EL research and practice: Unity and diversity

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Overview

Why “unity and diversity”?

Unity

Diversity

Toward greater unity

What we don’t know
The adolescence of European e-Learning

IN-TELE conference (Strasbourg, 1998)

• Educational uses of the Internet (advantages and disadvantages)
• User differences on Internet-based teaching and learning versus traditional lectures
• Learning with Hypermedia
• Internet-based construction of social identity
• Representations of the Internet: expectations and fears
• Lifelong learning
• National experiences and differences
• Partnerships [among institutions and researchers, and with providers]

Motivation  Unity  Diversity  Gap  Closing
The adolescence of European e-learning

ECEL 2009
29-30 October, Bari, Italy

Students and learning
Performance and evaluation
Technology
Contexts
Reflections
Teachers

Motivation  Unity  Diversity  Gap  Closing
Teachers, decision makers, vendors, researchers

Gaps in e-learning research (ECEL 2008 summary)

• “How to overcome the apathy of staff”
• Gap between research and industry: Decision makers are more influenced by vendors than academic researchers.

Innovation or fad? (Maddux & Cummings, 2004, p511)

• “Fads are a serious problem in education... Innovations become fads partly because there is a tendency for teachers and policy-makers to ignore research.”
Some things change, some stay the same...

<table>
<thead>
<tr>
<th></th>
<th>Then (mostly)</th>
<th>Now (extending to ...)</th>
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<tbody>
<tr>
<td>Students</td>
<td>digital immigrants</td>
<td>digital natives</td>
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<tr>
<td>Technology</td>
<td>“The Internet”</td>
<td>e- and m-Learning</td>
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<td></td>
<td>asynchronous text</td>
<td>synchronous voice, video</td>
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<td>broadcast web sites</td>
<td>social software</td>
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<td>Theory</td>
<td>constructivism</td>
<td>connectivism??</td>
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<tr>
<td>Teachers</td>
<td>digital immigrants</td>
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<tr>
<td>Contexts</td>
<td>distance and blended “classrooms”, all levels, many industries</td>
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<td>Research focus</td>
<td>efficacy of technology in specific classroom/context, student as learner and teacher activities</td>
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<td>Reflection and change</td>
<td>less reflection on, or take-up of, higher level lessons, e.g., new theories and models, sustainability</td>
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Motivation  Unity  Diversity  Gap  Closing
Researcher-practitioners

- Knowledgeable evaluators of ICT
- Primary interest is learning
- The ‘e’ in *e-Learning* is a vehicle for learning
- Focus on what technology can *do*, its “affordances”
## Affordance – in broad terms

<table>
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<th>What actions does an object permit a given actor to perform?</th>
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<td>- Object characteristics</td>
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<tr>
<td>- Actor characteristics</td>
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<td>- Action</td>
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“A set of steps which rises four feet high does not afford the act of climbing if the actor is a crawling infant.” (Wikipedia)

An LMS (object) will only readily afford adoption of CSCL (action) if it has necessary characteristics and the teacher (actor) *is capable of* adopting the LMS for CSCL.
e-Learning research emphasises improvement in practice

What does this [new] technology permit us to do to improve learning [or the learning experience]?
Researchers and teachers ask similar questions

- What does this technology permit us to do ... that is new or improved?
- What are its limitations?
- How do students respond to its use?
- What must we do to get it right?
But most researcher-practitioners are different from teachers!

More familiar with learning technology evaluation than teachers (or decision makers)

A weakness as well as a strength

Do we **project** our own image on (other) teachers and assume that they have our ability to adapt, adopt and evaluate new technologies with ease?
How much do we know about teachers?
Finding out about teachers, 3 examples

Impact of LMS use on teacher performance (Tanya McGill)


Understanding why teachers adopt CSCL (Stefano Renzi)

- Renzi, S. & Klobas, J. Influencing university teachers to adopt online collaborative learning as their strategy for WEL. In G. Trentin & M. Repetto (Eds) *Faculty Training on Web Enhanced Learning*, forthcoming

Developing a “wiki pedagogy” (Norhisham Nordin)

- Nordin, N.M. & Klobas, J.E. Wikis as collaborative learning tools for knowledge sharing: Shifting the education landscape. *13th UNESCO-APEID International Conference on Education Hangzhou, China, November 2009*.
1. How teachers respond to LMS

Survey (64) and interviews (7) with teachers using LMS

Performance impact reflects fit of LMS to teacher’s skills, work activities and preferences

![Diagram]

- Task-technology fit
- Social norms
- Facilitating conditions
- LMS utilization
- Performance impacts

R² = .317
2. Understanding why teachers adopt CSCL

About 10% of university teachers use CSCL – why so few?

Interviews: 26 teachers in 4 universities, Australia and Italy; 8 teachers used CSCL

What differentiates teachers who use CSCL from the others?
Views held more strongly by teachers who adopt CSCL than others

| Attitudes and beliefs | • Believe in learning through online social interaction and blended learning  
                        • See benefits in learning and flexibility |
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<td>Social norms</td>
<td>• Strong internal motivation for CSCL</td>
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<td>Perceived control</td>
<td>• Confident with technology, pedagogy, workload management</td>
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</table>
Common background of teachers who adopt CSCL

Training in pedagogy

Strong educational technology and skills

Know how to fit ICT to teaching and learning needs
### 3. “Wiki pedagogy”

**How can wikis be used to improve learning of ICT subjects in schools?**

#### Design-based research in 11 Malaysian schools
- 11 teachers, 169 16 year olds
- Iterative design of 4 learning activities: “Ice Breaking Session”, inquiry-based, problem-based, project-based activities

#### Results
- **Students**: effective for content learning (self-report and wiki analysis), improved learning experience, would like more; wikis show evidence of social learning
- **Teachers**: challenging, recognised positive student response but hampered by institutional limitations (infrastructure, time)
Wiki pedagogy

It’s the **design** of the learning activity, relative to the affordances and limitations of the technology, in the specific pedagogical and institutional learning context, that makes the difference.
Good pedagogy needs confident and knowledgeable teachers

Good pedagogical design
- requires an understanding of pedagogy

Confident and knowledgeable teachers
- who can concurrently adapt syllabus, learning and technology

But how do we achieve that?
Extending the e-Learning research agenda

Identify gaps in our research concerns

Re-visit theories, assumptions – Is there something we can add or revise?

What do we need to know about teachers and educational institutions to improve take-up and applicability of our research?

What can we do to improve teacher capability and self-efficacy for e-learning that “makes a difference”?

Motivation  Unity  Diversity  Gap  Closing
Extending the e-Learning research agenda

What does this technology permit us to do to improve learning, the learning experience, or our ability to offer quality education?

Extend our vision – more players, more needs, more outcomes

- **Students**
  - content learning
  - motivation
  - engagement
  - involvement
  - self-efficacy

- **Teachers**
  - effort
  - knowledge, skills

- **Learning support centres**
  - affordances
  - adoption, diffusion
  - implementation, training, support

- **Institutions and decision makers**
  - cost, capability, compatibility
  - image
Expanding our field of vision

Technology

Motivation  Unity  Diversity  Gap  Closing