E-Learning General, Concept & Mode of Delivery

- Speaker
  - Hai Duy Nguyen, HUE Online Lecture
E-Learning Outline

- What is E-Learning?
- E-Learning Standards
- E-Learning Cycle (4 Stages)
- E-Learning in the Workplace
- E-Learning in the Classroom
- E-Learning in Vietnam
What is E-Learning?

- E-Learning is education and training using information technology, such as computers and communication networking.

- Unlike conventional classroom training, it is possible to learn anytime and anywhere in most types of e-Learning.
E-Learning Model

EDUCATIONAL DESIGN
- Authentic (Real) Learning Environment
- Learning Objectives and Outcomes
- Learner Assessment Types
- Useful Learning Tools and Resources

NAVIGATION DESIGN
- Use a Site Map to Visualise Course Navigation
- Consistent Entry and Exit Points
- Logical Navigation

ORGANIZATION OF TEACHING CONTENT
- Learners Guide

Content Authoring System (CAS)

Course(s)

Learner Management System (LMS)

Train the Trainers (Regular ICT Training for Teachers)

CLASS - Collaborative Learning
OR

Ensure Reusability & Interoperability Across Different LMS

SCORM / IMS Standards

CMS is a good solution for companies who hope to develop dynamic online courses quickly, at a low cost and enable teachers to develop online courses without technical skills.

Example:
Lectora, eXe and Lesur CMS

Common Web Authoring Tools

Word
FrontPage
PowerPoint
Flash
Dream weaver

Moodle, ilias

Blackboard
WebCT
Oracle

Student Using PC

E-Learning Support Team

Teacher (s)

Student Using PC

Student Using PC

Student Using PC

Student Using PC

Individual Learning
E-Learning Standards

- For an effective, widely used e-Learning environment, standardization in various aspects of e-Learning is required.

- We will review 4 widely accepted e-learning standards and specifications:
  1. LOM (Learning Object Metadata)
  2. SCORM (Sharable Content Object Reference Model)
  3. QTI (Question and Test Interoperability)
  4. LIP (Learner Information Package)
1. Learning Object Metadata (LOM)

- A standard specification for metadata to define attributes of various resources (i.e., learning object), in education and training.
- It is an index information to search and reuse learning objects.
- By creating a list of Learning Objects:
  - It is possible to classify and select the objects depending on the types of education
  - To systematize the objects accordingly to a curriculum.

- What is metadata?
  - Metadata describes how and when and by whom a particular set of data was collected, and how the data is formatted.
2. SCORM (Sharable Content Object Reference Model)

- A standard specification for Web-based Training contents
- Developed by ADL (Advanced Distributed Learning), US
- Compliance with SCORM enables materials to:
  - Run on different LMS
  - Use of Sharable Content Objects in different course structures.
- SCORM Version 1.3 is currently being developed
- Integrate IMS Simple Sequencing Specification to define the dynamic behaviour of contents accordingly to the learners' level and comprehension.
3. QTI (Question and Test Interoperability)

- A specification for a question database for exercise and test questions.

- Specifies formats for exercise questions.
  - Format
    - question
    - answer
  - Method
    - Grouping

- Facilitate the creation of questions for certification examinations and preparation examinations.
4. LIP (Learner Information Package)

- A specification that defines the attributes of the learners.
- Standardizes the format used in exchanging learner information between systems.
- The system for the curriculum can be constructed accordingly to each learner's:
  - Learning objective
  - Learning situation

Taking into account learner information including:
- Learning objective
- Learning history
- Competency
- Curriculum information described in Learning Object Metadata
E-Learning Cycle (4 Stages)

- **Stage 1: Skill Analysis**
- **Stage 2: Material Development**
- **Stage 3: Learning**
- **Stage 4: Evaluation**
E-Learning Cycle - Stage 1

Skill Analysis

- Process
  - Identify learners goal
  - Analyze the learner's present skill
  - Search for suitable materials to aid learners bridge the educational gap
E-Learning Cycle - Stage 2

❖ Material development

• Process:
  • Create exercise questions and material structure (table of contents) linked with explanatory pages.
E-Learning Cycle - Stage 3

- **Learning**
  - **Process**
    - Individual learning or
    - Collaborative (group) learning for workshop-type learning.
E-Learning Cycle - Stage 4

❖ Evaluation

❖ Process

❖ The learner carries out exercises and examinations designed to the learning goal.

❖ Evaluation of each learner, using results of exercises and examinations.
E-Learning Cycle
What is e-Learning? < In-House Training >

Employee Training + Tools Available = e-Learning

Employee Training

Tools Available
Internet
Intranet
CD-ROM
Video Conference Systems
PDA / Cellular Phone

What's the Advantage?

Companies
- Can reduce costs for group training
- Can provide their employees with up-to-date training content quickly

Employees
- Can learn whenever they like
- Can choose a course of an appropriate level

Training costs can be reduced by using IT. Learners can learn anytime, anywhere.
Basic Diagram of e-Learning

There are various type of e-Learning, with a growing range of study subjects.
Types and Tools of e-Learning

Type A
Conventional Type
- Classroom Training
- TV / Radio

Type B
Independent Study
- Provision of Video / Audio Materials
- CBT (standalone) (CD-ROM, VOD)

Type C
WBT-Based
- Web-based
- Intranet

Type D
Video Conferencing
- ISDN
- Satellite Communications
- DSL

Synchronous
Interactive
One-way
Asynchronous

The Most Widespread e-Learning Method

While Asynchronous (on-demand) type is commonly used. Synchronous (real-time) can also be used when taking part in discussion.  

Blending
E-Learning in Vietnam

- Most e-learning activities are performed on a project basis
  - Reason:
    - Lack of communication infrastructure environment
- E-Learning projects at:
  2. Ha Noi University of Education (www.dhsphn.edu.vn)
  3. Hanoi University of Technology (www.hut.edu.vn)
  4. Can Tho University (www.ctu.edu.vn)
  5. Vietnam National University of Hanoi (www.vnuhcm.edu.vn)