e.SCAPE: Knowledge Teaching Technology
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DESIGNING UNIVERSITY TEACHING FOR A DIGITAL AGE

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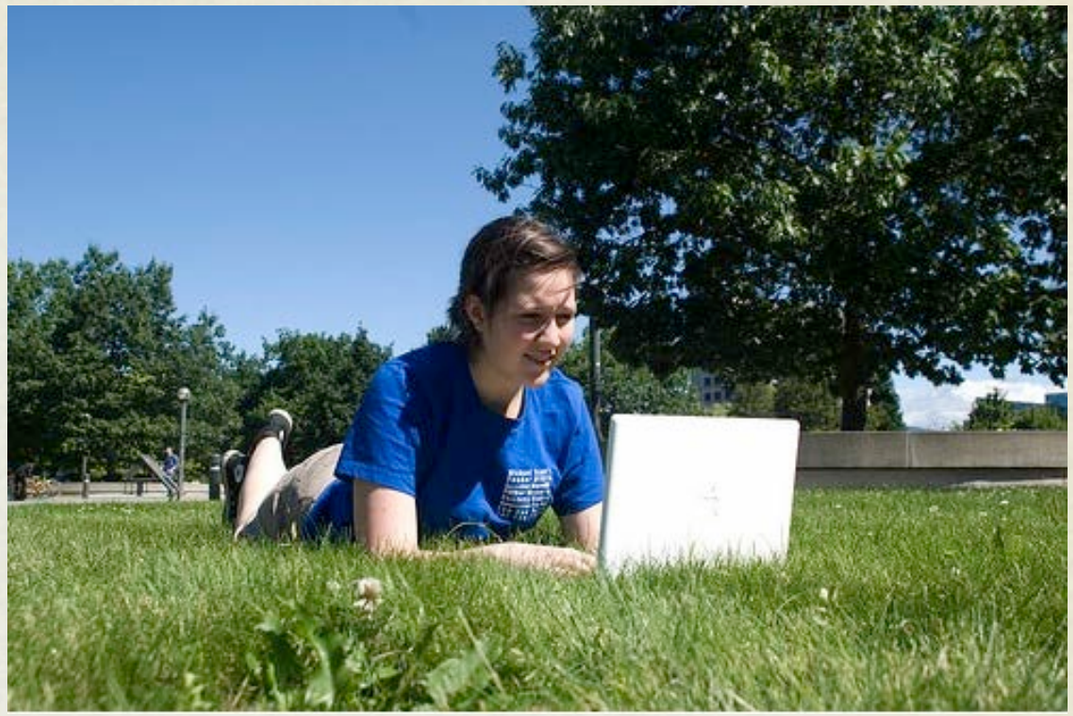
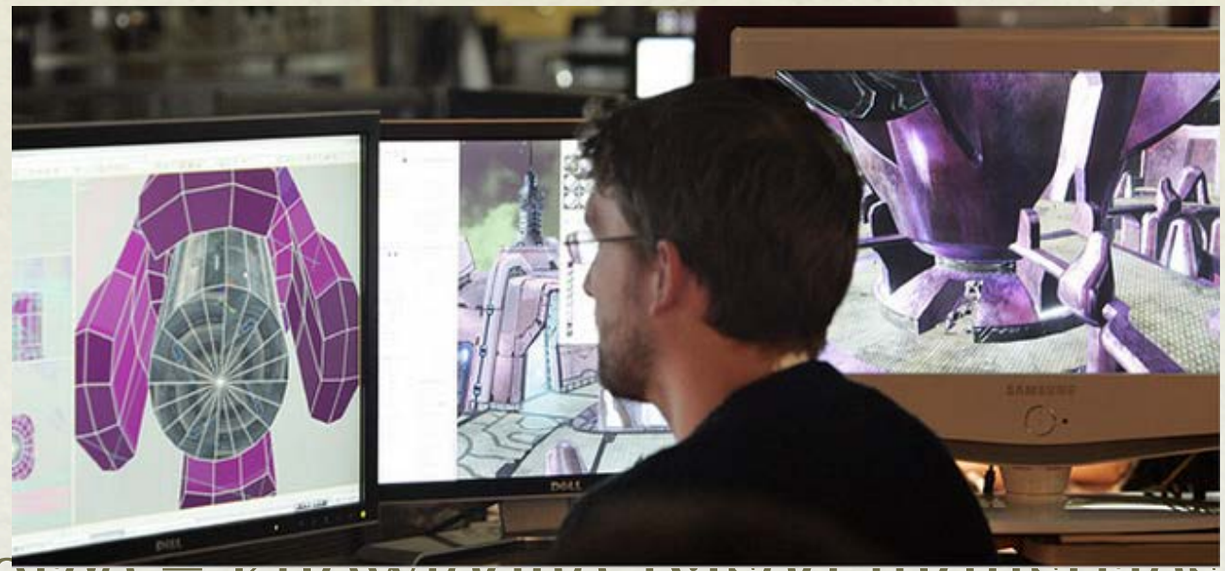
Overview

1. Demands of a digital economy
2. Online learning trends over the last five years and why
3. How to make decisions about the use of technology for teaching
4. Online teaching models
5. Implications for the university
6. Conclusions



Demands of a digital economy



- Future workforce = knowledge-based industries (IT, health, finance, design, entertainment) + service industries + trades
- Digital skills
- 21st century skills
- Changes in teaching methods

21st century skills

communication skills

independent learning

ethics/responsibility

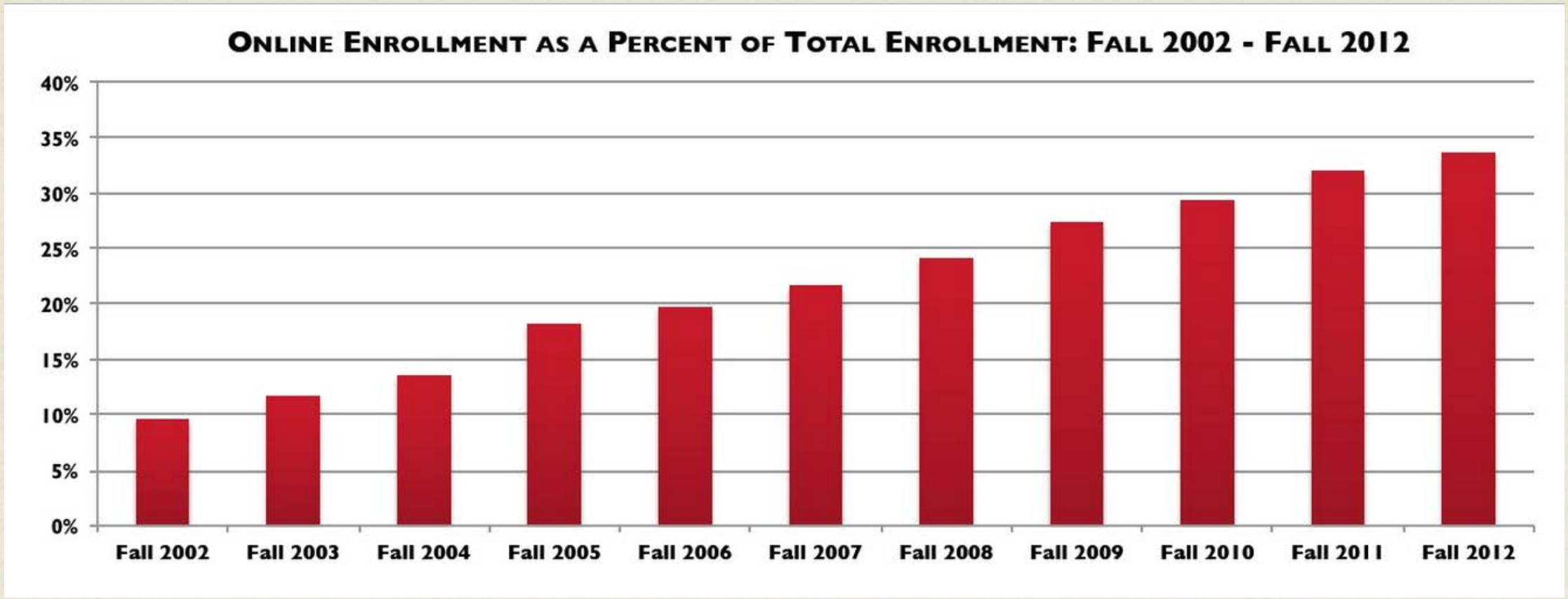
teamwork and flexibility

thinking skills (critical thinking, problem-solving, creativity)

IT skills embedded in subject area

knowledge management

Growth of for-credit online learning



Source: Seaman and Allen, 2014

Online enrollments growing 5 x faster than campus enrollments

High completion rates (80-85%)

Trends: hybrid learning

- Last 12 months: big move to hybrid learning (in Canada)
- Probably 50% of all classes will be hybrid by 2020

- ‘Flipped’ teaching: BUT: it can be so much more - move towards re-design
- What is the best use of face-to-face time? What is the right mix?

Why the move to blended/hybrid learning?

- Large lecture classes
- Recognition that students can learn ‘some things’ online
- New, easy to use technologies, e.g. lecture capture, LMSs
- Demands of knowledge society: 21st century skills
- Need for more flexible delivery

Trends: open education

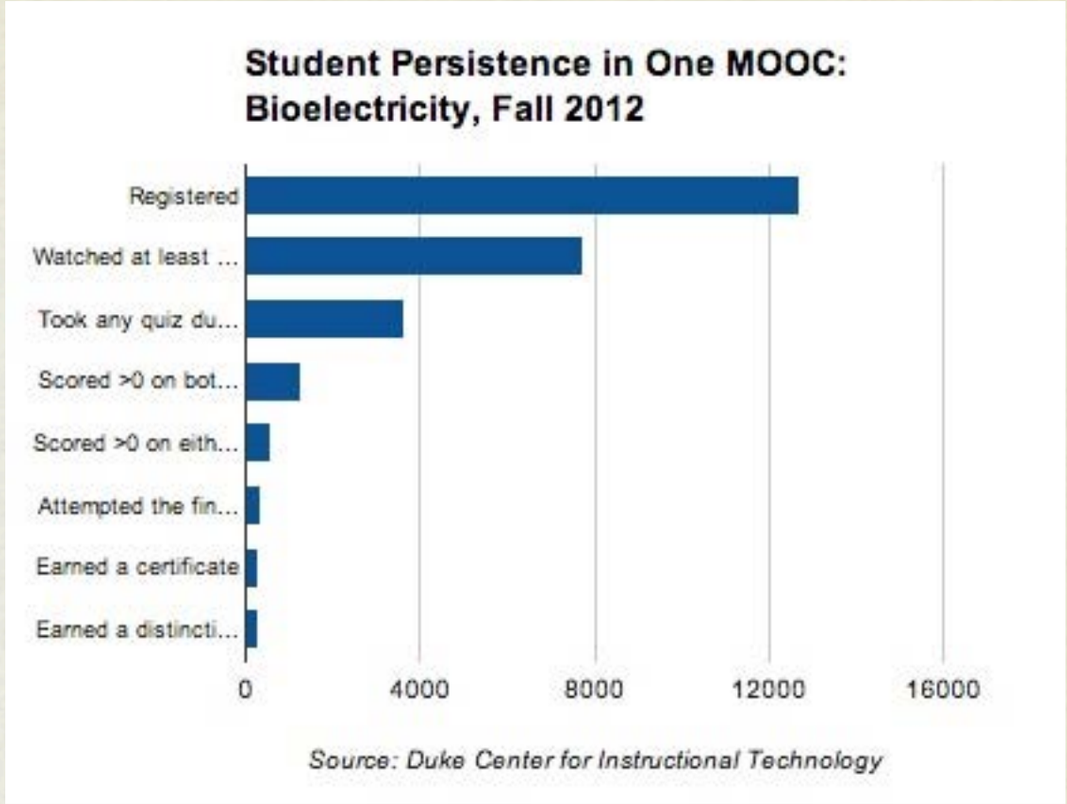
- open textbooks
- open courses (MOOCs +)
- open resources (OERS)
- content will be free, abundant and all online (open journals)
- service (quality teaching + learner support) key quality differentiator

Trends: MOOCs

- cMOOCs (Siemens, Downes, Cormier): different instructors; web conferencing; students use social media; massive ‘communities of practice’
- xMOOCs: Coursera; edX; FutureLearn; lecture capture; peer review, computer testing; massive online broadcasting
-

MOOCs

- Driven by Ivy League institutions
- Bandwagon effect: UofT; UBC
- Enrollments: 10,000 +, but low completion rates: <10%
- Attempts at accreditation (e.g. ACE) but assessment a massive challenge
- No credible business models yet



What kind of courses?

← distributed learning →

← blended learning →

face-to-face

classroom aids

hybrid

(reduced f2f + online)

fully online

(distance)

no e-learning

fully e-learning

←→

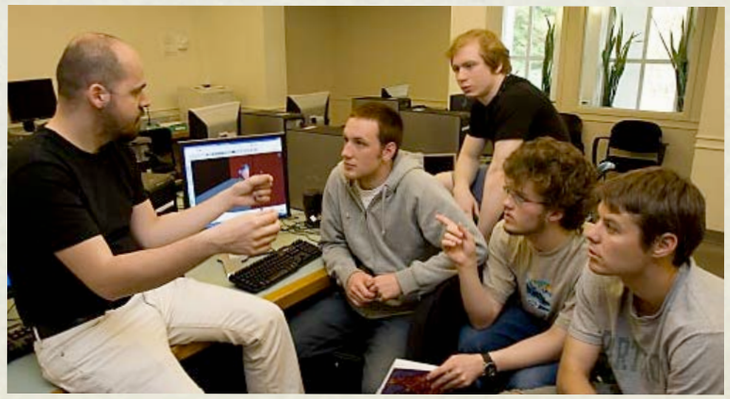
What kind of course?

- where on the continuum should my course or program be?
- four deciding factors:
  - teaching philosophy
  - targeted students
  - demands of subject discipline (content + skills)
  - resources

How do you want to teach online?

to this?

+



Students

Who benefits from online learning?

- lifelong learners wanting new qualifications/upgrading
- full-time students wanting more flexibility
- students needing 21st century skills
- independent learners
- remote, isolated students?

Subject requirements

- What do students need to know? (content)
- **Content**: haematology
- What must they be able to do with their knowledge? (skills)
- **Skills:** identify analytes, analyze glucose and insulin levels, interpret results

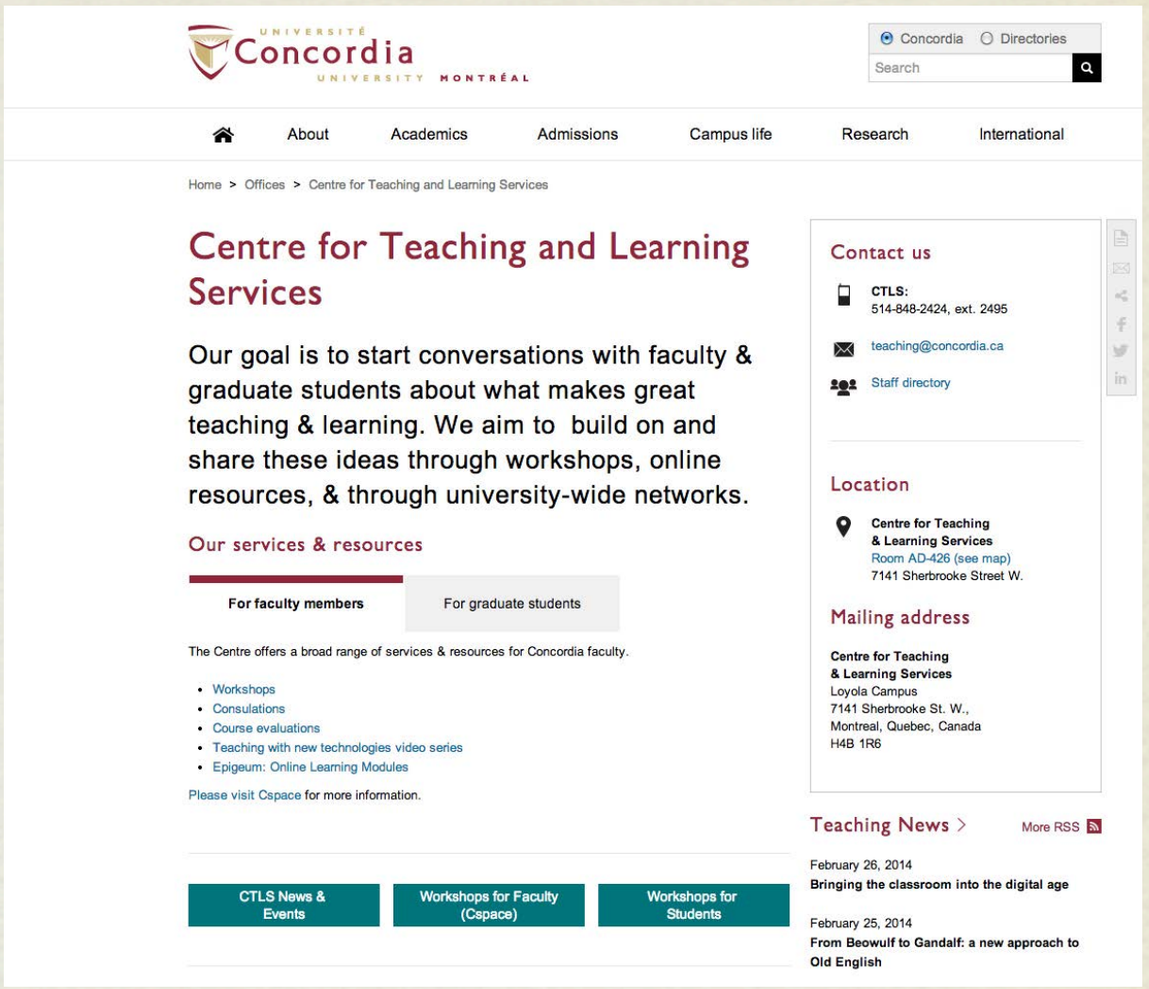
Subject requirements

Learning objectives

	Face-to-face	Online
Learn theory and terminology		x
Observe analytes under microscope	x	
Design experimental set-up using virtual equipment		x
Video of interactions under microscope		x
Insert glucose	x	

Resources

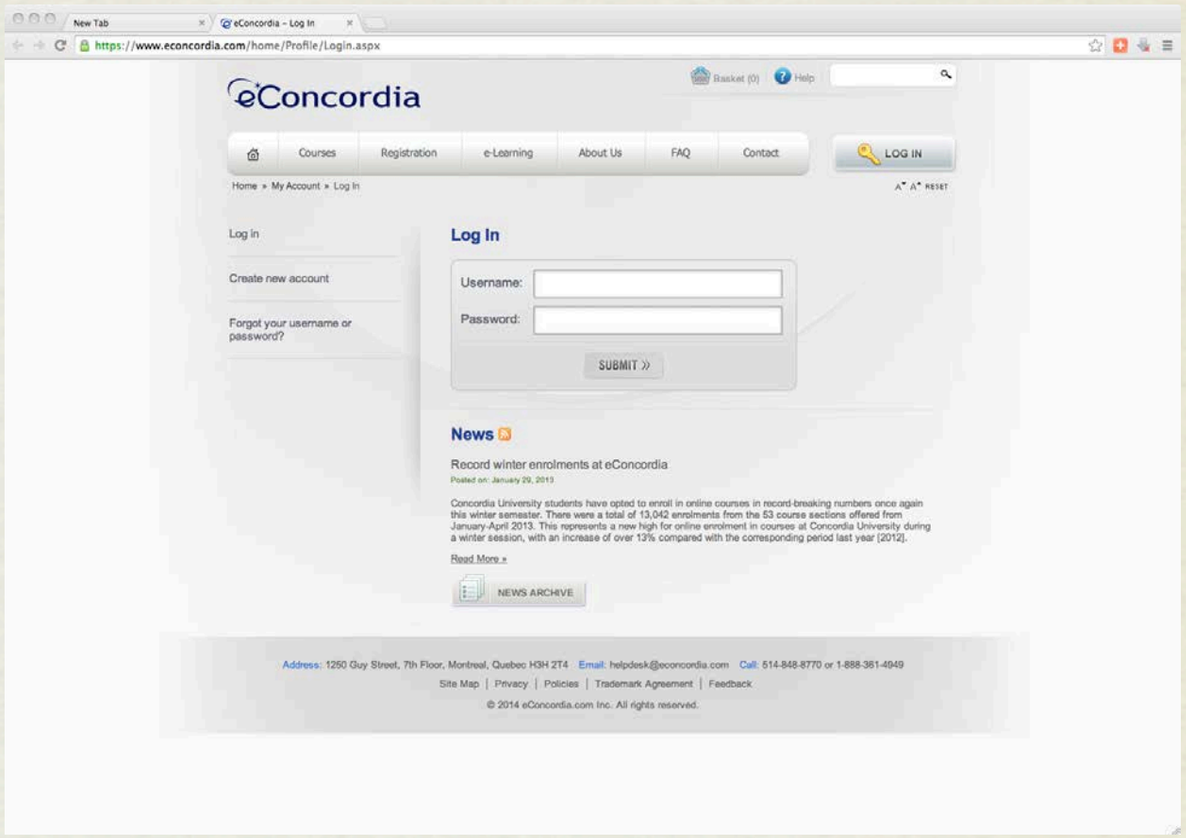
- Instructor's time (workload; course design)
- LT support (instructional/ web design)
- experienced colleagues
- technology (e.g. LMS)
- open educational resources



Online learning technologies

Learning management systems

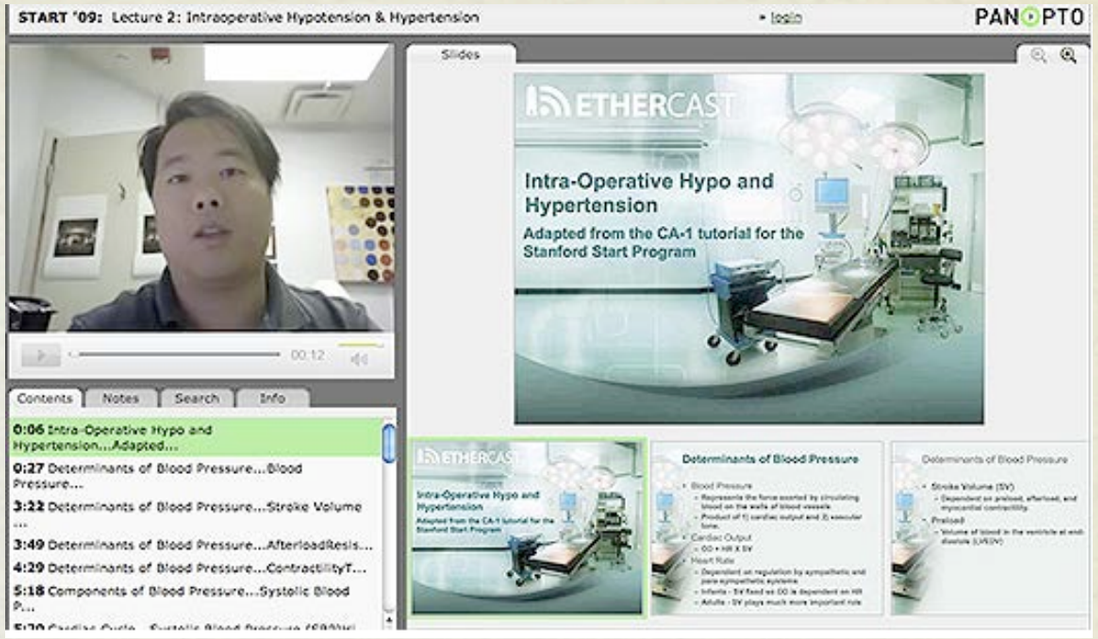
- Instructor determines content
- Assessment by instructor
- Online discussions
- Interaction with instructor
- With or without instructional design



Online learning technologies

Lecture capture

- Instructor determines content
- No adaptation for online learners
- With or without additional learner activities
- Interaction mainly through TAs
- Automated assessment



Online learning technologies

Social media/web 2.0

- Blogs, wikis, e-portfolios, video, mobile
- learners find/create/add/adapt content around defined learning outcomes
- ‘open’ access, content, services
- instructor ‘guide-on-side’/ consultant

When to use web 2.0

Objectivist

Constructivist

Tests

Essays

E-portfolios

Books

OERs

RSS

Facebook

LMSs

YouTube

Discussion forums

Wikis

Blogs

Open content

xMOOCS

cMOOCS

Teacher control

Learner control

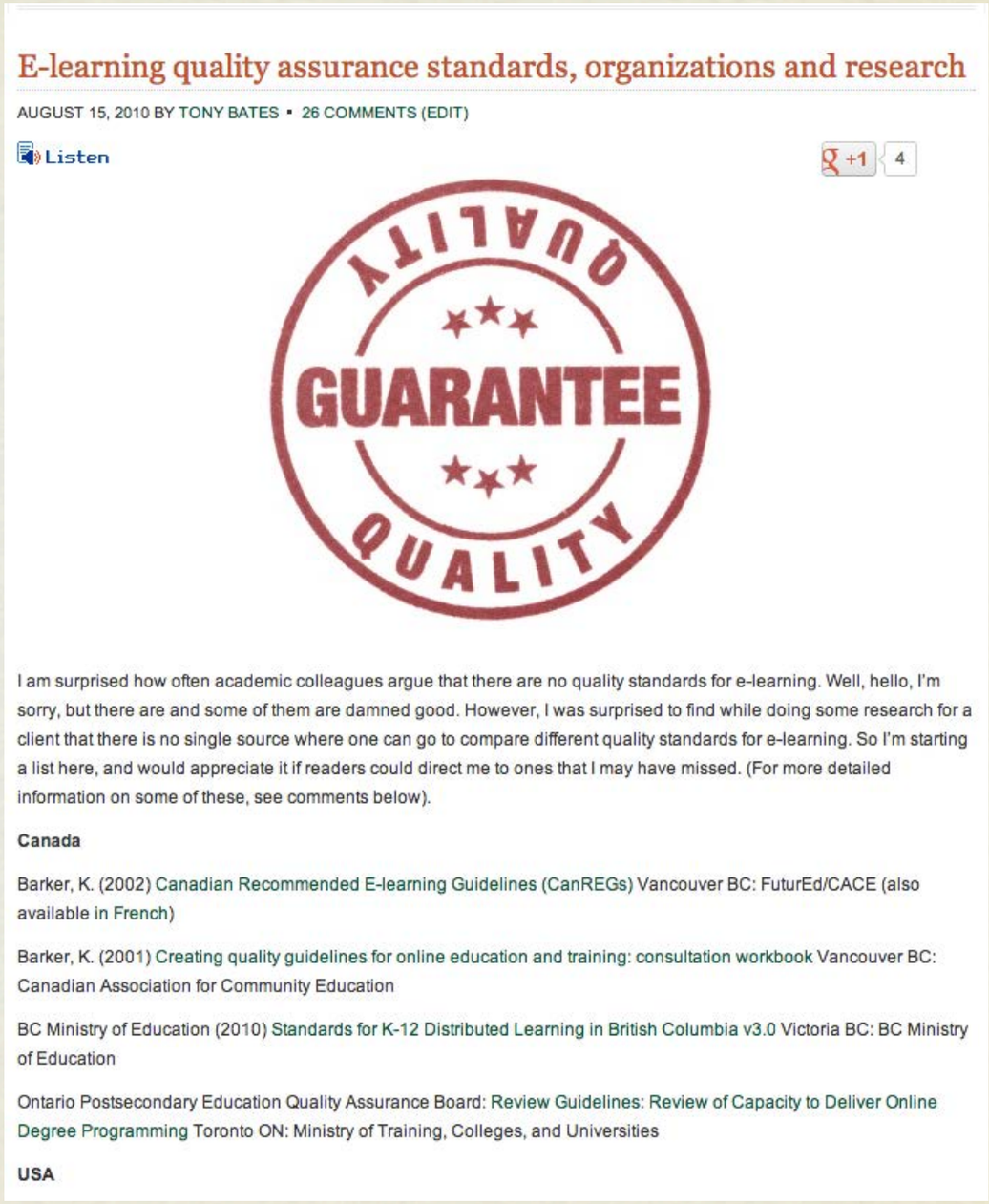
Credit

Non-credit

Fully online (for credit): quality standards

Lots for fully online learning (20)

- For different sectors/countries
- based on 25 years of experience/ research
- all quite similar
- mainly design and process focused
- often unknown or ignored by instructors



E-learning quality assurance standards, organizations and research

AUGUST 15, 2010 BY TONY BATES ▪ 26 COMMENTS (EDIT)

Listen

+1 4

I am surprised how often academic colleagues argue that there are no quality standards for e-learning. Well, hello, I'm sorry, but there are and some of them are damned good. However, I was surprised to find while doing some research for a client that there is no single source where one can go to compare different quality standards for e-learning. So I'm starting a list here, and would appreciate it if readers could direct me to ones that I may have missed. (For more detailed information on some of these, see comments below).

Canada

Barker, K. (2002) Canadian Recommended E-learning Guidelines (CanREGs) Vancouver BC: FuturEd/CACE (also available in French)

Barker, K. (2001) Creating quality guidelines for online education and training: consultation workbook Vancouver BC: Canadian Association for Community Education

BC Ministry of Education (2010) Standards for K-12 Distributed Learning in British Columbia v3.0 Victoria BC: BC Ministry of Education

Ontario Postsecondary Education Quality Assurance Board: Review Guidelines: Review of Capacity to Deliver Online Degree Programming Toronto ON: Ministry of Training, Colleges, and Universities

USA

Nine steps to quality online teaching

1. How do you want to teach online?
2. What kind of online course?
3. Work in a team
4. Build on existing resources
5. Master the technology
6. Set appropriate learning goals for online learning
7. Create a strong online course structure/schedule
8. Communicate, communicate, communicate
9. Innovate and evaluate

‘Advanced’ online course design

- core skill: knowledge management
  - how to find, analyze, evaluate and apply information
- open content within a learning design
- student-generated multimedia content: online project work
- assessment by e-portfolios

New teaching approaches

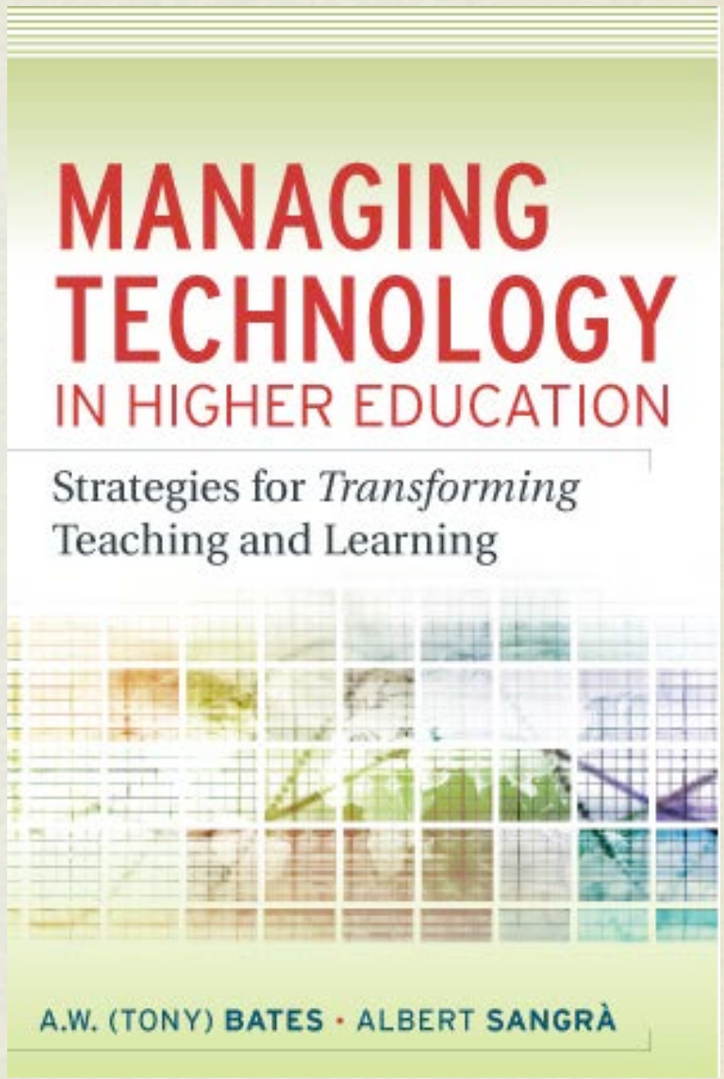
- from information transmission to knowledge management
- skills development + content
- lecture-based courses replaced by student projects, problem-based learning, collaborative learning
- goodbye written exams: replaced by e-portfolios demonstrating student's knowledge/skills

Disaggregated services

- More adult learners than school leavers + ubiquitous content
- Students choose among services:
  - admission/career counselling,
  - teaching/academic learner support
  - campus experience
  - qualifications
  - lifelong learning

Who should decide?

- Face-to-face, hybrid, fully online? LMS, lecture capture, web 2.0?
- One course, multiple delivery, for different students?
- Individual instructor; program team; senior admin?
- **program** level: a progression?
- What mechanisms for this decision?



Implications for decision-making

Who should decide on:

- face2face/hybrid/fully online
- choice of technologies on a course?

Institution sets general direction

Program team decides balance based on target groups/learning outcomes, integrated with annual academic planning and budget process

Individual faculty decide at course level

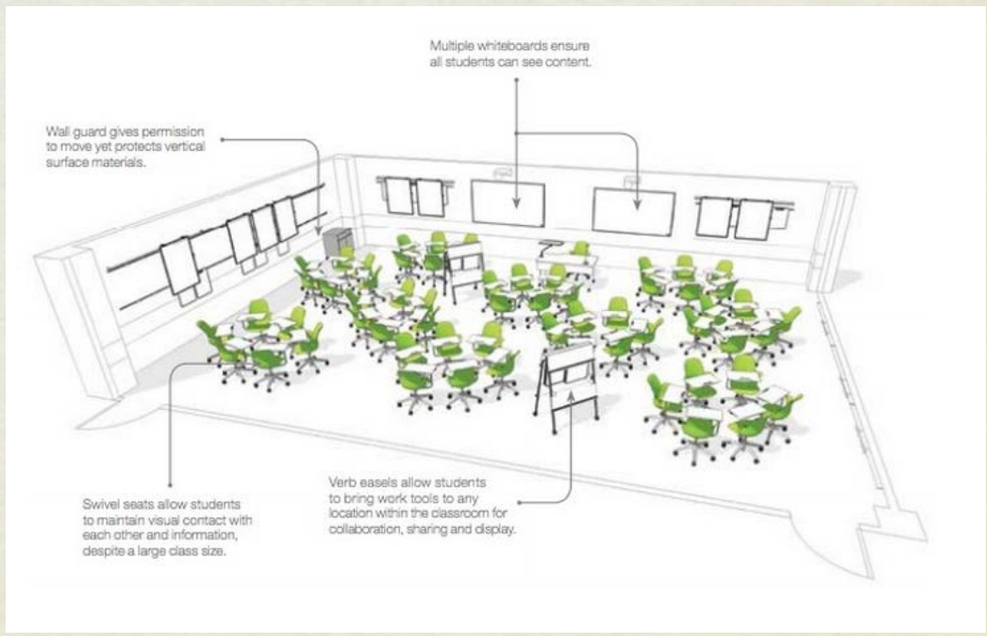
The importance of strategic thinking

strategic *thinking* more important than a detailed plan, focusing on:

- Being clear on the broad goals for online learning
- How best to achieve these goals in teaching and learning through faculty:
  - visioning/discussing teaching
  - planning programs
  - designing courses

Implications for the campus

- Impact of online learning: less need to come to campus: 50% hybrid?
- Why get on the bus? What can we offer?
- Expansion: more buildings or online?
- New teaching methods: what kind of learning spaces?
- Need decisions *now* for 2020



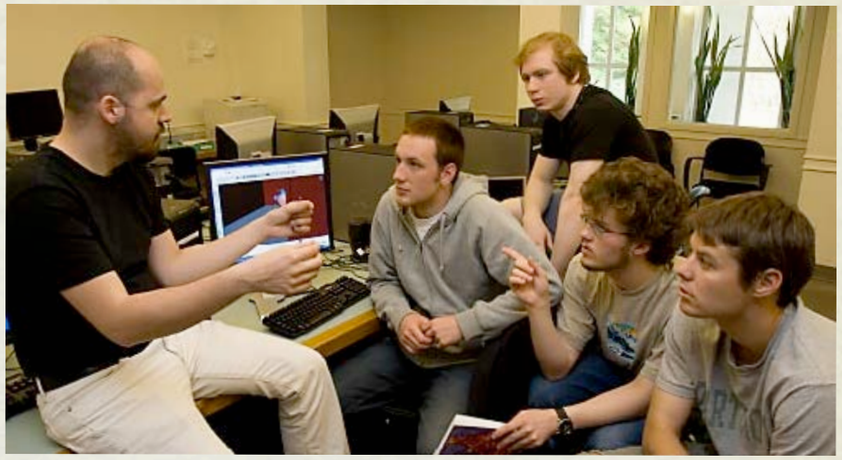
Managing cultural change

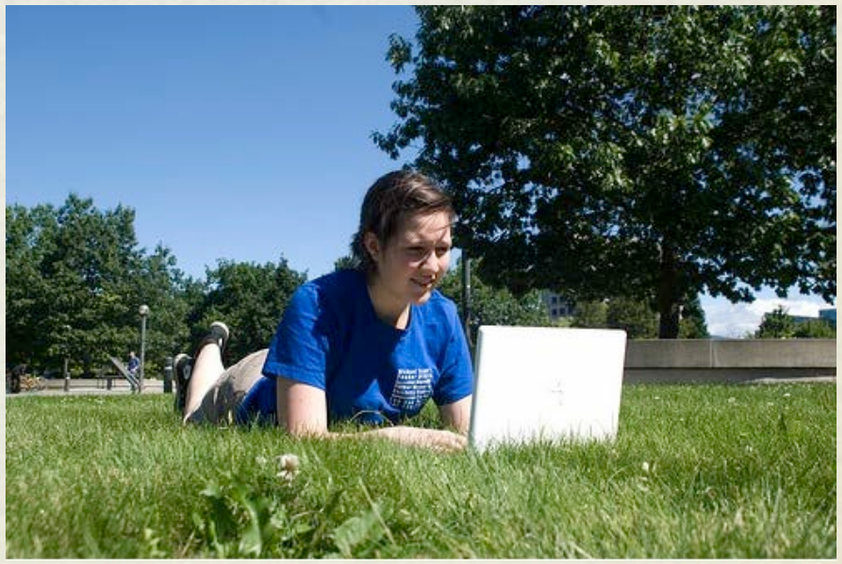
Faculty must be part of the solution by:

- understanding rationales for use of technology in teaching
- being involved in decisions about learning technologies at all levels
- working in a team with IDs, etc.
- being better trained
- finding teaching more fun and rewarding with technology

Conclusions

- Future is not pre-determined; you have choices
- What kind of institution do you want to be?
- What is your competitive advantage?
- What are your main threats and dangers?





Questions

- How could digital technologies be used to foster scientific/historical thinking (rather than teaching *about* science/history?)
- Do you discuss ‘markets’, teaching methods, and the role of technology at a *program* level?
- Are you getting the support you need to teach well with technology?

Reference

Bates, A. and Sangrà, A. (2011) *Managing Technology in Higher Education: Strategies for Transforming Teaching and Learning* San Francisco: Jossey-Bass/John Wiley