

# What's Possible in Higher Education with Educational Technology?

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## PHEA's ETI

Partnership for Higher Education in Africa's  
**Educational Technology Initiative**



# Presentation Plan

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

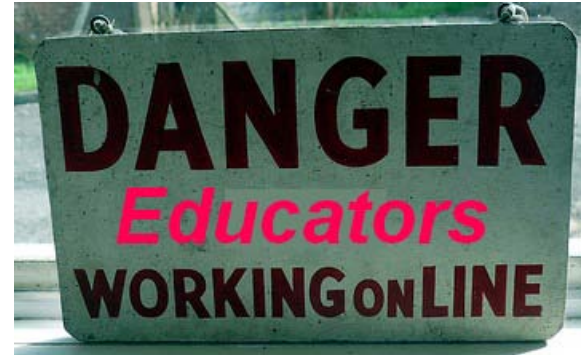
# Objectives

- 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.



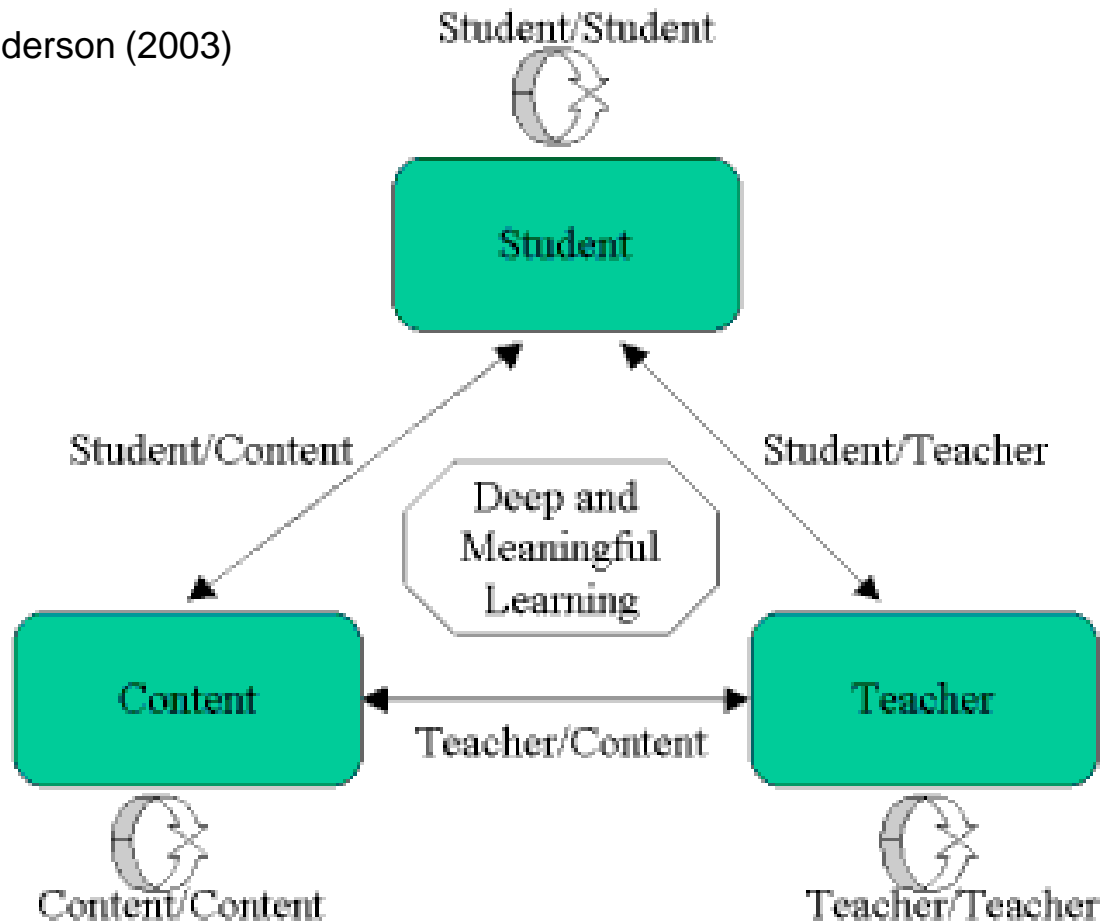
# Technology for Learning

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)

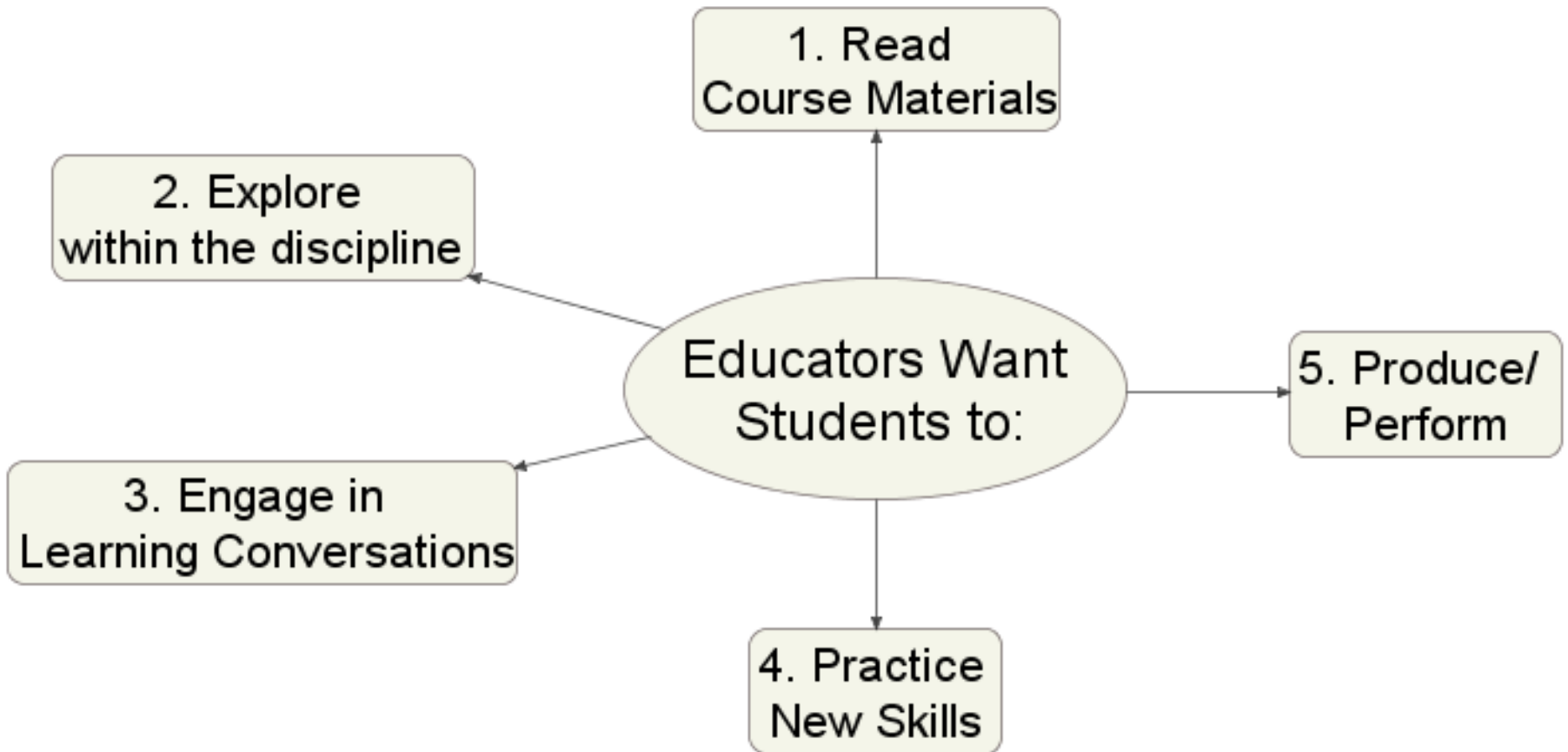


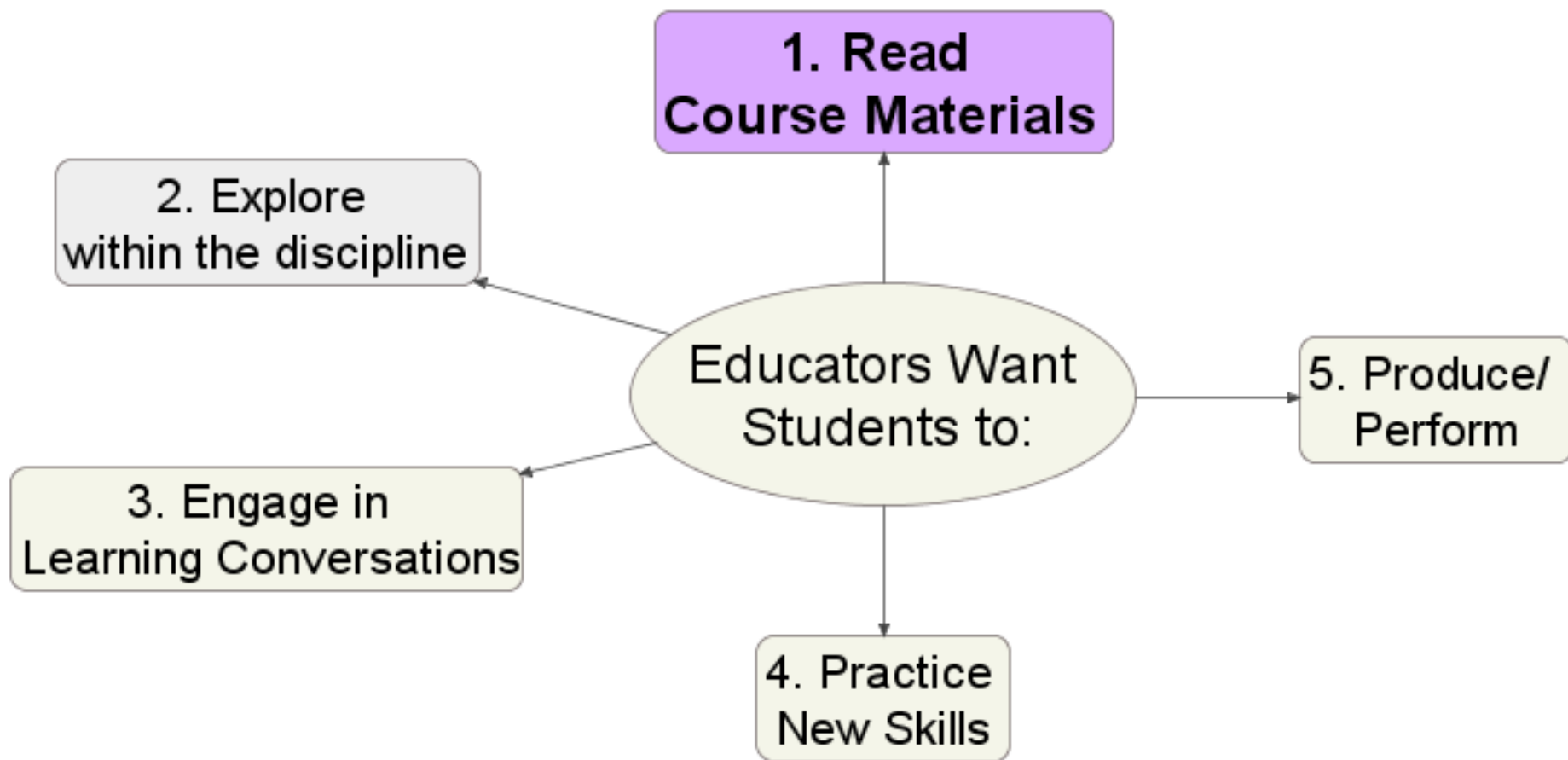
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# Five Challenges for Educators







## Read Course Materials?

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

But now we can also use.....



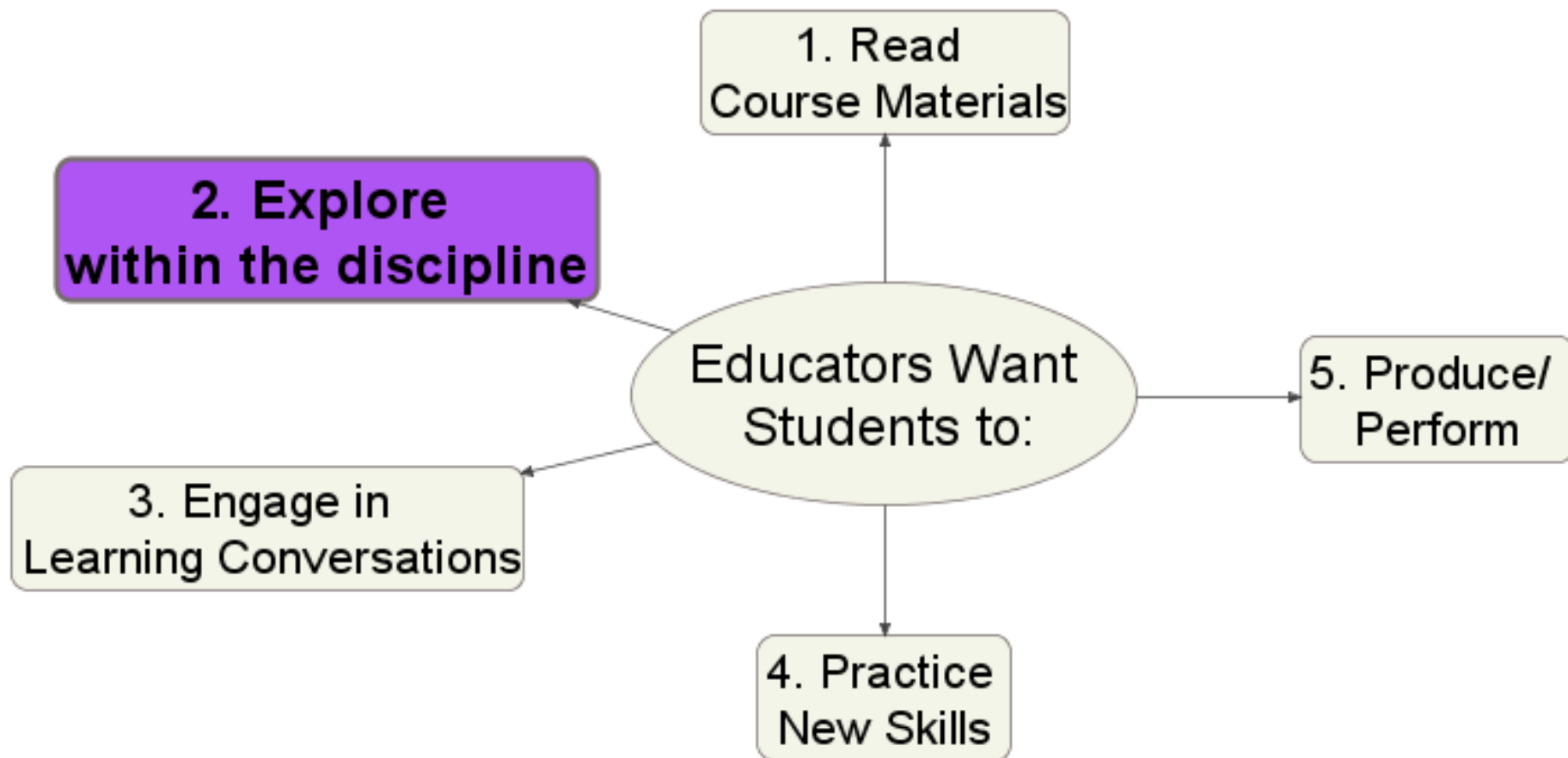
# Read Course Materials



- [Use audio files](#) to support reflective learning on the move – even downloadable to a cellphone.

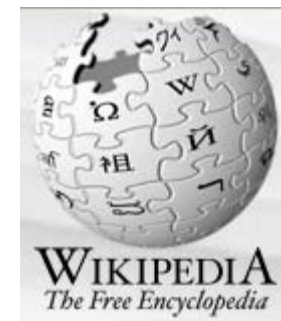


- Use digital video in your teaching either on the Internet or on a local network eg [TeacherTube](#)



## 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



## 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

☆ Moving at the Speed of Cre	Podcast282: A Conversation with Superintendent Doug Taylor
☆ Google Blog Search: +"onli	Online Learning Specialist   Rotary International - The ideal
☆ IT's Academic	Research Hacks: Tips & Tools for the Busy Scholar - The vast print
☆ eLearning Technology	Examples of eLearning 2.0 - During my presentation last Thursday
☆ The Tech Savvy Educator	Test, test.....is this thing on? - For those of you who haven't
☆ Google Blog Search: +"onli	Colleges blend Web, classroom - Lori Yount, Wichita Eagle -
☆ Google Blog Search: +"onli	Online Course Offers Guide to Online Media Law for Bloggers -



## 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.



[Contacts](#) [Help desk](#) [Policy](#) [Site map](#) [Survey](#)

Quick links

Go



●● [Science and Technology](#)



●● [Arts and Humanities](#)



●● [Social Sciences](#)



●● [Health and Life Sciences](#)

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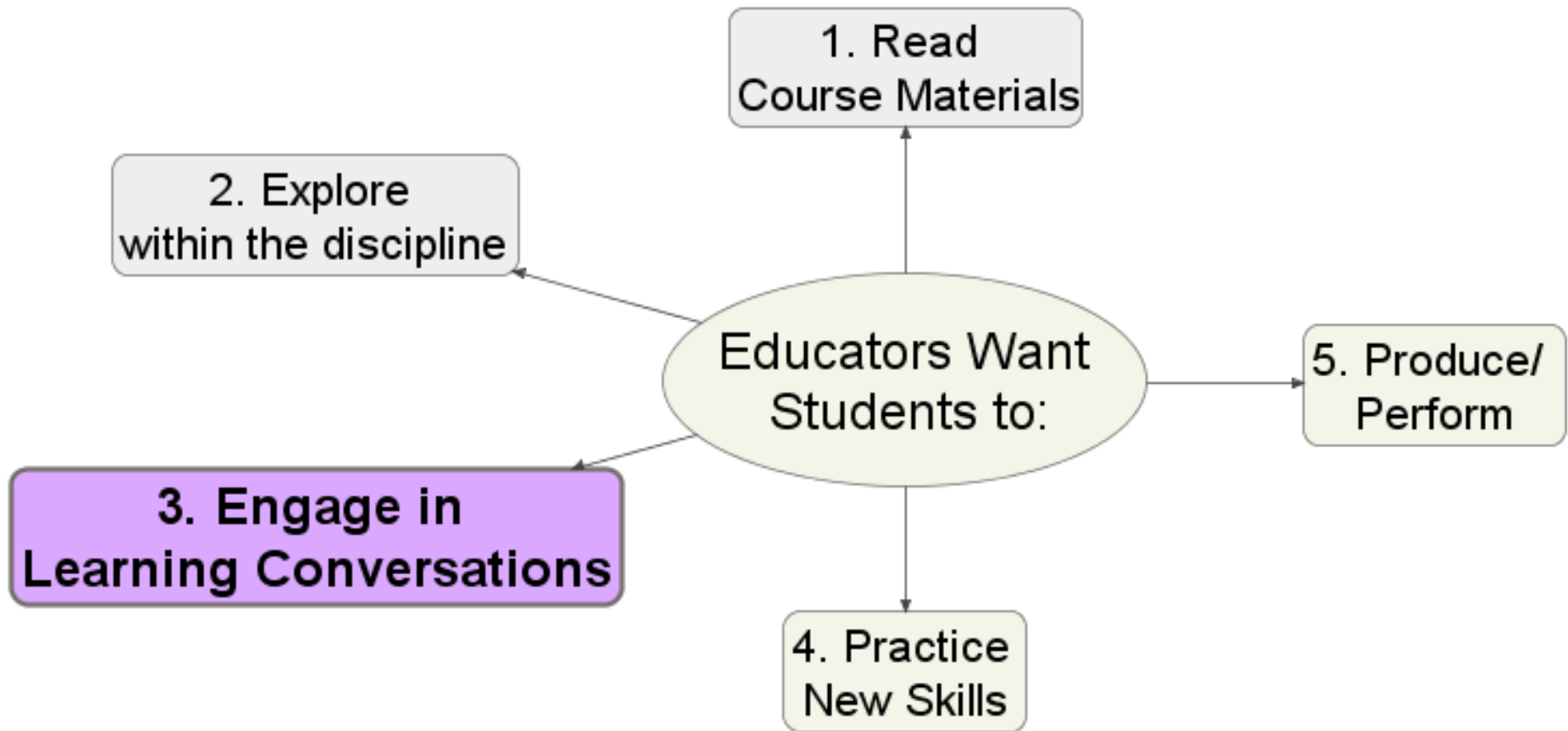


## Explore: Open Access

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.







## Engage in Learning Conversations?

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

but now ..

Online discussions

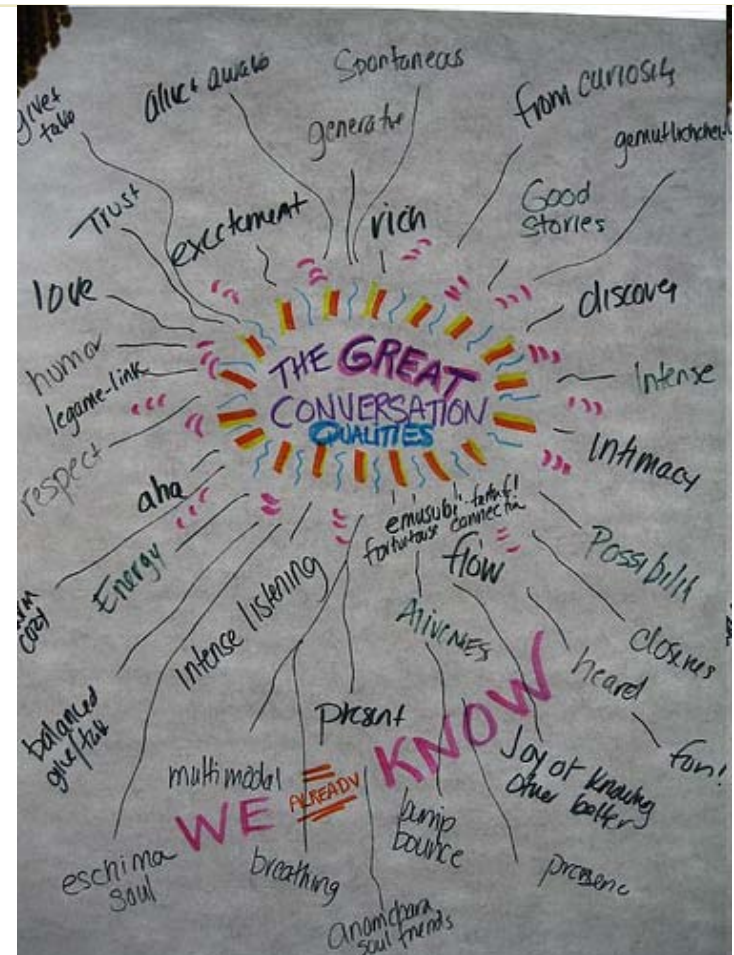
Online chats

Blogging

Text messages



# Qualities of Conversation



# Conversation: Mobile Learning



Mobile phones as the only  
pervasive form of  
connectivity in Africa

Different generations and  
feature sets



**Makerere University**

**Paul B. Muyinda, Jude T. Lubega, Kathy Lynch**

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

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

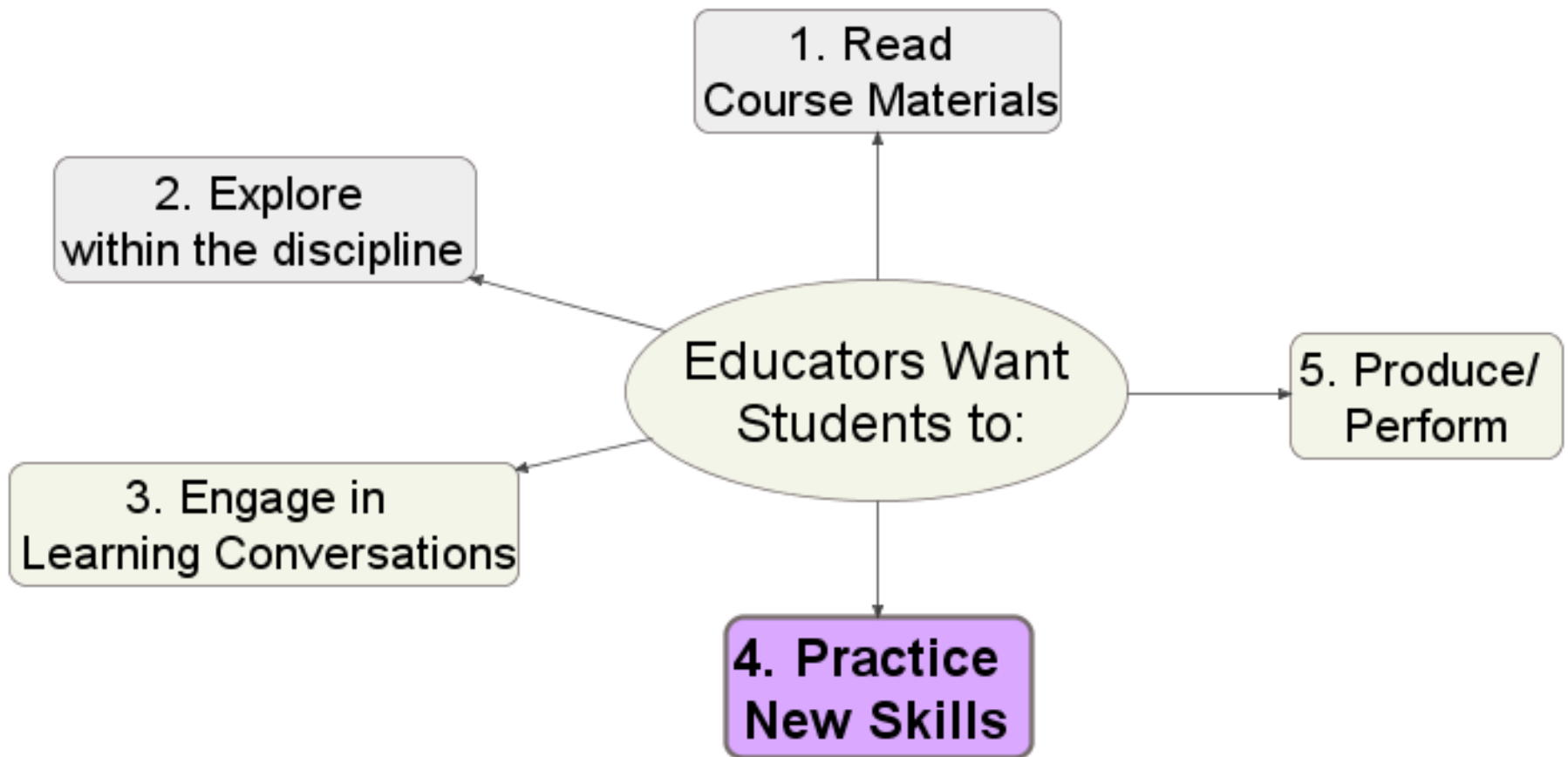
# Conversation: Blogs

## 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 ethic 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



# Practicing Skills

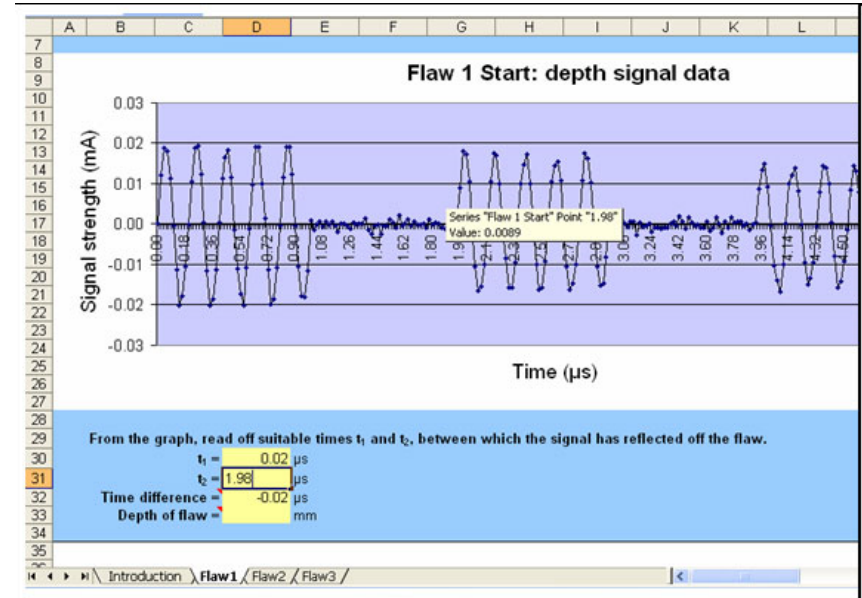
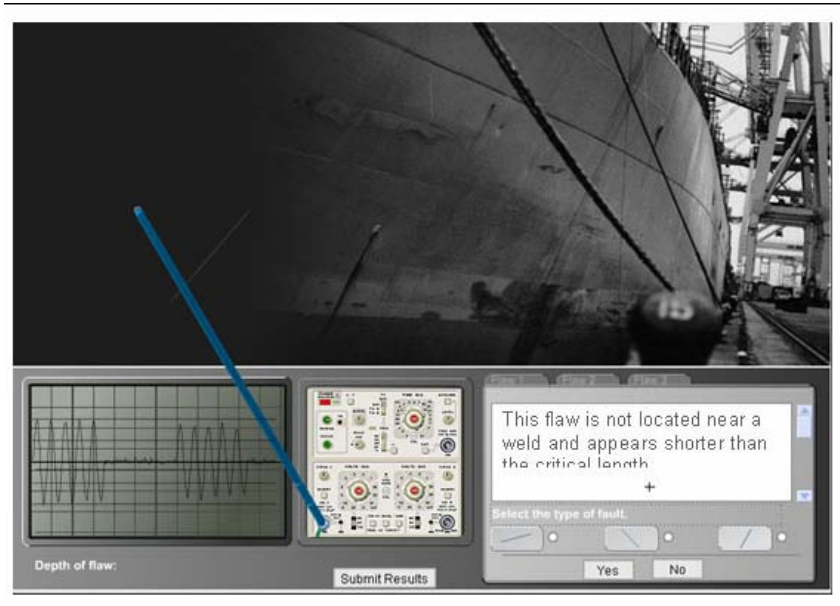
This used to mean drill and practice of standard techniques , but now ....

Interactive Spreadsheets  
Simulations and Role Plays  
Games

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



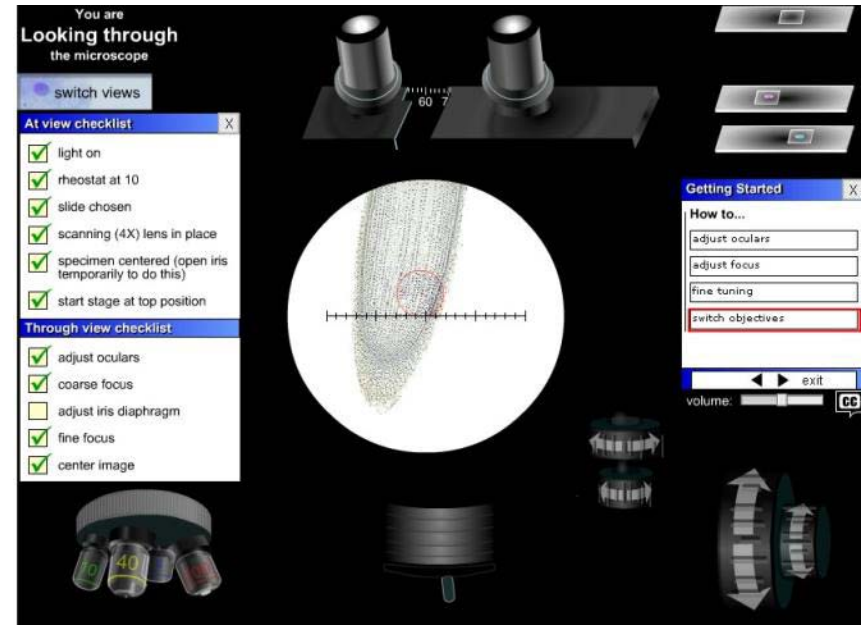
## Skills: Spreadsheets



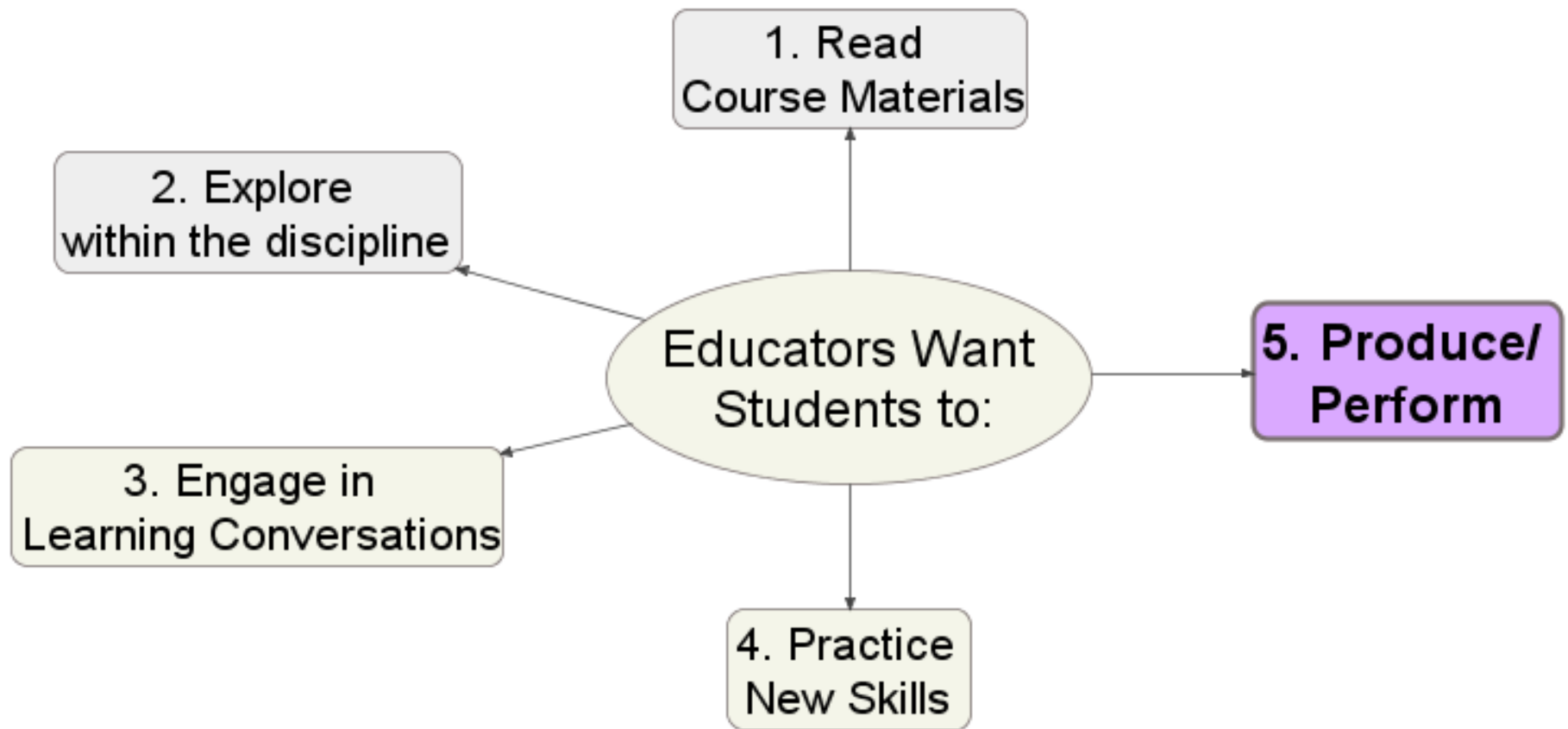
Example of an Excel based exercise on metal fatigue that runs on a local network



# Skills: Simulations



Internet based simulation on chemical reactions and a virtual microscope



## 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

# TEMPLATE FOR INDIVIDUAL WRITERS



- 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**

Producing:  
Learning with a wiki

## Comments

 Wiki 

[Home](#) [View](#) [Edit](#) [Info](#) [History](#) Search:

[Adam Smith](#) > [Oskar Lange](#) > [David Ricardo](#) > [Alfred Marshall](#) > [Home](#) > [Alfred Marshall Anon](#)

Student 1 and Student 2 (We worked collaboratively and equitably on the whole page)



*"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)

## Producing: Using Specialist Software

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.



# Producing: Technology as Tool

Such specialist professional tools can enhance well designed products.



However they can't disguise poor design.



# Online Learning Environments

Containers/ Toolkits/  
Integrators

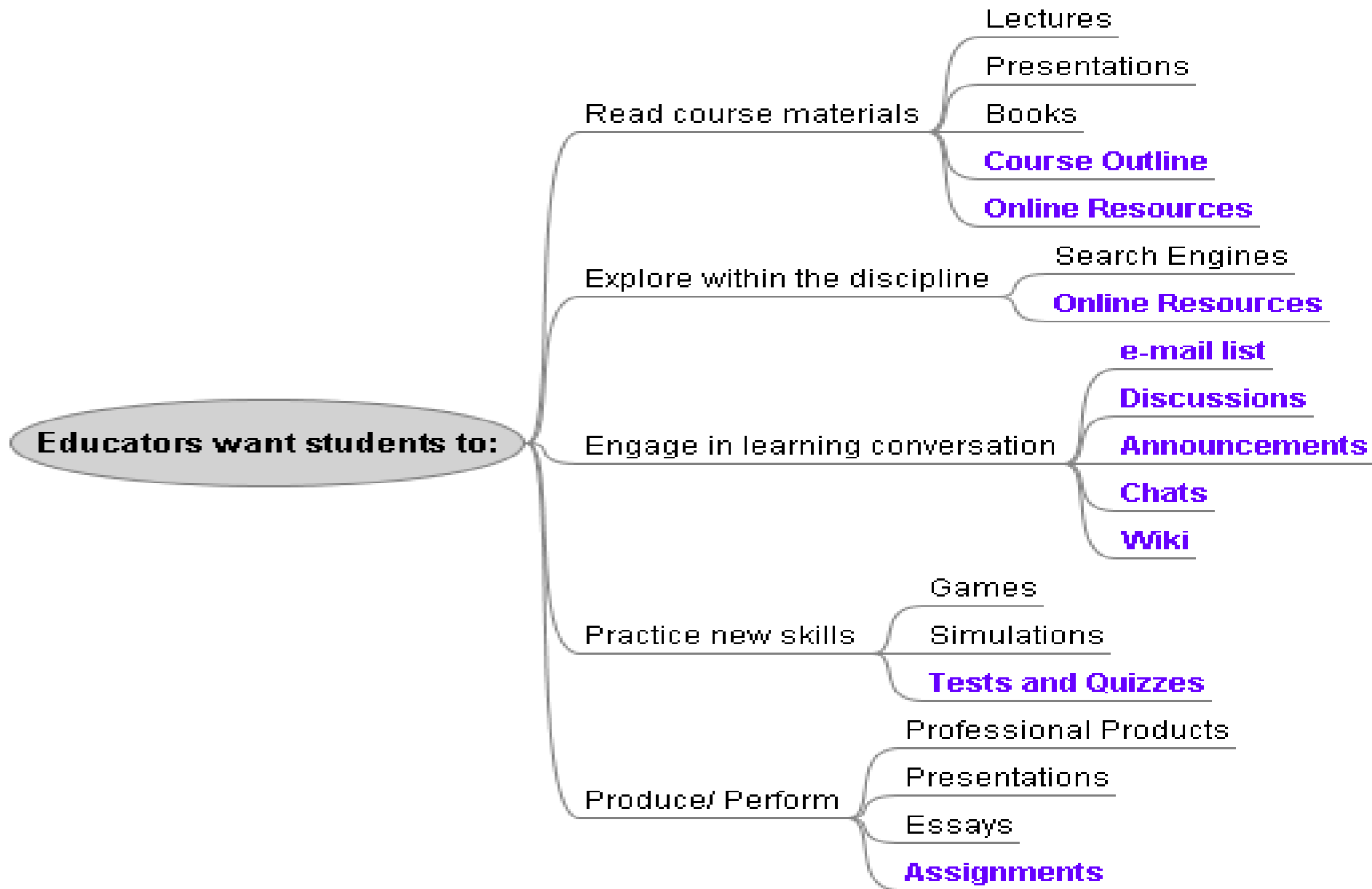
Learning Management  
Systems

Online Learning  
Environments?

Proprietary or Open  
Source?



## Uses of Online Learning Environments



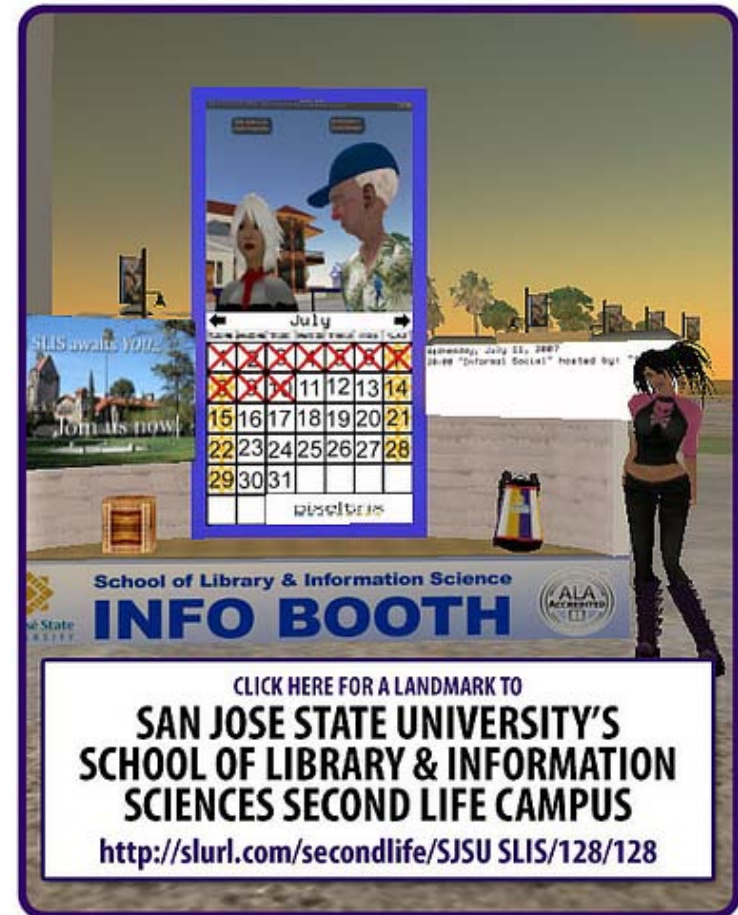


# Learning environment as Walled Garden



# Environments: Virtual Worlds

In countries with ample bandwidth many universities are starting to use virtual worlds such as Second Life for research and teaching

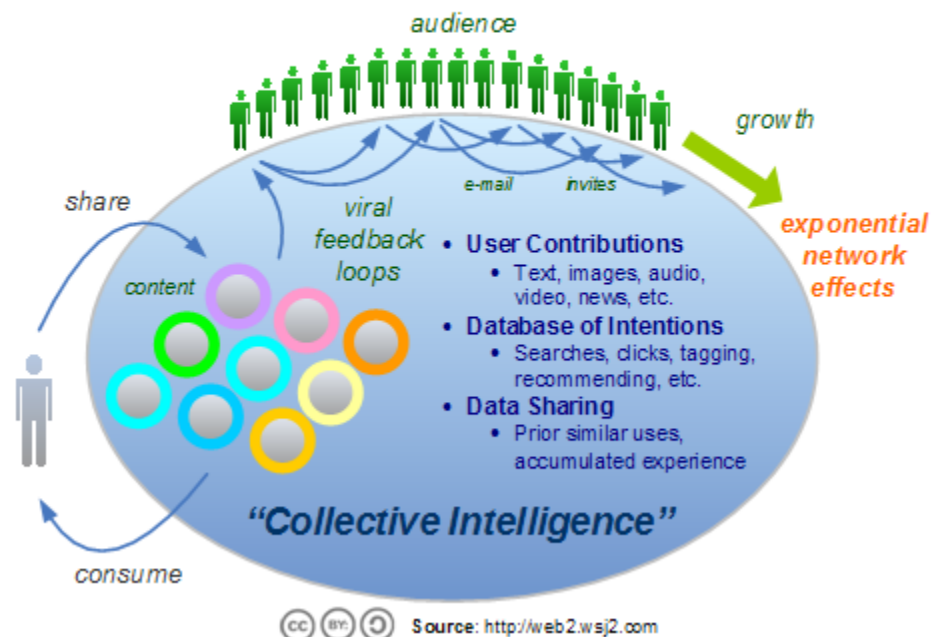




# Learning Environments: What Now?



## Architecture of Participation: *Moving to the Center of Software Design*



From [Global Voices](#)

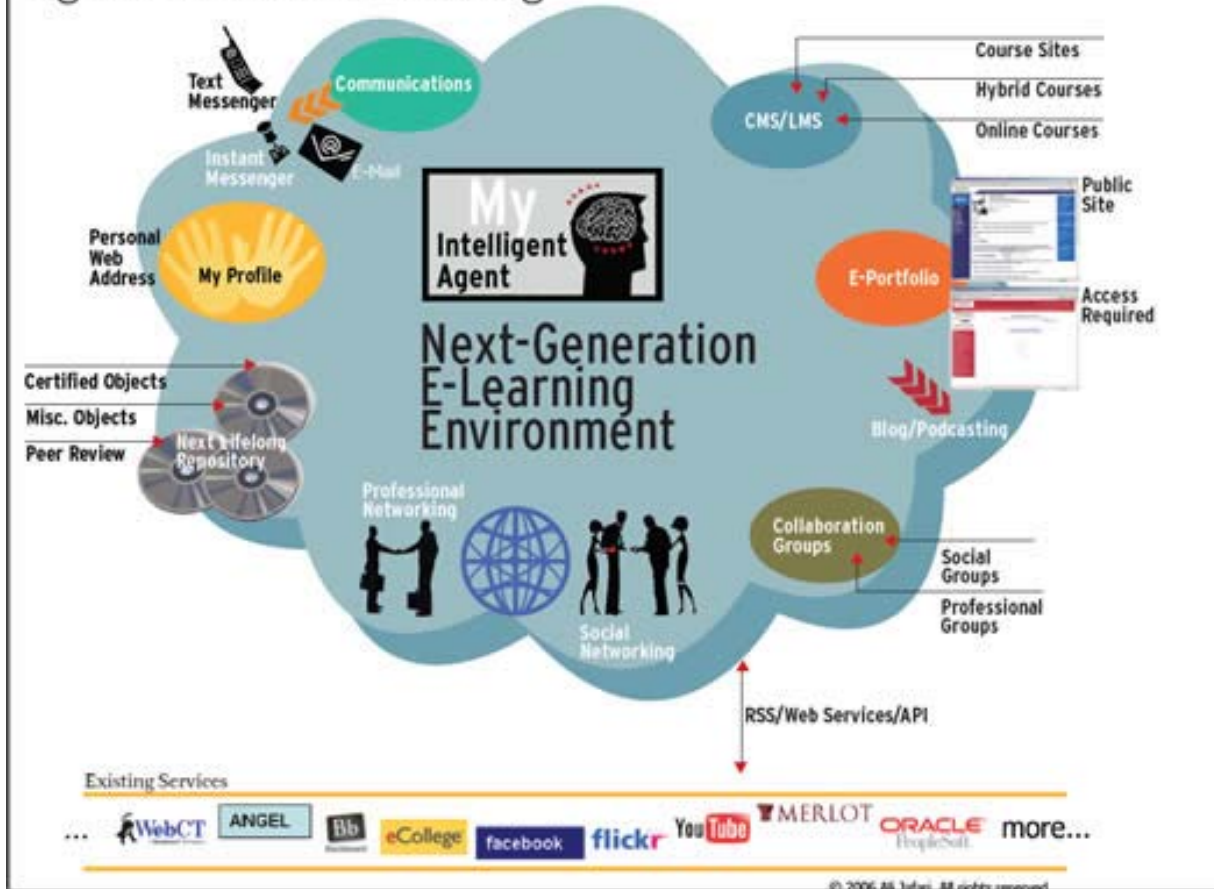
## Learning Environments: Networked Scholarship

“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?

Figure 1. Central Hosting



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)



**Blackboard**





# 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.