

Learning Objects – Quality Standards and Quality Assessment

Presented by **FuturEd**

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Presentation Overview

- Project overview
- Defining Learning Objects
- Quality criteria and recommended standards for discussion
- Quality Assessment processes and tool for field-testing
- Applying the QA tool to LO from LearnAlberta.ca
- Suggested next steps

Project: What is a really good LO?
What impact does it have on learning?

- ❑ work done for LearnAlberta.ca in early 2006
- ❑ project managed by Society for the Advancement of Excellence in Education (SAEE)
- ❑ work done by **FuturEd** Consulting Education Futurists (also created eLearning and ePortfolio quality standards)

Processes and Outcomes

- Environmental scan and report
 - Learning Objects
 - Quality criteria and assessment
- Recommended quality standards
- Associated quality assessment tool
- Preliminary assessment of 30 LO from LearnAlberta.ca
- Research proposal for next steps

Defining “Learning Objects”

- LO defined in many ways
- created working definition incorporating terminology and implied values from
 - LearnAlberta.ca
 - literature in the field (international)
 - historical and technical definitions
- 12 elements that LO have in common
 - please refer to report page 3
 - presented for discussion

Views of LO Quality

□ Sources

- implied by LearnAlberta.ca (p. 12)
- literature
 - technicians (e.g., standards, storage)
 - teachers (e.g., instruction and assessment)
 - learners (e.g., functionality and learning)
- dozens of quality criteria, mostly focused on learning and not on teaching

Views of quality assessment

- Typical and varied approaches
- Rationale
 - Selection / evaluation
 - Open Source (consumer protection)
 - Repositories (common qualities)
- Approaches with quality criteria
 - LO-specific (8 approaches)
 - Digital learning resources (4 more)

Observations about QA of LO

- ❑ QA necessary but lacking (OECD)
- ❑ most common is peer review
- ❑ most tools lack specificity
- ❑ many criteria included in one concept
- ❑ no consequences with lack of compliance
- ❑ few mention learning, all focus on teaching

Quality Standards for LO

- Quality = effective and efficient (with associated perspective)
- Framed by system and ordered by importance
- Composite created and tested (p. 3-6)
 - Quality **learning** outcomes
 - Quality learning processes and practices
 - Quality teaching resources
 - Quality assurance and improvement
- Need to be tested, reviewed and refined before adoption

LO Quality Assessment

1. Rating sheet developed (scale 4-0)
 - Requires **evidence of compliance**
 - Based on ePortfolio approach to QA
 - Should be digital, transparent
 - Involves different stakeholders for different components
2. Field-tested for purposes of refining the quality standards
 - Provided sample evidence for QA tool
 - Needs to be tested, reviewed and refined (process and content) before adoption

Lessons learned = underlying assumptions for QA tool

1. common characteristics, cannot be presumed
2. some criteria are critical, some not
3. some more important than others
4. not all apply in all cases
5. learning outcomes most important
6. may be degrees of compliance
7. some criteria are subjective
8. evidence of compliance may be "absence"
9. purpose of QA is for improvement, not judgement

Assessment of Alberta LO

- 30 LO reviewed
 - samples
- deliberate variety in age level, course type, and development stage
- outcomes – LO not rated
 - looking for exemplars

	K-3	4-6	7-9	10-12
Science		AA- The Thrill of Flight (6) - Introduction	AC- Cyber-Science (9)- Inheritance: It Runs in the Family	AE- Chemistry Revealed (10-12) - Gases - Expanding Marshmallow
			AD- Cyber-Science (9)- Properties of Materials	
		AB- Cretaceous Crime Scene (6-7)		
	AF- National Geographic Science Centre (1-9)			
Mathematics	AG- Math 3 Under the Sea (3) – Counting Money	AH- Math 5 Live (5) - Place Value	AJ- Junior High Math (7-9) – Laws of Exponents Object Interactive	AN- Mathematics Discovery Applets (10-12)
		AI- Math 5 Live (5) - Patterns	AK- Junior High Math (7-9) – Probability	
			AL- Junior High Math (7-9) – Exploring Election Data	
10-19-2006	© FuturEd 2006		AM- Junior High Math (7-9) – Exploring Parallel	13

Step One: Is it a learning object?

A Learning Object is a complete, standalone unit.

Underlying Premise:

There are common characteristics that define Learning Objects and they cannot be presumed.

Is there evidence that the LO is a complete, standalone unit?

- is focused on learning and the learner(s); it is instructional.

Learning Objects reviewed were instructional

- is aimed at clearly stated learning objectives.

Learning Objects reviewed have clearly stated learning objectives or outcomes cited from the Alberta curriculum guides in at least the Teacher Support section of most LOs.

Some LOs also explicitly inform learners of these learning outcomes while others do not. An example..

Is there evidence that the LO is a complete, standalone unit?

- targets learners at stated levels of age/grade, content knowledge and process skills.

Learning Objects reviewed are classified on the portal by the subject and grade level(s) which are deemed most relevant. Intended learning outcome(s) are stated for each LO.

Is there evidence that the LO is a complete, standalone unit?

- requires interaction on the part of the learner.

While Learning Objects reviewed vary greatly in the amount and frequency of interaction required by the learner, all LOs required some interaction. An example of minimal interaction would be AS- My Community On A Map (2-3)

Step 2: example

Quality Standards for Learning Outcomes

1.1 The learner acquires content knowledge, with associated skills, that is:		<i>Sample evidence</i> Teacher rating
1.1.1 consistent with established curriculum standards, learning objectives and/or completion requirements for the age, context, content and skill levels of the intended learner		<i>clear statement of position in or relationship to a provincial curriculum in the context of age/grade and content area(s); hyperlink to course outlines</i>
1.1.2 relevant to academic, citizenship and/or life-work preparation within the mandate of the teaching environment		<i>clear statement of learning outcomes and their relevance to the learner</i>
1.1.3 in addition to what s/he already knows, i.e., an increase and/or improvement in skills and knowledge		<i>pre-test and post-test</i>

Quality Standards for Learning Outcomes

1.2 The learner acquires, if necessary, the skills required for:		
1.2.1 successfully navigating and completing the LO		<i>explicit directions for navigation</i>
1.2.2 learning in a manner consistent with a stated pedagogical philosophy		<i>stated reason for the underlying teaching approach</i>
1.2.3 linking new knowledge with existing knowledge and future contexts		<i>element of reflection</i>
1.2.4 demonstrating achievement of the learning objectives		<i>directions for completing assessment tasks</i>

Rating Realities, e.g., Assessment

- ❑ Some objects have no assessment component contained within the Learning Object, i.e., learners are not requested or able to assess their learning online, e.g., AS- My Community On A Map (2-3) or AU- Railways and Immigration (5 7&0- LCLO).
- ❑ LOs have an assessment option but learners are not required to complete the assessment activity.

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- In some LOs there is the opportunity for the learner to receive teacher feedback if they print their online work but there was no mechanism for online feedback.
 - Some objects have no assessment component contained within the Learning Object, i.e., Other LOs have feedback in the guided practice section but not in the practice or explore section, e.g., AC- Cyber-Science (9) - Inheritance: It Runs in the Family.

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- Others have assessment with feedback always provided but it is structured in such a manner that repeated “guessing” could provide the correct responses through the process of elimination.

Much more detail on other criteria...

- Finally some LOs provide assessment opportunities with feedback and also provide prompts or additional information to aid understanding when incorrect responses are supplied by the learner, e.g., AJ- Junior High Math (7-9) – Laws of Exponents Object Interactive.

Value-added?

- Content
 - Comprehensive (and consensus-based)
 - Uniquely learning-focused
- Process
 - Transparent (ePortfolio approach)
 - Focus is not judgement but quality improvement
- Utility
 - Guidelines for developing new LO (consistency)
 - Evaluation of existing LO
 - acceptability
 - selection
 - marketing

Solving the quality paradox

- Providers of LO must assure quality but they can't do the quality assurance (alone)
- QA must be:
 - objective
 - professional
 - credible
 - recognized
 - iterative
 - continuous
- It takes a team

Suggested next steps

- Expert committee to review quality standards (then revise QA tool)
 - Share with “the field”
- Workshops to apply QA tool to LO
 - examine utility
 - study training requirements
 - actual rating of LO in the field
- Study of the impact of LO in teaching and learning

For more information.....



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