MEMO

- TO: Instructional Designer
- RE: New Instructional Content Development

Create instruction using the Sharable Content Object Reference Model (SCORM) to achieve the goals of interoperability and reusability.
What’s SCORM to an Instructional Designer?

A. A programming language?
B. A format?
C. A tool?
D. A paradigm?
E. A pain?

Correct Answer: E if it doesn’t meet the Designer’s goals!
What’s SCORM to a Programmer?

A. A programming language?
B. A format?
C. A tool?
D. Job security?
E. A pain?

Correct Answer:
E if it doesn’t meet the Programmer’s goals!

Posted to Flickr by Lloyd Budd
What happens…

if instructional and technical needs are not aligned
MUTANT NINJA SCORM!

- The **BIG PACKAGE** (1GB, yearlong course)
- The **ITY BITTY SCO** (Each question is a SCO)
- The **SCORM Intelligent Tutoring System** (programmed using 1,000 sequencing rules)
- The **CROWD FAVORITE** (Need SCORM? Take your content and wrap it as a single SCO)

**LIMITED REUSE**

**FRUSTRATION**

Debates over “what is a SCO?”

Posted to Flickr by San Diego Shooter
Proposed Alignment

Instructional Design Concept

Lesson

SCORM 2004 Concept

Content Package
What’s New?

- Instructional design not forced into technical framework
- Instructional & technical perspectives considered equally
- Focus on larger objects with more widely accepted definitions: Lessons & Content Packages

- **NOT FOCUSED ON THE SCO AS THE UNIT OF REUSE**
PACKAGES AS THE UNIT OF REUSE

Technical Advantages

- Provides a context for SCO reuse
  - SCOs can be interchanged within packages
  - SCOs can be extracted from packages
  - *BUT the context for their use and reuse is not lost*
- Enables instructional strategies to be changed without altering the underlying content
  - Sequencing is defined at the package level
  - Learning objectives are defined at the package level
- Natural unit of search, discovery, and exchange (e.g. within the ADL Registry)
LESSONS AS UNIT OF REUSE
Advantages for Instructional Designers

• Aligns with Instructional Theory
  • Driscoll
  • Gagne
  • Merrill

• Aligns with Instructional Design practice
  • Smith and Ragan
  • Dick, Carey, and Carey
Is this a one size fits all solution?

- Packages can contain
  - No SCOs (just assets)
  - One SCO
  - Multiple SCOs
- Packages support multiple approaches to mapping SCOs to learning objectives
- Packages can contain lots of sequencing or non at all
- Packages can contain alternative or optional content
What about “Learning Objects”

• Hodgins (2006)
  • “In hind sight I can see that one of my greatest errors was in assuming that everyone would understand that Learning Objects exist within a conceptual model for content. Overall they were not meant to be a fixed thing.”

• Within a SCORM instructional design context, almost everything that has been proposed as a learning object can be realized as a type of content package!
Traditional View of Reuse

The smaller the object, the more reusable
Self-contained content objects with single learning objectives are the “Lego’s” of instructional content.
Aligned View of Reuse

Designers share – developers reuse!

GRANULARITY

COURSES  CONTENT PACKAGES  SCO’S  MEDIA ASSETS

COURSES  LESSONS  INSTRUCTIONAL EVENTS  INSTRUCTIONAL ASSETS

REUSABILITY & SHARABILITY
Conclusions
Instructional Design and Technical Standards Can be Aligned:

- There is a sweet spot for sharing instructional content that considers *both* instructional and technical aspects that focuses on *the package* as the technical unit of exchange.
- Instructional designers and trainers *share* lessons.
- Standards provide technical specifications for exchange.
- Developers *reuse* technical objects found *inside* packages.
QUESTIONS AND ANSWERS

SPEAKER CONTACT INFORMATION

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Proposed Alignment (Details)

Instructional Design Concept

Lesson
- Descriptive Information
- Instructional Strategy
- Instructional Events
- Instructional Assets

SCORM 2004 Concept

Content Package
- Metadata
- Sequencing & Navigation
- Sharable Content Objects
- Assets & Resources
Aren’t SCOs the unit of reuse in SCORM? “Technically” maybe, but …

- SCOs are technical objects that interact with an LMS in a prescribed manner
- Adding instructional requirements to SCOs is problematic:
  - Mapping SCOs to single learning objectives is restrictive
  - Big SCOs lead to higher costs (Graph is from Chrysler) but using small SCOs can impact the user experience
- Defining SCOs is an implementation and business issue, not an instructional design issue!