Metadata Interoperability in Educational & Training Settings

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The Context

- Learning
- Education
- Training
- Research
How to Model the Problem Space?

- Processes & Functions
- Concepts
- Components
- Use Cases
- Services
- Frameworks
Some Natural Tensions for Metadata Interoperability

Ambiguity ↔ Precision

Generality ↔ Specificity
Some Natural Tensions in e-learning

Content \[\rightleftharpoons\] Process

Content \[\rightleftharpoons\] Context

Technology \[\rightleftharpoons\] Pedagogy
Standards harnessed through innovation in e-learning

Purpose-built e-learning standards
Some Key Questions

• What is Metadata?
• What is Content?
• What is a Learning Resource?
• What is the Enterprise?
• What is an Enterprise Application?
• Where are the System Boundaries?
Metadata in Practice – DC-based Repositories

- **EdNA**

- **GEM**

- **MERLOT**

- **RDN**
  [http://www.rdn.ac.uk/](http://www.rdn.ac.uk/)
Metadata in Practice – LOM-based Repositories

• ARIADNE
  http://memling.cs.kuleuven.ac.be/silo/

• CAREO
  http://cario.ucalgary.ca/

• CELEBRATE
  http://celebrate.eun.org/

• The Learning Federation
  http://www.thelearningfederation.edu.au/
Metadata in Practice – Peer-to-Peer Projects

• EduTella
  http://edutella.jxta.org/servlets/ProjectHome
  (RDF)

• LionShare
  http://lionshare.its.psu.edu/
  (LOM – XML)
Learning Object Metadata Creation

Design

**Curriculum scoping**

**Instructional design**

Development & testing

**Multimedia development**

**In-school testing**

Metadata creation

**Curriculum metadata**

**Topic metadata**

**Technical metadata**

**Updated curriculum metadata**

Source: Dr Nigel Ward
The Learning Federation, 2004

Jon Mason, DC2004, Shanghai October 10th
3rd party learning resources

- Cultural institutions
- Existing authentic content

Source: Dr Nigel Ward, The Learning Federation, 2004
Learning Resource Metadata Creation

3rd party supplier

Select Resources

Descriptive metadata

Rights metadata

Research

Educational metadata

Digitise Resource

Create learning resource

Source: Dr Nigel Ward
The Learning Federation, 2004

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Metadata in Practice – Commentary

• Adoption of standards doesn’t guarantee interoperability
• Need to develop Application Profiles
• Automated tools not yet ubiquitous
• Less is more
• Too much concern with Elements, not enough with Terminology
• Controlled vocabularies not always compatible across domains or CoPs
Metadata in Practice – Commentary

• Boundaries in ‘learning environments’ are porous
  • Intersecting domains
  • performance support, HRD, lifelong learning

• KM perspectives increasingly important
  • data -> information -> knowledge -> ...
  • knowledge -> information -> data

• One person’s metadata :: another’s content

• Interoperability is not just machine-to-machine

• Managing collections

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Metadata in Practice – Commentary

- Many facets to interoperability
- Assigning metadata is seen as laborious
- Some elements not understood
- Many practitioners can’t see the point when search engines like Google deliver most of their needs
- Unstable URLs – persistence not yet appreciated
- ROI – good metadata creation requires resourcing
Questions?