

**ICDE/Tec de Monterrey
International Conference of
Distance Education 2007,
Toluca, Mexico**

**Distance Education in a
Knowledge-Based
Society**

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Agenda

Knowledge-based societies and ICTs/e-learning

Drivers of change

- economic
- pedagogical
- technological

Implications for distance education in Latin America

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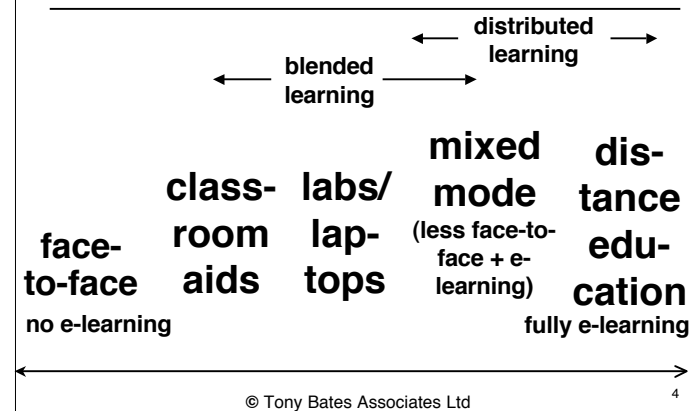
**Definition
and growth
of e-learning**

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What is e-learning?

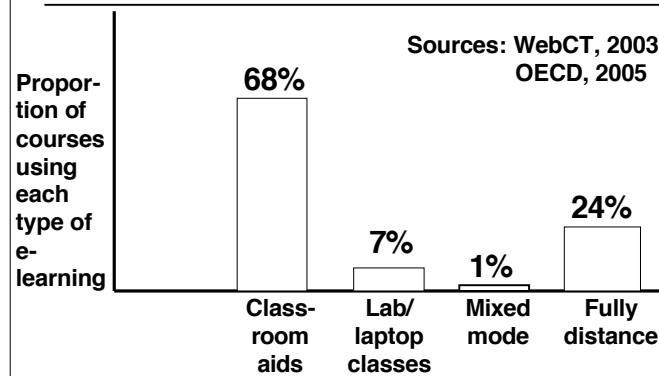
(Bates, 2005; OECD, 2005)



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



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Growth of online distance learning

AACC, 2006 (two-year colleges), USA:

- 24% students in online courses; 15% increase each year since 2000
- mainly local students
- generally accepted by instructors: pragmatics not principle
- mandatory for some students

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Drivers of change: economic

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Different economies

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

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

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

All three economies in parallel

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The shift to knowledge-based societies

Industrial economies: mass employment: labour major cost

High wage industrial economies cannot compete with low wage economies (outsourcing)

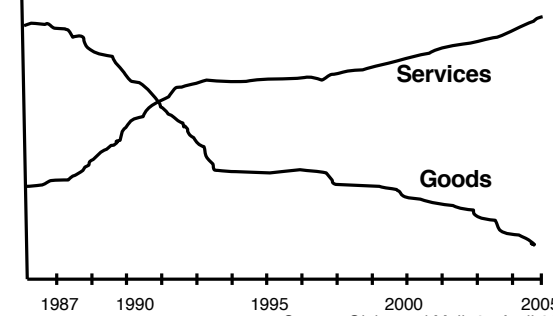
Knowledge-based economies: based on intellectual capital: high level of education, higher wages

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Shifting economy

% share of Canadian industrial employment



Source: Globe and Mail, 27 April 2006, B9

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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**

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Economics, lifelong learning and e-learning

Those in workforce: lifelong learners

Knowledge-based industries need lifelong learners

How will education system serve these learners:

- older with families
- working full-time
- who can't get to campus easily?

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New programs for lifelong learners

Modules, certificates, industry accreditation

Inter-disciplinary, ‘topic-based’

New knowledge since they graduated

Flexibly delivered:

- **Part-time (evenings/weekends/half-days)**
- **Blended (campus + online)**
- **Fully distant (home or workplace)**

Drivers of change: pedagogical

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**

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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**

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Drivers of change: technology

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Online learning 1995-2006

Main driver: Internet + learning platforms:

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

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**Changing students:
digital natives (Prensky, 2005)**



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

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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

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Educational implications of Web 2.0

Learners:

- have powerful tools
- can create/add/adapt content
- can create personal learning environments

Power shift from instructors to learners

**‘Open’ access, content, services,
sources**

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Web 2.0 and learner control

Objectivist		Constructivist	
Tests	Essays	E-portfolios	MySpace
Books	LMSs (e.g.Moodle)	RSS	Portals
		Discussion forums	flickr
Credit	Research	Wikis	Blogs
		Second life	Non- credit
Teacher control		Learner control	

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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

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Implications for distance education in Latin America

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Implications for distance education

Cheap, low-cost, universal access to the Internet is essential for a knowledge-based society

THIS DOES NOT EXIST YET IN MOST LATIN AMERICAN COUNTRIES

In Mexico, telcom costs are 20-100 x Canada; no internal competition

Not possible to compete with other countries in knowledge economy

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The role of technology in distance education

Key issue: do the students have access to the Internet?

- **in developed economies and for the middle class: yes, but not for poor**
- **so the mass media of print and broadcasting are still important for many groups in Latin America**

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E-learning, education and the economy in Latin America

E-learning = education for an elite in Latin America, but essential for knowledge economy

E-learning is less relevant for industrial or agricultural economies

What is the target group? What is the student profile?

Is e-learning what you need?

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Mass distance education or online learning?

The costs of e-learning are different from the the costs of mass DE: economies of scope, not scale

Print + TV DE	Online learning
High access	Low access
Lower quality	Higher quality
Lower cost	Higher cost

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Possible strategies

Market differentiation:

- **open access: rural and poor**
 - **print + face-to-face**
 - **no option based on Internet**

Knowledge workers:

- **middle class and urban**
- **totally online or mixed mode**

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Possible strategies (2)

- **low-cost access via print/TV/radio (undergraduate?): open universities**
- **education for lifelong learners/ knowledge-based workers via Internet (graduate?): campus + OUs**

Long-term: cheap universal access to the Internet + online learning for all DE

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Further information

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**OECD (2005) E-learning in Tertiary
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**Bates, A. (2000) Managing Technological
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