From Learning Management System to Personal Learning Environment: Leveraging Web 2.0 and Cloud Computing to enhance collaborative learning

Professor Eric Tsui
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LMS interfacing with other institutional applications
Change in the learning environment & process

Learning Paradigm has shifted from predominantly teacher-lead classes to a mix of lectures, group discussions, reflections, in personal and group learning environments.

The New Corporate Learning Framework
(Source: L. Beckers, 2011)

10% Formal learning
- Physical classroom
- Virtual classroom and webinars
- Self-paced web-based training
- Online assessments

90% Informal learning
- Social learning
  - Social networking & expert directories
  - Microblogging & Tweet chats
  - Interactive videos
  - Co-create with wikis
  - Publish and feedback on blogs
- On-Demand Learning
  - Gaming & simulations
  - Online communities
  - C-courses & recorded webinars
- Career Learning
  - Learning videos
  - Learning apps
  - Special projects
- Feedback
- Coaching & mentoring

Spontaneous learning on the job
- Knowledge Management Research Centre

Keynote Address by Professor Eric Tsui at Education-IT Conference 29th April 2011
Evolution of A Learning Management System (LMS)

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Increasing use of social media tools & collaboration practices are blurring the boundaries between formal and informal learning (Source: L. Beckers, 2011)
Seven principles of Web 2.0

1. **The Web as a Platform**
2. **Services beyond a single (type of) device**
3. **Lightweight product (development) & business models**
4. **Rich User Experiences**
5. **Harnessing Collective Intelligence**
6. **Data is the competitive advantage**
7. **Leveraging the Long Tail**

(Source: “Web 2.0 University”)
Opportunities brought about by the cloud

Cloud characteristics: Ubiquity, Scalability, Connectivity across platforms, Perpetual storage, Accessible by/to the masses

Cloud Vs the Web
Personal Learning Environments & Networks

Success in a connected world
(Source: Ross Dawson, AHT Group 2011)
Illustrations

A Scenario-based Authoring, Execution & Assessment System

A Personal Learning Environment & Network
Scenario-based Learning

What is a scenario?
In e-learning, it is the description of a task or a job situation from the learner’s perspective. A sequence of concrete problems is described, and choices are presented that enable the learner to reach a satisfactory outcome.

Learning theories
(Adapted from J. Jim Pettiward, University 2.0, June, 2010)

"social learning is based on the premise that our understanding of content is socially constructed through conversations about that content and through grounded interactions, especially with others, around problems or actions. The focus is not so much on what we are learning but on how we are learning" (Seely Brown, J. & Adler, R, 2008)
1. Reusable Artefacts
2. Real and imaginary scenes, characters, icons
3. Rapid Authoring
4. Ease of Creation
5. Mix & Match different scenes to compose a new scenario
6. Competency profiling with Quizzes & Scorecard

Advantages of RAPIDS

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General usages of RAPIDS

1. Raise awareness of a concept
2. Capture & share project lessons learnt, good practices, reflections etc.
3. Illustration of standard procedures
4. Refresher training
5. Digital Storytelling
6. Role play with analytical processing

More advanced uses of RAPIDS

1. Turns paragraphs of texts into a talking & animated E-book; brings “live” to existing E-Learning content
2. Automatic generation of a scene / scenario
3. Transition from a Behavioural to a Constructivist approach to learning
4. Massive participation and bottom-up sharing (Web/Enterprise 2.0)
Deployed in ISE, Nursing, Social Work and EDC inside PolyU

RAPIDS scenarios are created by

1. Social workers
2. Students & Parents
3. Trainers
4. Professional staff
5. Office staff
6. ...
RAPIDS in OLPC (One-Laptop-Per-Child)

Similar tools: CodeBaby, Extranormal, Poser Debut & Anime Studio 7
Personal Learning Environment & Network (PLE&N)

Shortfalls of the existing face-to-face learning style

- Predominantly instructor-lead, behavioral model of learning
- Limited time for in-class lectures
- Classes are confined to a term/semester
- Focus on theories with some references to applications and cases
- Difficulty in relating lecture material to practice especially after class
- Infrequent update to lecture notes
Google tools behind the PLE&N – Contacts, GReader & Buzz
Further filtering of RSS feeds

Library Databases

Knowledge Management

KM

Knowledge Management

KM (FILTERED - Knowledge Management from LIBRARY)

Articles from RSS feeds in Google Reader
How to collaborate inside the PLE&N?

Re-instating a point in class with new information

Relating theory to practice

A graduate & practitioner shares his experience
Feedback from ISE457 students in 2010-1 S1

- **PLE has improved the student's knowledge in the subject**
  - "Strengthen and explore beyond what have learnt in lectures"
  - "Easily obtain different up-to-date cases studies and examples"

- **Information in the PLE is very useful for the student to prepare assignment**

- **PLE has provided the student with knowledge beyond the syllabus**
  - "Enable to absorb knowledge from different writers’ point of view. Through discussion, it can verify my judgment"
  - "Understand how to apply the topic in different industries"

- **The student is prepared to use similar learning environment in other subjects**

- **When asked whether to remain on the PLE after semester is over?**
  - Yes. The student would like to remain in the group. 68%
  - No. The student would like to withdraw from the group. 3%
  - Leave me in there and I will decide later 29%
Potential usages in the corporate world

- Marketing department monitors industry trends, customer preferences and competitive intelligence
- Corporate communications department monitors all news about the company
- Research department keeps abreast of business and technology trends
- Human Resources department monitors and selects appropriate courses for learning and development
- Staff discussions on any of the received articles

Summarising content in PLE&N into an ebook
Integrating the PLE&N into a Personal Portal (iGoogle)

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Benefits of the PLE&N

1. Supports a co-learning environment among instructor(s), learners, practitioners & other expert(s)
2. Collaborative effort to combat information overload
3. Self-centered, flexible & pervasive
4. Supports lifelong learning as it is not confined to a term/semester
5. “Move with the times”; relates theories to practice
6. Represents an “active knowledge repository” benefiting the university, academics & all
7. Garners an online community in the domain topic with diversified members

However, maintaining trust and quality of the discussion in the PLE&N are of utmost importance!!

Integration between a LMS & PLE&N
Challenges for the co-existence of LMS & PLE&N

- Highly interoperable, easy to use tools are needed to support massive personalisations
- Distributed perpetual personal learning repositories & a platform for “co-creation” of content (Cloud?)
- Knowledge Mapping, visualisation & retrieval methods to support search, navigation & alerts
- Mechanism to discover rich learning sources (e.g. content, individuals, networks) & to determine quality of knowledge
- Security settings to safeguard personal assets & cope with dynamic changes in the collaboration boundaries
- Licensing & legal issues for privileged content

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