BDRA International Conference:
LEARNING FUTURES
Leicester, U.K.
9-11 January 2007

The implications of Web 2.0 for teaching and learning in a knowledge-based society

Overview

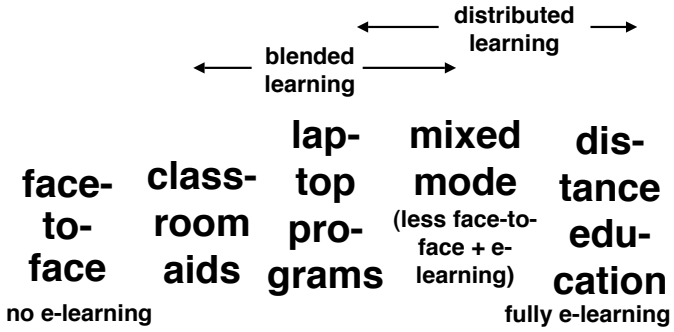
1. Introduction
2. What is e-learning?
3. Current pressures on universities
4. Changing technology
5. Developing a vision for teaching
6. Conclusions

What is e-learning?

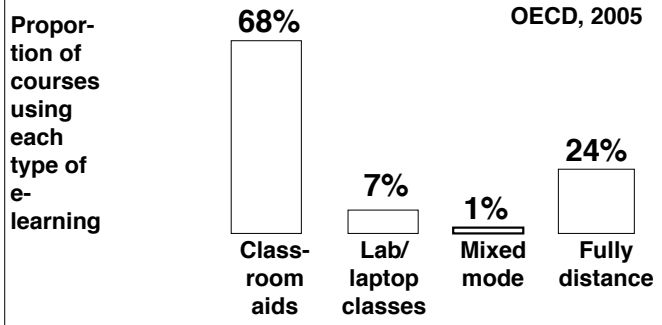
My definition:

all computer and Internet-based activities that support teaching and learning - both on-campus and at a distance

What is e-learning?
(Bates, 2005)



Current proportion of different types of e-learning in North America + Europe (2006)



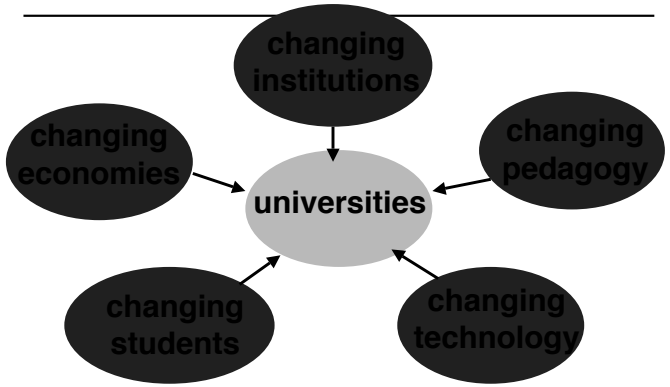
Making choices

For any program:

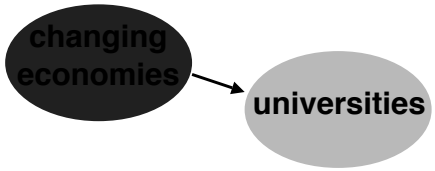
- **Where on the continuum of e-learning should this program be?**
- **Should this continuum reflect course sections or students?**
- **Who should make this decision?**

To answer these questions, we must look at the reasons for e-learning

Current pressures on universities



Current pressures on universities



Different economies

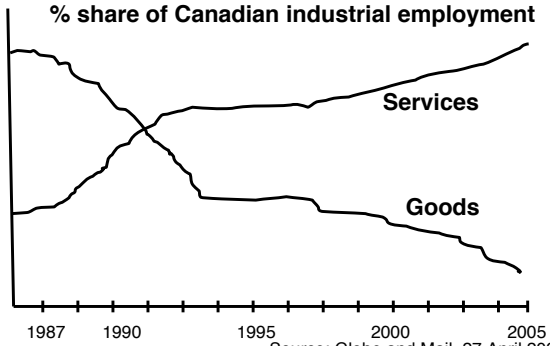
Resource-based: agricultural, mining, fishing: land/sea-based, local

Industrial: manufacturing: urban, factories, hierarchical, economies of scale, specialist skills

Knowledge-based: financial, bio-technology, ICTs, telecoms, entertainment: 'virtual', global, networked, multi-skilled

All three economies in parallel

Shifting economy



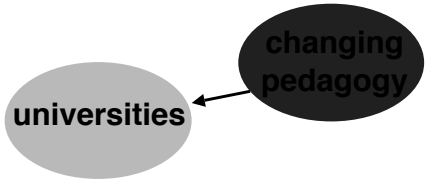
Source: Globe and Mail, 27 April 2006, B9

Skills of knowledge-based workers

- problem solving, critical thinking
- communication skills
- computing/Internet skills
- independent learners
- entrepreneurial, initiative
- flexibility
- team-work/networking

AS WELL AS subject expertise

Current pressures on universities



Changing views of learning (epistemology)

How we know what is true, e.g.: Darwin vs Church

Objectivist: truth exists outside the human mind: scientific laws that describe an unchanging reality

Constructivist: all knowledge is constructed by humans: science is what scientists generally agree; knowledge is relative and personal

Impact on educational practice

Objectivist:

- a body of knowledge to be learned, defined by experts
- knowledge transmission by experts
- comprehension, memory, rote learning
- authoritative, correct, organized, clear, not to be questioned
- 'right' answers; efficient reasoning

Impact on educational practice

Constructivist:

- observe, compare, question, reflect, discuss, assimilate, e.g. heat
- reflective, social and personal
- questions, problems, discussion, argument: learners more equal
- quality of argument/thinking assessed

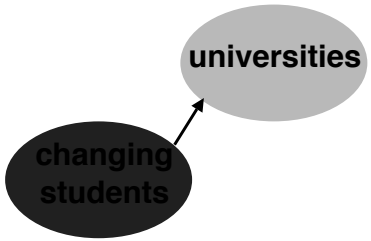
Why the shift?

Knowledge explosion: too much to learn by heart: smarter rather than more

Skills required in knowledge-based businesses (and in life):

- critical thinking, creative thinking, problem-solving, communication, use of ICTs

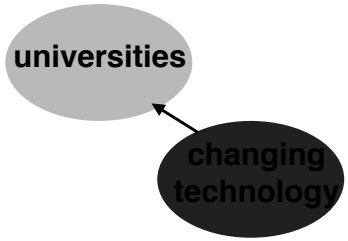
Current pressures on universities



Changing students: digital natives (Prensky, 2005)

Under 25 years of age: brought up with technology: computers, mobile phones

Current pressures on universities



Online learning 1995-2006

Main driver: Internet + learning platforms:

- **WebCT, Blackboard, Moodle, Virtual Campus**
- **integration of teaching and administration**
- **proprietal vs open-source**
- **institution/teacher-focused**

What is Web 2.0?

Definition (Wikipedia):

second generation of Internet-based services—such as social networking sites, wikis, communication tools, and folksonomies—that emphasize online collaboration and sharing among users.

Google

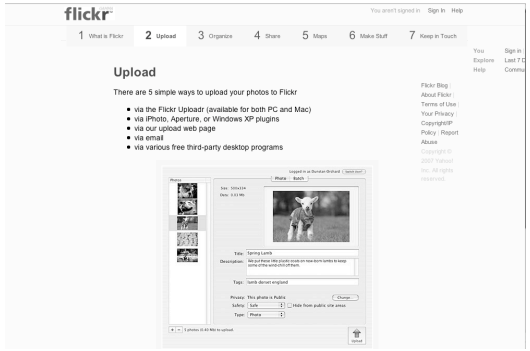
MySpace

iTunes podcasts Higher Education

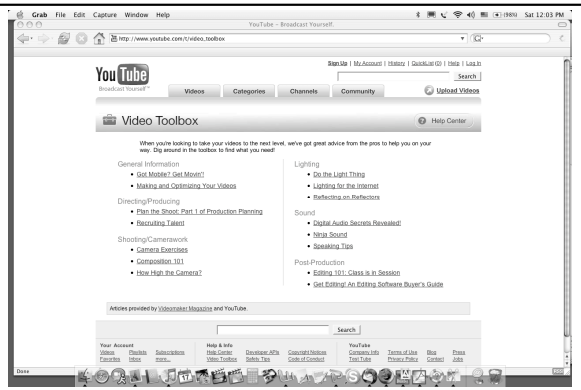
iTunes Podcasts Educational Technology

Second Life

Flickr



YouTube



New technologies: 2005 -

user-created content: blogs, YouTube
social networking: MySpace
mobile learning: phones, MP3s
virtual worlds: Second Life
emerging publication: wikis, e-Portfolios
multi-player games: Lord of the Rings
simulations: MyPhysicsLab.com
synchronous: Skype, Elluminate

What is Web 2.0?

Educational implications

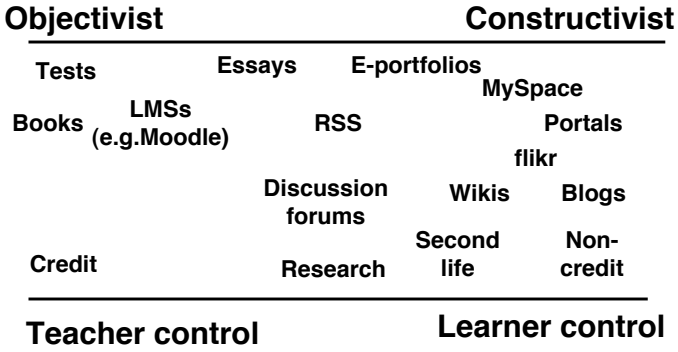
- learners have powerful tools
- learners create/add/adapt content
- personal learning environments
- power shift from teachers to learners
- 'open' access, content, services

What is Web 2.0?

Educational implications:

- social networks; peer-to-peer (P2P)
- institutional shift to service, speed, and market response
- issues of quality, IP and accreditation
- others?

Web 2.0 and learner control



How to mobilise Web 2.0 in online teaching

Within programmes:

- group work
- projects and cases
- outside experts and content
- field work
- language teaching
- multimedia assignments/e-portfolios
- ……

Dangers of Web 2.0

'Instead of a dictatorship of experts, we'll have a dictatorship of idiots'

Andrew Keen, 'The Cult of the Amateur'

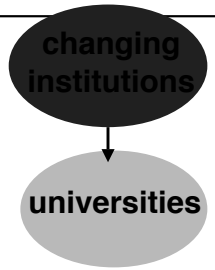
Dangers of learner-centred Web-based learning

- 'democratization' of learning: threat to expertise/authority/reliability?
- undermining of scientific thinking?
- dependent learners: need for structure/guidance (teachable)
- didactic teaching sometimes best
- trustworthiness and security

The educational benefits of Web 2.0

- lot of hype: much of Web 2.0 is social not educational
- BUT there is educational potential: meets many lifelong learning needs
- change in philosophy as well as technology
- will lead to power shift to learners
- needs more experimentation/ evaluation

Current pressures on universities



The importance of academic departments in change and innovation

Two typical approaches to change:

- top down: Vice-chancellors or governments decide a strategy then try to implement it
  - universities like graveyards; autonomy of the faculty member
- bottom up: early adopters; Lone Rangers

The critical role of academic departments

Administration

Academic department

The importance of the academic department/faculties

Academic departments/faculties determine programs and curriculum

Bridge between autonomy of faculty and institutional objectives

Place where consensus can be built

Academic faculties/departments determine the success of e-learning

Planning goal for academic faculties/departments

Academic faculties/departments:

Each program will develop a vision and plan for teaching and learning, including the appropriate use of e-learning

Departmental vision

- e-learning a tool, not a panacea
- need to identify where it will bring most benefit
- depends on type of students, nature of topic
- program teams to develop vision of teaching/learning + role of e-learning that drives funding

Determining the role of e-learning

- what new markets can we serve?
- what new programs do we need?
- where does e-learning fit in the faculty's programmes?
- how will e-learning change the way we teach?
- what do we need to support e-learning

The rationale for e-learning

- E-learning supports the development of skills needed in knowledge-based societies, e.g. how to seek, organize, analyse and apply information
- Using technology for learning prepares students for knowledge-based work
- E-learning is particularly good for lifelong learning

Further information

Bates, A.W. (2005) Technology, e-Learning and Distance Education London: Routledge

OECD (2005) E-learning in Tertiary Education Paris: OECD

Bates, A. (2000) Managing Technological Change San Francisco: John Wiley

Bates, A. & Poole, G. (2003) Effective Teaching with Technology in Higher Education San Francisco: John Wiley