SPeLOs: Significant Properties of E-learning Objects

A report for the JISC Digital Preservation and Records Management Programme

Kevin Ashley, Richard Davis, Ed Pinsent
University of London Computer Centre
SPELOs

* Aims and objectives
* Digital objects in the E-learning domain
* Developing a typology for Learning Objects
* An example Learning Object
* Observations and conclusions
Aims

* Complement InSPECT
* Expand the digital object type portfolio
* Understand the complexity and characteristics of Learning Objects
* Basis for more detailed work
Objectives

- SPs x LOs = ?
- Assess InSPECT definition of SPs
- SPs + DC = ?
- LO classification

- SPs:
  - Expression
  - Metrics
  - Objective / Subjective
  - Definition
  - Future research?
What is a Learning Object?

Photo by John McCullough on Flickr
http://www.flickr.com/photos/grytr/285072637
What is a Learning Object?

"Any object can actually be exactly the right object to explain some concept or idea. Still they are not “learning objects”. They are only “potential learning objects”. They become learning objects only when they are brought in to learning context by an authority (teacher, publisher...)

Free Libre and Open Source Software in Education (FLOSSE) Blog
What is a Learning Object?

- “a relatively small, reusable digital entity that can be selectively applied – alone or in combination – by computer software, learning facilitators or learners themselves, to meet individual needs for learning or performance support.” Clive Shepard (2000)

- “any digital resource that can be reused to support learning,” David Wiley (2001)
What is a Learning Object?

* File format
  * The usual suspects (PPT, PDF, SWF etc)
  * Proprietary/domain specific (e.g. Blackboard, QMark, QTI)

* Object type
  * Assembly of objects, units, files
  * Package, e.g. SCORM

* Context
Classifying Learning Objects

- By size: Course, Learning Episode, Learning Assembly, Information Object, Digital Asset (CETIS, 2001)
- By content type: multimedia, instructional, learning objectives, instructional software/tools, persons/organisations/events (IEEE)
- By purpose: instruction objects; collaborative objects; application objects; assessment objects (SmartForce Framework)
Learning Object Typology

Groups

* A. Functional
* B. Learning Object Classification (IEEE LOM)
* C. Learning Unit Classification
* D. Contextual
* E. People / roles
* F. Reusability
* G. Delivery
* H. Rights Management
* J. Digital object type (DCMI)
* K. Look and feel
A Learning Object

The effect of mAS and KVP on x-ray beam quality and intensity

mAS through cathode element = 70 mAS
KVP across cathode and anode = 60 kVp
Learning Object

CONTEXT

People/Roles

E4 Written by Author

Object has been written by a named individual
A resource requiring interaction from the user to be understood, executed or experienced. Examples include forms on Web pages, applets, multimedia learning objects, or virtual reality environments.
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An item (e.g. a question/answer pair) that is designed to measure student learning. A complex object, consisting of a question together with its associated data such as score, feedback and either any media files required or links to those files.
Conclusions

- Reusability: a strong theme
- Strong community drive for repurposing and reuse
- Rights management: leave for others (cp. PREMIS)
- SPs:
  - some inherited - structured text, moving image, etc.
  - others predominantly contextual - agents, objects, VLEs, individuals, organisations
- Assessment objects: rendering, behaviour, regulatory context