Social Media and an e/m/u-Learning Overview

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17 September 2015
Definitions

*e/m/u*-Learning

Quality aspects
- **synchronous** learning is instructor lead
- **asynchronous** learning is self-paced
- **blended** learning is a combination of both synchronous and asynchronous
<table>
<thead>
<tr>
<th></th>
<th><strong>Synchronous</strong></th>
<th><strong>Asynchronous</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Centered around</td>
<td>Instructor</td>
<td>Learner</td>
</tr>
<tr>
<td>Time and space</td>
<td>Constrained</td>
<td>Not constrained</td>
</tr>
<tr>
<td>Facilitated by</td>
<td>Instructor</td>
<td>CMS</td>
</tr>
<tr>
<td>Driven by</td>
<td>Human</td>
<td>Technology</td>
</tr>
</tbody>
</table>
Technology to facilitate learning:

**Synchronous:** Learners and Instructors are online at the same time - Skype conversations, chat rooms, virtual classrooms

**Asynchronous:** Learners and Instructors are not online at the same time - email, blogs, wikis, discussion boards, social networking, MOOCs
“E-learning (eLearning) refers to the use of technology in learning and education.”

[Wikipedia, 2013a]
M-learning (mLearning or Mobile Learning) focusses on learning across contexts\(^1\) with mobile devices.


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\(^1\)Real life (RL) versus fictional (F)
U-Learning (uLearning or Ubiquitous Learning) is a form of mLearning. Makes use of context to provide adaptive content to learners. [Wikipedia, 2013c]
### Definitions

#### e/m/u-Learning

<table>
<thead>
<tr>
<th></th>
<th>eLearning</th>
<th>mLearning</th>
<th>uLearning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology use</td>
<td>fixed line</td>
<td>mobile</td>
<td>mobile</td>
</tr>
<tr>
<td>Context</td>
<td>RL / F</td>
<td>RL &amp; F</td>
<td>RL &amp; F</td>
</tr>
<tr>
<td>Content</td>
<td>static</td>
<td>static</td>
<td>adaptive</td>
</tr>
<tr>
<td>Presentation</td>
<td>directed</td>
<td>directed</td>
<td>pervasive</td>
</tr>
</tbody>
</table>
Definitions

e/m/u-Learning

Quality aspects

Synchronous and asynchronous learning

e/m/u Learning

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From [Park, 2011]

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### Figure 1
Comparisons and flow of e-learning, m-learning, and u-learning

<table>
<thead>
<tr>
<th>E-learning</th>
<th>M-learning</th>
<th>U-Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical devices</strong></td>
<td>Wired</td>
<td>Wireless</td>
</tr>
<tr>
<td><strong>Computation &amp; communication</strong></td>
<td>Distinctive</td>
<td></td>
</tr>
<tr>
<td><strong>Learning</strong></td>
<td>Confined to the single desk</td>
<td></td>
</tr>
</tbody>
</table>
eLearning is synonymous with: “multimedia learning, technology-enhanced learning (TEL), computer-based instruction (CBI), computer-based training (CBT), computer-assisted instruction or computer-aided instruction (CAI), internet-based training (IBT), web-based training (WBT), online education, virtual education, virtual learning environments (VLE), m-learning, and digital educational collaboration” [Wikipedia, 2013a]
eLearning came about when computers could be linked to one another and learning no longer took place only in the classroom.
**mLearning** started emerging with Web 2.0 technologies and social networking. Mobile devices and wireless communication are the main enablers.
Moving towards *uLearning*. The use of technology becomes the main driver. The context in which the learner is plays a role and is driven by mLearning as well as sensor and wearable technologies.
From [Saadiah Yahya and Jalil, 2010]
Definitions

Overview
Framework/Lifecycle
Advantages and disadvantages

e/m/u-Learning

Quality aspects

Linda’s viewpoint

L09 e/m/u-Learning
Again Linda
Here we digress and consider social networking. We ask the question, “What impact does social media have on education?”
We will focus on **eLearning** Frameworks and Lifecycles as these are more mature than their mLearning and uLearning counterparts.
1. 8 dimensional eLearning Framework

[Figure 5.2. The E-Learning framework]

The purpose of this framework is to help you think through every aspect of what you are doing during the steps of the eLearning design process.

[Khan, 2009]
### TABLE 5.1: EIGHT DIMENSIONS OF E-LEARNING FRAMEWORK

<table>
<thead>
<tr>
<th>Dimensions of E-Learning</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional</td>
<td>The institutional dimension is concerned with issues of administrative affairs, academic affairs and student services related to e-learning.</td>
</tr>
<tr>
<td>Management</td>
<td>The management of e-learning refers to the maintenance of learning environment and distribution of information.</td>
</tr>
<tr>
<td>Technological</td>
<td>The technological dimension of e-learning examines issues of technology infrastructure in e-learning environments. This includes infrastructure planning, hardware and software.</td>
</tr>
<tr>
<td>Pedagogical</td>
<td>The pedagogical dimension of e-learning refers to teaching and learning. This dimension addresses issues concerning content analysis, audience analysis, goal analysis, medium analysis, design approach, organization, and learning strategies.</td>
</tr>
<tr>
<td>Ethical</td>
<td>The ethical considerations of e-learning relate to social and political influence, cultural diversity, bias, geographical diversity, learner diversity, digital divide, etiquette, and the legal issues.</td>
</tr>
<tr>
<td>Interface design</td>
<td>The interface design refers to the overall look and feel of e-learning programs. Interface design dimension encompasses page and site design, content design, navigation, accessibility and usability testing.</td>
</tr>
<tr>
<td>Resource support</td>
<td>The resource support dimension of the e-learning examines the online support and resources required to foster meaningful learning.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>The evaluation for e-learning includes both assessment of learners and evaluation of the instruction and learning environment.</td>
</tr>
</tbody>
</table>

The purpose of this framework is to help you think through every aspect of what you are doing during the steps of the e-learning design process.
E-learning is defined by Zhang, Khan, Gibbons, & Ni (2001), Gilbert (2000), and Kao, Tousignant, & Wiebe (2000). Each dimension has several sub-dimensions (Table 5.2). Each sub-dimension consists of items or issues focused on a specific aspect of an e-learning environment. As you know each e-learning project is unique. I encourage you to identify as many issues (in the form of questions) as possible for your own e-learning project by using the framework. One way to identify critical issues is by putting each stakeholder group (such as learner, instructor, support staff, etc.) at the centre of the framework and raising issues along the eight dimensions of the e-learning environment. This way you can identify many critical issues and answer questions that can help create a meaningful e-learning environment for your particular group. By repeating the same process for other stakeholder groups, you can generate a comprehensive list of issues for your e-learning project.

For example, is the course sensitive to students from different time-zones (e.g., are synchronous communications such as chat discussions scheduled at reasonable times for all time zones represented)? This is an example of a question that e-learning designers can ask in the geographical diversity section of the ethical dimension. As we know, scheduled chat discussions may not work for learners coming from different time zones. In the U.S., there are six time zones. Therefore, e-learning course designers should be sensitive to diversity in geographical time zones (i.e., all courses where students can reasonably be expected to live in different time zones).

The purpose of raising many questions within each dimension (see Table 5.2) is to help designers think through their projects thoroughly. Note that there might be other issues not included or not yet encountered. As more and more institutions offer e-learning worldwide, designers will become more knowledgeable about new issues within the eight dimensions of e-learning. The E-Learning Framework can be applied to e-learning of any scope. This "scope" refers to a continuum defined by the extent to which instruction is delivered on the Internet and hence must be systematically planned for. The weight placed on any e-learning dimension or sub-dimension, or on any set of e-learning items, will vary with the scope of the instruction. This continuum is described below, with examples, to show the type and scope of e-learning activities and how their design relates to various dimensions of the framework.

### Table 5.2: Sub-dimensions of the E-Learning Framework

<table>
<thead>
<tr>
<th>INSTITUTIONAL</th>
<th>PEDAGOGICAL</th>
<th>INTERFACE DESIGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Affairs</td>
<td>Content Analysis</td>
<td>Page and Site Design</td>
</tr>
<tr>
<td>Academic Affairs</td>
<td>Audience Analysis</td>
<td>Content Design</td>
</tr>
<tr>
<td>Student Services</td>
<td>Goal Analysis</td>
<td>Navigation</td>
</tr>
<tr>
<td>MANAGEMENT</td>
<td>Design Approach</td>
<td>Accessibility</td>
</tr>
<tr>
<td>People, Process and Product</td>
<td>Instructional Strategies</td>
<td>Usability Testing</td>
</tr>
<tr>
<td>(P3) Continuum</td>
<td>Organization</td>
<td>RESOURCE SUPPORT</td>
</tr>
<tr>
<td>Management Team</td>
<td>Blending Strategies</td>
<td>Online Support</td>
</tr>
<tr>
<td>Managing E-Learning Content Development</td>
<td>ETHICAL</td>
<td>Resources</td>
</tr>
<tr>
<td>Managing E-Learning Environment</td>
<td>Social and Cultural Diversity</td>
<td>EVALUATION</td>
</tr>
<tr>
<td>TECHNOLOGICAL</td>
<td>Bias and Political Issues</td>
<td>Evaluation of Content Development</td>
</tr>
<tr>
<td>Infrastructure Planning</td>
<td>Geographical Diversity</td>
<td>Process</td>
</tr>
<tr>
<td>Hardware</td>
<td>Learner Diversity</td>
<td>Evaluation of E-Learning Environment</td>
</tr>
<tr>
<td>Software</td>
<td>Digital Divide</td>
<td>Evaluation of E-Learning at the</td>
</tr>
<tr>
<td></td>
<td>Etiquette</td>
<td>Program and Institutional Levels</td>
</tr>
<tr>
<td></td>
<td>Legal Issues</td>
<td>Assessment of Learners</td>
</tr>
</tbody>
</table>
2. eLearning Lifecycle

[Marcos et al., 2013]
The Learning Management System (LMS) is responsible for presenting license agreements to learners, and learners must accept these licenses so that learning objects can be delivered to them. Finally, the payment management process pays for the use of learning objects to the content creator. The payment management can be integrated into the LMS, implemented as an external system, or handled by third parties.

Fig. 2. Learning Object Lifecycle.
3. eLearning Lifecycle

There are two perspectives to the eLearning lifecycle, the *Instructional Design* perspective and the *Programme Management* perspective.

[Pike and Huddleston, 2006]
Instructional design perspective

Figure 1 - Key activities within an e-learning project

The key activities described above occur over a number of project stages which are described below. Instructional design for instance, informs content design and interface design. This is not to say that instructional design is conducted in a single step, rather as an activity it spans a number of project steps and a number of project deliverables. Project deliverables are often a synthesis of a number of discrete but connected and interdependent activities – for example an Outline Design document will contain sections that cover instructional design, graphic design, technical design and project management methodologies.

2.1.1 Key Stages

The development of an e-learning project usually is conducted between a set of milestones that are generally characterised by formal sign-off and acceptance of documents or other deliverables. Many of the activities described above are handled by a ‘two-pass’ approach within the project - the Outline Design covers the generalities and principles of design and approach whereas the Detailed Design describes the e-learning solution in detail, on a screen-by-screen basis. The term ‘storyboard’ is also occasionally used to describe a detailed design.
Programme management perspective

Figure 3 - Broad change management view of e-learning

Some brief supporting notes for the stages mentioned on previous page:

- **Establish management** - Define project structure, roles and responsibilities.
- **Business Case** - Define and document business case for e-learning including costs and benefits, distribute to stakeholders within the organisation.
Advantages of eLearning?

Disadvantages of eLearning, making it less effective than the traditional class room?
Advantages of eLearning:

- Improved open access to education, including access to full degree programs
- Better integration for non-full-time students, particularly in continuing education
- Improved interactions between students and instructors
- Provision of tools to enable students to independently solve problems
- Acquisition of technological skills through practice with tools and computers.

[Wikipedia, 2013a]
Disadvantages of eLearning, making it less effective than the traditional class room:

- Potential distractions that hinder true learning,
- Ease of cheating,
- Bias towards tech-savvy students over non-technical students,
- Teachers’ lack of knowledge and experience to manage virtual teacher-student interaction,
- Lack of social interaction between teacher and students,
- Lack of direct and immediate feedback from teachers,
- Asynchronous communication hinders fast exchange of questions and answers,
- Danger of procrastination.

[Wikipedia, 2013a]
Standards and specifications for web-based eLearning - SCORM (Sharable Content Object Reference Model)

eLearning software specification - xAPI (Experience API), released April 2013 and adopted by LMS’s to record difference learning experiences

eLearning Maturity Model (eMM)
eLearning Quality frameworks
Khan, B. (2009).
The global e-learning framework.
In MISHRA, S., editor, STRIDE Handbook 08. Indira Gandhi National Open University.

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The definition and characteristics of ubiquitous learning: A discussion.
*International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 6(1).

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[Online; accessed 17-October-2013].

M-learning — wikipedia, the free encyclopedia.
[Online; accessed 17-October-2013].

Ubiquitous-learning — wikipedia, the free encyclopedia.
[Online; accessed 17-October-2013].