

Symposium on e-learning in  
education and training  
Victoria University of Wellington  
29 September 2008

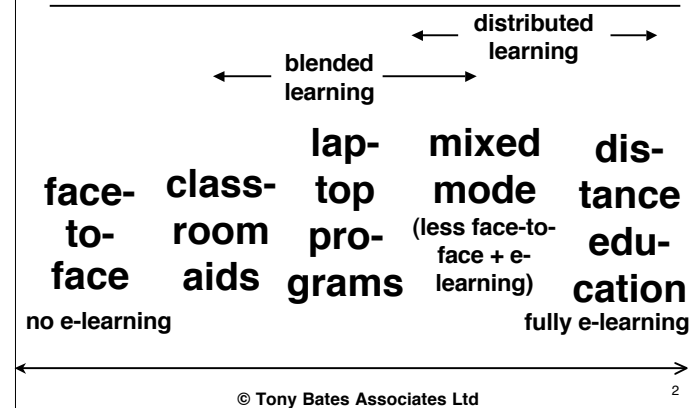
## Investing in online learning: cost analysis and business models

© Tony Bates Associates Ltd

1

## What is e-learning?

(Bates, 2005)



© Tony Bates Associates Ltd

2

## Why do you want to know the costs of e-learning?

Will it be more work?

Is it more expensive than face-to-face teaching?

What do we need to invest - what do we need that we don't have?

Will it save money?

What fees should we charge to cover costs/make a profit? What market?

© Tony Bates Associates Ltd

3

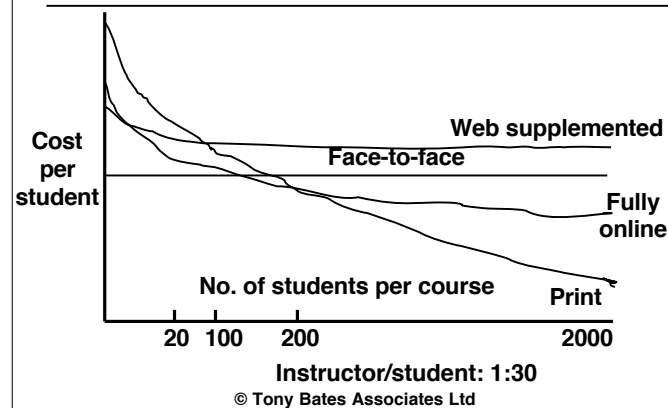
## Factors influencing the costs of e-learning

1. hours spent teaching and learning
2. no. of students in a course
3. teacher:student ratios
4. use of tutors/adjunct faculty
5. method of course design/development/delivery
6. type of e-learning
7. institutional financial administration

© Tony Bates Associates Ltd

4

## Economics of technology-based teaching



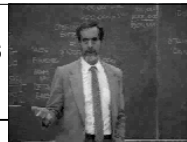
## New models of course development

1. Individual professors
2. boutique
3. collegial materials development
4. project management

© Tony Bates Associates Ltd

6

## Individual professors working alone



main model everywhere  
early adopters; essential for change  
dedicated; no alternative  
too much effort: no boundaries  
poor interface/graphics/more time than web professionals  
idiosyncratic: no economies of scale  
deter other professors; greater cost

© Tony Bates Associates Ltd

7

## Boutique model of course design

- on demand technical support
- technology help not educational design
- high cost
- difficult to manage
- not scalable

© Tony Bates Associates Ltd

8

## Collegial materials development

academics work together  
mainly learning objects, but also  
courses (California), partnership,  
consortia  
share materials (e.g. MERLOT, Harvey,  
CAREO, Ariadne)  
collaboration essential  
depends on interests of individual  
professors: 'hit-and-miss'

© Tony Bates Associates Ltd

9

## Project management



establish projects  
work in a team: professor(s) +  
instructional designer + web designer  
schedules/budgets/product  
funding linked to project management  
not popular with faculty  
Would project management work here?

© Tony Bates Associates Ltd

10

## The continuum of design



face- class- laptop  
to- room pro- mixed distance  
face aids grams mode education

technical help  
less — change in methods — more  
more up-front money

© Tony Bates Associates Ltd

11

## Estimating costs of instructors

calculating salaries: cost per working  
day or hour:

research professor: cost per day =  
salary/365, e.g. 100,000/365 = \$280

working days: 200: teaching = 40%

time teaching: 80 days over 4 courses

time per course: 80/4 = 20 days

cost per course per year = 20 x 280 =  
\$5,600

© Tony Bates Associates Ltd

12

### Key assumptions in costing e-learning

---

- how much time for development?
- how much time for delivery?
- instructor/learner ratio?  
use/payment of tutors/adjuncts?
- how much time do learners study per course or credit?
- costs of alternative methods (f2f...)

© Tony Bates Associates Ltd

13

### Example: fully online course

---

#### Professor's time

12 days for design/development (yr. 1)

12 days for delivery (each year)

3 days for maintenance (yrs 2-5)

F2f =  $20 \times 5 = 100$  hours

Online =  $12 + (12 \times 5 = 60) + (3 \times 4 = 12)$   
= 84 (but 4 more days yr 1)

© Tony Bates Associates Ltd

14

### Main costs

---

#### Fixed expenditures

- prior planning + overheads
- programme co-ordinator
- production costs
  - instructor + support staff time
  - media production
- course maintenance (15-25%)
- IT investment (e.g. LMS, network)

© Tony Bates Associates Ltd

15

### Main costs

---

#### Variable expenditures:

- delivery (variable)
  - instructors + tutors/adjuncts
  - materials
  - support staff
  - student administration
  - software license fees (e.g. LMS)

© Tony Bates Associates Ltd

16

## Overheads/indirect costs

---

**Costs that cannot be directly linked to programme, but must be paid**  
e.g. Dean's office, IT infrastructure, building maintenance, VC's office, etc.

**UBC: overheads = 53%**

**Negotiate, negotiate**

## Achieving economies of scale

---

- **lots of learners (but need many instructors: support, assessment)**
- **modularization: re-using modules internally/externally; replacing one module not whole course**
- **secondary marketing**
- **partnerships/consortia (sharing)**

## Partnerships and consortia

---

- 1. Joint development, separate delivery (e.g. central online, local hands-on training)**
- 2. Separate development, e-network for delivery (credit transfer)**
- 3. Joint development and delivery**
- 4. National or international partners?**

## Different markets, different needs

---

**Novice undergraduates from high school**

**Experienced undergraduates**

**Academic post-graduates**

**Career post-graduates**

**Part-time/full-time**

**Lifelong learners**

## **Different markets, different needs**

---

**Full-time, on-campus student**  
**On-campus student working part-time**  
**Lifelong learner working full-time**  
**Tuition fees, scholarships, grants**

## **The need for new business models**

---

**All should have chance of state-funded post-secondary education**  
**Colleges designed mainly for young full-time, campus-based students: still this need, but more flexibility**  
**Workers need to go on learning**  
**New models of funding needed**  
**Professors don't want more teaching**

## **Lifelong knowledge workers: a major new market**

---

**NOT the same market as traditional CE**  
**On-going education/learning essential for economic survival**  
**= 3 months training over five years**  
**In Canada, nos. = univ. entrants from school**  
**LLLs need access to best practice**  
**They do NOT want traditional offers**

## **Profile of lifelong learners**

---

**Graduates (already state-subsidized)**  
**Working, often with a family**  
**Maximum study time per week: 10 hrs,**  
**Strong life/work experience, specialist knowledge**  
**'Virtual' learning essential, from home/work**  
**Learners/employers able to pay**

## **New programs for lifelong learners**

---

**Modules, certificates, industry accreditation leading to masters**

**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)**

## **Building a business plan**

---

**Why?**

- **cost-recoverable/for-profit program**
- **compare different methods of teaching**
- **assist decision-making, future planning**
- **to know the costs and benefits of what you do**

## **Developing a business plan**

---

**Develop a business plan**

- **revenues as well as costs**
- **project management**
- **track, allocate and project costs (including time) over several years**
- **identify risks and options**
- **evaluate after five years**

## **What's in a business plan/budget?**

---

**Depends on institutional methods**

**Best strategy: 5 -7 year budget plan**

**Key assumptions:**

- **academic and support staff time**
- **enrolments per course/semester**
- **student-teacher ratios**
- **design strategy (course team)**

## What's in a business plan/budget?

---

### Possible revenue sources

- **government/training grant: allocated resources (staff time) (instructors + learners' time) expressed as cash**
- **learner fees**
- **special grants (e.g. for development)**
- **loans**
- **marketing/sales externally**

© Tony Bates Associates Ltd

29

## Balancing the budget

---

**Calculating the 'break-even' point between revenues and expenditures (over six years):**

**Break-even when revenue = expenditure**

**Fee = expenditures (- grants)/no. of students over length of programme**

**Margin for safety (15%)**

**Useful even for 100% grant-funded**

© Tony Bates Associates Ltd

30

## Where e-learning has succeeded

---

**Profit in niche markets, e.g.**

**University of Phoenix Online: 26,000 students, vocational**

**corporate e-learning (economies of scale)**

**MBAs (Queens, Athabasca, Canada)**

**Continuing professional degrees**

**For-profit workplace training (SkillSoft)**

© Tony Bates Associates Ltd

31

## Where e-learning has succeeded (cont.)

---

**Masters in Educational Technology (for teachers - school or HE)**

**University of British Columbia (public) fully online; international**

**certificates + master**

**4 'core' courses + 6 electives from 12**

© Tony Bates Associates Ltd

32



**Where e-learning has succeeded (cont.)  
UBC Masters in Educational Technology**

---

**certificates since 1996: masters  
opened 2002  
80 students a year: 250 graduates  
(2007)  
fee: \$1,200 per course, \$12,000 in total  
program financed as a loan  
new research faculty funded from  
program: full costs recovered**

© Tony Bates Associates Ltd

33

**Where e-learning has succeeded (cont.)**

---

**Students choose known brands:  
e.g. UBC's MET degree**

<b>UBC on-campus students:</b>	<b>20%</b>
<b>rest of province:</b>	<b>24%</b>
<b>rest of Canada</b>	<b>23%</b>
<b>international (31 countries)</b>	<b>33%</b>

© Tony Bates Associates Ltd

34

**Where e-learning has succeeded (cont.)**

---

**Lessons:**  
**different financial strategies for  
different markets**  
**economies of scale are important**

- high development costs
- lower delivery costs

**quality matters**

- new designs to exploit e-learning

© Tony Bates Associates Ltd

35

**Implementation and evaluation**

---

**Measuring success: set targets**

- enrolments (new profile?)
- within budget
- cost per student
- quality assurance process
- programme accreditation
- benchmarking

© Tony Bates Associates Ltd

36

## Implementation and evaluation

---

### Measurements (cont.):

- student satisfaction
- employer satisfaction
- student performance (better or different learning outcomes)
- increased revenues
- training cost savings

© Tony Bates Associates Ltd

37

## Focused e-learning

---

**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**

© Tony Bates Associates Ltd

38

## Is cost-benefit analysis possible?

---

**Is this approach practical in your organization? Why/why not?**

**Public institutions expenditure driven, not activity driven**

**Up-front investment needed**

**Cost recovery requires different methods of budgeting/admin**

**General questions and comments**

© Tony Bates Associates Ltd

39

## 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**

© Tony Bates Associates Ltd

40