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# DEEP DRIVERS OF CHANGE IN GLOBAL HIGHER EDUCATION: TECHNOLOGY

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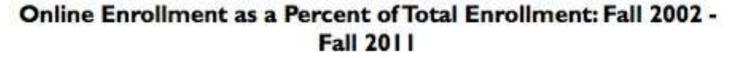
## Overview

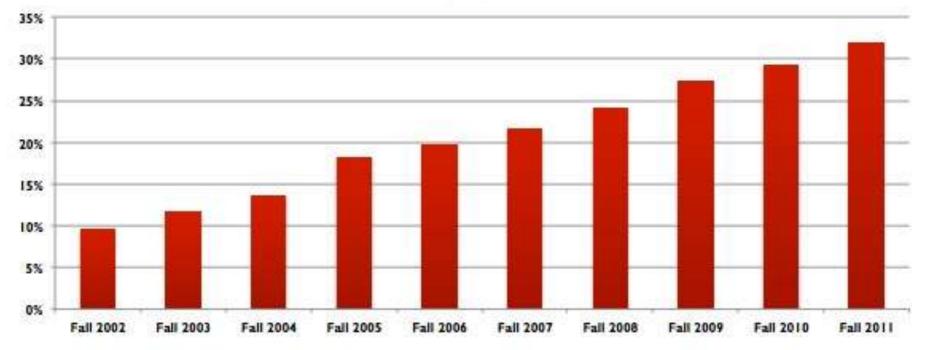
- LMS-based credit programs
- Blended/hybrid learning
- MOOCs
- Mobile learning
- Virtual labs
- Web 2.0/social media
- Implications for a World University



## Credit-based online courses

#### United States (fully online), 2011: 7 million students (32%) taking at least one online course





Source: Allen and Seaman, 2012

# The success of fully online credit programs

- 24 Canadian (Ontario) universities' credit online courses: (5% less than face-to-face classes)
- 42% of Open University (U.K.) students graduate within 7 years (about the same as face-to-face students in U.S. state universities)
- But: must use best 'online design' practices



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

## Credit-based online learning: world



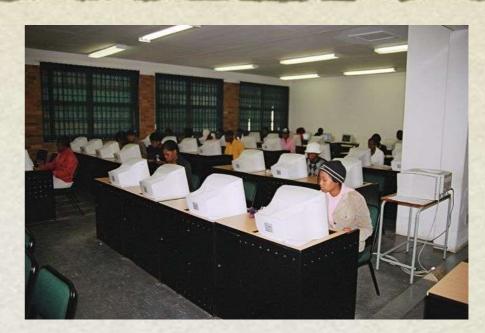
Internet usage worldwide

USA, Canada, UK, Northern Europe, Spain, Australia, New Zealand: extensive

East Asia (South Korea, Malaysia, India): rapid growth Latin America, Africa: slow growth NOT: France, Germany, Italy, Japan: China complex!

## Credit-based online learning: world





#### BUT:

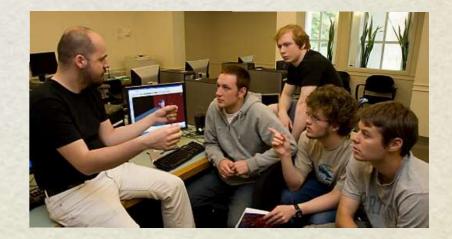
- Mexico: only 32% households have Internet access; socioeconomic groups D and E: no access; 10 years maybe
- Africa: <5% Internet access: US\$1 to download YouTube video (one day's income)</li>

## Blended/hybrid learning

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- Mix of online/classroom teaching
- Last 12 months: big move to hybrid learning (in Canada)
- · 'Flipped' classroom
- BUT: it can be so much more; redesign/re-think the campus experience





## MOOCs

## The good:

- Easy to access
- Minimal cost to learners
- High quality content
- Massive numbers
- Great educational broadcasting
- Great PR (Ivy League/media)

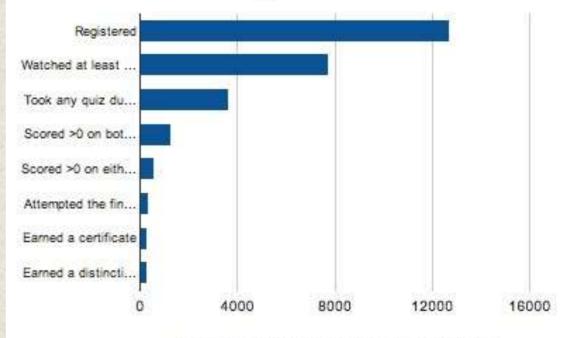




## The bad

- Massive non-completion rates
- Lack of learner support
- Difficulties with assessment
- Poor online pedagogy (lectures)
- Not learned from credit courses
- Massive hubris





Source: Duke Center for Instructional Technology

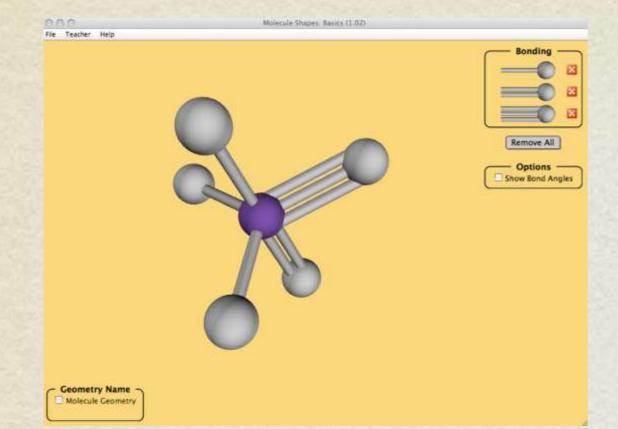
## Mobile learning

- The future: tablets; mobile phones
- Africa: 40-70% of all adults have mobile phones
- CoL: lifelong learning for farmers in Africa (68,000)
- · Aakash tablets in India (US\$20)
- BUT: narrow bandwidth; courses need careful design



## Virtual labs

#### **Animations and simulations**



Molecule shapes simulation: phET, University of Colorado at Boulder

#### Remote labs



#### Colorado Community College System remote labs



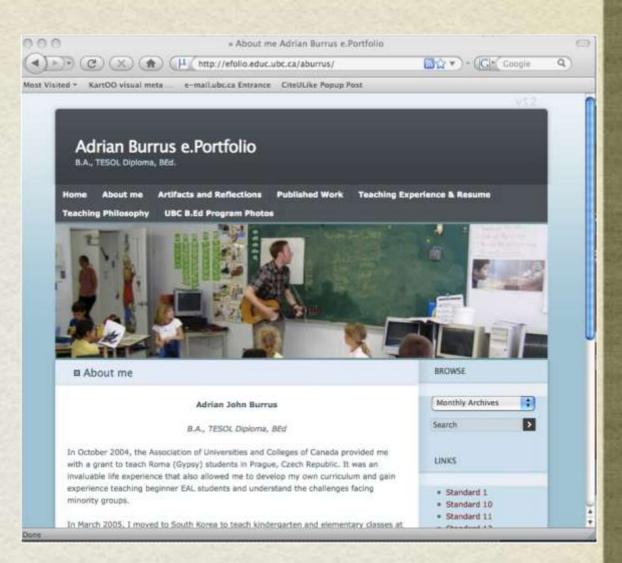
- blogs/WordPress
- wikis
- video and audio, e.g. showing dynamic change, talking through images
- e-portfolios
- open educational resources

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## Educational implications of web 2.0

- Greater self-management of learning by learners
- Peer-to-peer collaboration
- Access to open content
- Learning demonstrated by creating multi-media materials (e.g. e-portfolios)
- Development of 21<sup>st</sup> century skills: historiography



## Implications for a World University

## It should:

- Be a world leader in ed. tech
- Use course design principles based on research into how students best learn
- Use accessible media
- Support learners and adapt to local circumstances (local partners?)

