)
- Kewl (African – UWC)
- Tusk (Tuft University)
- Sakai (Java Based)
Educational Technology Beyond e-Learning

**Information Systems:**

It is taken as a ‘given’ that the university is also supported by an electronic information system that provides accurate statistics:

- Admissions
- Student and staff records
- Accounts
- Academic Records
- Library etc.