Tips, Techniques and Tools for Creating Sharable Learning Content Objects
18th Annual Conference on Distance Teaching & Learning
August 14, 2002

Presenters
- Judy Brown, Academic ADL Co-Lab, University of Wisconsin System
- Jeff Larson, Academic ADL Co-Lab, Wisconsin Technical College System Board
- Ed Meachen, University of Wisconsin System

Agenda
- Your requirements
- Topics
  - ADL / SCORM
  - SCOs / Learning Objects
  - Certification
  - Repositories
  - Tools
- Discussion

Your Interests?

Topics
- ADL
- SCORM
- SCORM 1.3
- Plugfests
- Certification
- Repositories
- Co-Lab
- LO/SCO
- Industry LO
- Demos
- Tools
- Lessons

Advanced Distributed Learning (ADL)
What Is the Challenge?

Surprising as it seems, we currently can’t...
- Move a course from one web-based Learning Management System (LMS) to another
- Reuse course content across different LMS systems
- Create searchable content or media repositories across different LMS environments

The ADL Vision

Provide access to the highest quality education and training, tailored to individual needs, delivered cost effectively, anywhere and anytime.

ADL Strategy

- Exploit existing network-based technologies
- Create platform-neutral, reusable courseware and content to lower costs
- Promote widespread collaboration to satisfy common needs
- Enhance performance with emerging and next-generation learning technologies
- Develop common specifications and standards that drive COTS product cycle
- Provide incentives for organizational and cultural change

ADL Functional Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
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<tr>
<td>Accessibility</td>
<td>Access instructional components from one remote location and deliver them to many other locations</td>
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<td>Interoperability</td>
<td>Use instructional components developed in one location, with one set of tools or platform, in another location, with a different set of tools or platform</td>
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<td>Adaptability</td>
<td>Tailor instruction to individual and situational needs</td>
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<td>Reusability</td>
<td>Incorporate instructional components into multiple applications</td>
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<tr>
<td>Durability</td>
<td>Operate instructional components when base technology changes, without redesign or recoding</td>
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<td>Affordability</td>
<td>Increase learning effectiveness significantly while reducing time and costs</td>
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ADL — Convergence of Interests

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Sharable Content Object Reference Model (SCORM)
SCORM - Definition

Sharable Content Object Reference Model
A software model that defines the interrelationship of course components, data models, and protocols such that content “objects” are sharable across systems that conform with the same model.

The SCORM – What is it really?

- Integration of industry specifications from many other organizations – AICC, IMS, IEEE, ARIADNE, etc.
- Provides a unified learning content model
- Defines a standardized web “run-time” environment
- Is the first step on the path to defining a true learning architecture

Two Major Parts of SCORM

1. Content Aggregation
   - How to put content together, move it, and find it
2. Run-time Environment
   - How to run content and track the learner
## Meta-data Categories

- General
- Lifecycle
- Metadata
- Technical
- Educational
- Rights
- Relation
- Annotation
- Classification

- identifier
- title
- catalogentry
  - catalogue
  - entry
- language
- description
- Keywords
- coverage
- structure
- aggregationlevel

### Content Aggregation Model

- Meta-data XML Binding
  - IMS

### Course Structure (Inside of Packaging)

- IMS
- ADL
- AICC

## Tracking The Learner

### Learning Management System

- Information set score
- set time
- set name
- get last lesson location

### Run-Time Environment

- API
- AICC
- ADL
Run-Time Environment

Data Model

AICC

ADL

Under the Covers

- LMSInitialize
- LMSFinish
- LMSGetValue
- LMSSetValue
- LMSCommit
- LMSGetLastError
- LMSGetErrorString
- LMSGetDiagnostic

- student_id
- student_name
- lesson_location
- credit
- lesson_status
- score
- total_time
- lesson_mode
- session_time

How the SCORM Fits

Instructional Capability

Technical Specifications

SCORM

Government Organizations working with ADL

- Department of Labor (DoL)
- National Guard Bureau (NGB)
- Center for Disease Control (CDC)
- Internal Revenue Service (IRS)
- United States Postal Service (USPS)
- National Aeronautics and Space Administration (NASA)
- Department of Agriculture, Graduate School
- Department of Justice (DoJ)
- Department of Education (DoEd)
- Department of Interior, Bureau of Land Management
- Department of Treasury, Office of the Comptroller Currency
- Mine Safety Health Agency (MSHA)
- Veterans Administration (VA)
- National Academy of Public Administration (NAPA)

Worldwide Network for Learning Technology

ALIC: Advanced Learning Infrastructure Consortium

Offline Contents

- SCORM-based content format
- API module for offline learning environment
- Download/upload protocol
- WBT Server
- Login
- Upload learner log
- Download courseware
- Home
- Office
- Offsite learning
A Nationwide Open eLearning Platform in Greater China

International eLearning Standards
- Crucial to long-term success of eLearning in China
- China-based DLTG Learning Technology Standards v1.0 in April 2001 based largely on AICC, IMS, IEEE(TLCC), ADL/SCORM
- XML for data communication
- Reusable Learning Objects
- Interchangeable Learner Profiles
- International standards converging to SCORM
- Most International Off-the-shelf Contents and Major IMS and AICC-compliant

Around the World
- SCORM sets e-learning standard
- The architecture of the e-learning environment will closely resemble to the ADL/SCORM environment, enabling a seamless link to the ADL/SCORM standards.

When Should Content Be Sharable?
- When it makes sense …
  - When the content could be reused
    - If the content ever needs to move to another LMS environment (a form of reuse)
    - If the content might become part of a repository
  - Not all content will be reused, but it may well need to be moved!

When Do You Need SCORM?
You do want to be SCORM (1.3) conforming if:
1. You want to design learning content that tracks learner performance and progress and adapts accordingly.
2. You plan to use an L(C)MS to deliver and manage learning content.
3. You are designing content that might be reused in other learning contexts
4. You want to create a library of learning objects

You probably don’t need to be SCORM conforming if:
1. The content is short lived and won’t be reused
2. You never plan to use an L(C)MS to deliver and track content
3. You do not have content that has complex behaviors such as remediation.
4. You want only simple, static, hyperlinked content as reference material

The Missing SCORM piece
- SCORM 1.3
  - Sequencing

Where we are:
- SCORM 1.2
- Improved Data Model Elements
- Sequencing & Navigation
- The missing near-term piece

Where we really want to be:
- SCORM 2.0
- Advanced, Adaptive Architecture
1.3 Feedback

- Folks want the Application Profile
  - we hear you – real soon now
- Folks like “Use cases” and ISD orientation
- Folks want the Sequencing Engine
  - real soon now
- Content Designers seem to want what sequencing does (but it is hard to understand)
- We need more tools, templates, debuggers and examples

Proposed Actions for 1.3

- Planning to make all CMI Data Model Elements mandatory for LMSs
  - Reaction so far – Positive
- Reviewing SCORM Version Labeling
- Proposed changing Test Suite versioning

To Do List (Future)

- Improved assessments and assessment interchange
- Meta data guidance
- Publishers want navigation control
  (need a new navigation model)
- Need new communications mechanism

Near Term Schedule Goals

- IMS simple sequencing (Nov?)
- ADL DRAFT Sequencing Application Profile (mid Aug)
  - this will change up until IMS document is final
- Final 1.3 release will follow Plugfest 7
  (when all issues resolved) Jan/Feb?
- SCORM adopters website (Aug/Sept)
- Certification testing centers in place within 90 days (ASTD, NUWC-Keyport, Wisconsin)

How to stay involved?

- adlnet.org website – technical help desk
- IMS/IEEE/AICC membership and technical meetings
- Use cases & White Papers
- Future workshops
- Co-Labs (Alexandria, Orlando, Wisconsin)
  - Visit anytime
  - Free to hold forums within Co Lab
  - Bring the Co Lab testbed your products
  - so we can test and look under the hood
A Model for Standards Evolution

The Sea Change in e-Learning

What Happened at Plugfest 1?

ADL Plugfest #1 June 2000

"Agreement to Agree"

ADL – Philip Dodds
IMS – Ed Walker
AICC – Jack Hyde
IEEE – Wayne Hodgins
June 2000
SCORM Progression

- SCORM 1.0 – 1/00  
  - PF1 – 6/00  
  - PF2 – 8/00  
  - PF3 – 11/00
- SCORM 1.1 – 1/01  
  - PF4 – 5/01  
  - SCORM 1.2 – 10/01  
  - PF5 – 11/01  
  - PF6 – 7/02
- SCORM 1.3  
  - PF7 – 12/02

Growth of Vendor Participation at ADL Plugfests

![Chart showing growth of vendor participation at ADL Plugfests]

Plugfest 6

![Image of Plugfest 6 participants]

Plugfest 6 Reaction

“[T]he power of open standards and the innovations they foster are coming to the instructional technology community. In the presentations, I saw the most compelling empirical evidence of learning objects reuse I have seen to date, with learning object reuse to creation ratios as high as 1000:1. And there was a strong international turn out as well, covering both vendors and academics. SCORM, and the notion of learning technology standards, generally, are alive and well.”

Dr. David Wiley, Utah State University

Plugfest 7

- 2-5 December, Orlando Convention Center
- Held in conjunction with I/ITSEC (www.iitsec.org)
- Further sequencing, testing, and demonstrations
- Large plug-n-play room and briefing room
- Possible international virtual connection
- More details will follow on adlnet.org

ADL Future Versions of SCORM
**The ADL Future**

Shareable courseware objects from across the World Wide Web

Assembled in real-time, on-demand

To provide learning and assistance anytime, anywhere

**We will know we are successful when . . .**

- Standards become transparent
- The “e” is no longer needed in e-learning and e-government
- Sharing and reusing become commonplace

**Certification**

**SCO Conformance Test**

**Why is testing necessary?**

- Standards and reference models are flexible
- User requirements are undefined or unique
  
  So -
  
  - Implementations are only interpretations
  - Product features and claims vary
  - Requirements are ad hoc

**Options for Testing**

- Self-tests
- Interoperability tests
- Third party programs
Need all three

- Self tests – get it right during development
- Interoperability tests – reality test maturing products
- Third-party programs – trusted criteria for claims

Certification Status

- Draft MOA developed December 01
- Submitted to OSD for approval Jan 02
- Final MOA approved July 02
- MOA will be between the ADL Co-Lab and candidate Testing Centers
- Training to testing centers on SCORM 1.2
- Working SCORM Certification process with IMS for current and future efforts

Candidate Testing Organizations

- Naval Undersea Warfare Center - Keyport
- Wisconsin (Academic Co-Lab, UW-Learning Innovations, MATC)
- ASTD
- Others (DoD, Canada, UK, Japan)

UK

- Goal
  - Adoption of e-Learning standards across all UK Government departments and initiatives
  - Integration of standards into official UK e-GIF (e-Government Interoperability Framework)
- Current adoption of SCORM 1.2 by
  - Department of Education and Skills
    - Univ for Industry
    - Curriculum online
    - British Education Communication & Technology Agency
    - eUniversities UK … and more
  - Department of Health
    - National Health Service University (1.2 million students)
- Working with ADL Co-Lab and IMS on current and future certification programs

SCORM Adopters

- Initial criteria for becoming an industry partner of ADL
- Enable organizations to post product tools or service information, including:
  (Working with DoL)
    - Organization name
    - URL
    - Product name
    - Description
    - Type (government, industry, academia)
    - Category (LMS/LCMS, authoring tools, content, other)
    - Test log file (optional)
- Data will be validated and posted to www.adlnet.org
- Organizations will be sent an e-mail when posted, along with partner logo, and added to ADL partner list
- Search feature by organization, product, type, category, all
- Available early September at www.adlnet.org
- Will also establish new criteria for government and academia partners

Repositories
So What’s Missing?

- Where do we put them?
- How do we find them?
- How do we use them?
- Standards for all of the above!

Repository Study Group

Purpose: To develop and promote best practice recommendations for robust, interoperable SCORM-compliant repositories. To advise, test and evaluate SCORM-compliant repositories so that repositories with reusable educational objects are developed and maintained.

DAM’s Relevance in e-Learning

- As the rich media infrastructure for
  - managing the disparate kinds of content (text, raster graphics, vector graphics, video, audio …)
  - organizing content across multiple taxonomies and facets (classification, thesaurus, links, rights)
  - enabling access to distributed repositories of content (centralized access, decentralized storage)
- As a “course assembly” workbench for
  - repurposing sharable modules of content across courses
  - assembling courseware from units of courseware (SCORM or custom components of courseware)
  - supporting access to online archives of courses
What Is the Academic ADL Co-Lab?

- Focal point for the nation’s universities and colleges in promoting high quality, reusable content for distributed learning
- Established to promote collaboration in the research, development, demonstration, implementation, and evaluation of ADL technologies and products
- Serves as an academic partner and ADL link to test, evaluate, and demonstrate ADL-compliant tools and technologies to enhance teaching and learning
- Serves as an academic demonstration site for ADL tools and content, including those developed by the federal government, academia, and industry

Academic ADL Co-Lab Goals

- To promote and evaluate standards for distributed learning applications in higher education
- To provide education and communication for ADL initiatives within the higher education community
- To evaluate and demonstrate advanced learning technologies and tools
- To support effective pedagogy through research and assessment of distributed learning

Activities

- Regular virtual Web meetings
- Weekly newsletter
- Consulting
- Support
- Evaluate and demonstrate SCORM products – Remote vendor demos
- Repositories
- SCORM SCOs for online course

Academic ADL Co-Lab Partnerships

- University of Wisconsin System
- Wisconsin Technical College System
- Air Force Institute for Advanced Distributed Learning
- Atlantic Cape Community College
- Bloomsburg University
- Carnegie Mellon University
- Central Texas College
- Defense Acquisition University
- Foothill College
- Indiana University, Bloomington
- Macquarie University (Australia)
- Miami Dade Medical College
- Minnesota State Colleges & Universities
- Mississippi State University
- Naval Postgraduate School
- Northern State University
- Penn State
- Purdue University
- Rochester Institute of Technology
- Rutgers University
- St. Joseph’s University
- Southern Regional Education Board
- Texas A&M University
- University of Alaska
- University of California – Berkeley
- University of California – Irvine
- University of Hawaii at Manoa
- University of Illinois at Urbana-Champaign
- University of Maryland University College
- University of Nebraska – Lincoln
- University of New Orleans
- University of Washington
- University of Wollongong (Australia)
- Vanderbilt-Northwestern-Texas-Harvard/MIT (VaNTH) Center for Biomedical Engineering
- Educational Technologies
- West Virginia University
- $5 Incentive Funds
Other Activities

- Macromedia Flash MX white paper
- Pending FIPSE grant
- Collaborative tools eVALUATION (eWEEK)
- Handhelds
- Research and evaluation of advanced learning technologies

Learning Objects White Paper

- Sponsored by WebCT
- To be released at Educause, October, 2002.
- Addresses the following questions:
  - How are academic institutions using Learning Objects in their instruction?
  - What are the barriers facing academic institutions in creating and delivery learning objects?
  - What challenges do course management systems have in using learning object content?
  - How will SCORM impact the design and development of Learning Objects?
- Study uses survey results from Academic ADL Co-Lab Partners

Partner Meeting – February 2002

- 59 participants from 39 institutions, representing 10 million students (MIT to community colleges)
- Updates on ADL and SCORM
- Presentation by LON on cooperative agreement
- Review of selected research projects on learning styles, collaborative learning, next generation learning system
- Working groups on repositories / publishers, SCO development, sequencing, and tools
- Call for assessments of SCO instructional effectiveness
- High level of commitment to apply ADL / SCORM as online standard in higher education

Academic ADL Co-Lab Partner Meeting

- Discussion forum on management systems
  - Listserv
  - Conference calls
  - Collecting requirements
  - Discussing shared national RFP
- Repository working group
- Proposal to develop formal ADL / SCORM online course
  - For teachers (K-12 to higher ed)
  - How to discover, reuse or create sharable content
  - Formal certificate, continuing education units

Outcomes of Partner Meetings

- Repository working group
- Proposal to develop formal ADL / SCORM online course
  - For teachers (K-12 to higher ed)
  - How to discover, reuse or create sharable content
  - Formal certificate, continuing education units

Demos
It doesn’t matter how smart you are…

It’s how you say it…

First Generation e-learning

Online courses as direct analogues of conventionally delivered courses

- replicating course structure, elements and delivery mode
- incorporate existing support materials (though may be modified or augmented)
- delivery dependent on course originator

Second Generation e-learning

Online courses equivalent to conventionally delivered courses but purpose designed for medium

- same top-level learning outcomes
- precept-driven design methodology
- team developed not faculty led
- course requires mentoring not teaching when delivered
Third Generation e-learning

- Online education that does not adhere to course conventions
  - New Paradigms
    - the course is an artificial construct born of practicality – old constraints no longer apply
    - object oriented instruction
- Examples
  - personalized curricula
  - just-in-time education
  - learning pathways through learning management systems

The Point of Objects
- Developers-
  According to J. D. Fletcher (1999), reusable learning objects, assuming that they are built in conformance with emerging technical standards, will provide e-learning developers with a range of valuable 'ilities': portability across platforms, durability across evolving versions of operating systems, sharability across authoring systems and wide accessibility via the Web. The benefits of these efficiencies will be substantial, according to the ADL (Advanced Distributed Learning) initiative of the US Department of Defense - they're predicting that development costs will drop by 50-80%.

The Point of Objects
- Learning Administrators-
  Learning administrators, whether they're in the training department or a college of further education, stand to benefit too. For a start, it's easier to customize learning materials to particular audiences. Just replace those objects that are audience-specific - perhaps the worked examples or the case studies - with new versions that meet the precise needs of a particular organization, country, department or industry.

The Point of Objects
- Instructors-
  Instructors will also enjoy the ease with which they can mix and match components from a wide variety of sources - colleges, publishers and individual authors from around the world - with materials that are home grown. The aggregating of such diverse content is made possible by the tagging of learning objects with metadata (data about the data), which precisely describe the contents, the form they take, their origin and applicability.

The Point of Objects
- Learners-
  An object-orientated approach helps learners too. Most importantly, well-designed learning objects come in small chunks, designed not to overload the learner. We now know just how restricted short-term memory is (seven to nine pieces in fact) and that it's pointless pushing on with a learning session until what's there already has been properly rehearsed and absorbed. Courses will be constructed to meet specific individual needs on a just-in-time basis, by drawing on the massive library of learning objects that will be available on an organisation's network or on the Web.

.....Objects?

- Learning Objects
- Reusable Learning Objects
- Content Objects
- Knowledge Objects
- Courseware Objects
- Instructional Objects
- Sharable Content Objects
So What is a “Learning Object”?

- granular chunks of instructional content
- used as stand alone pieces of instruction or combined to form learning paths

“Learning objects are an application of object-oriented thinking to the world of learning. Like Lego bricks, learning objects are small reusable components - video demonstrations, tutorials, procedures, stories, assessments, simulations, case studies - but rather than use them to build castles, you use them to build people.”

- Clive Shepard, Objects of Interest, 2000

What is a SCO?
Based on the Shareable Content Object Reference Model which assumes:

- Self-paced instruction
- Granular, chunked learning content
- Searchable and easily located within online repositories for reuse in different learning experiences
- Delivered via any Learning Management System that would tell it how and when to deliver content objects and would track learner progress

What are the Elements of a SCO?

- Pedagogically neutral
- Discrete, granular piece(s) of instructional content
- Referred to as ASSETS (text, images, movies, sounds, animations, graphs…)
- When used together form AGGREGATIONS or learning paths

Here’s the idea…

What is the Difference Between a SCO and a Learning Object?

SCO’s depend on Meta-data for discoverability: Not necessarily true for Learning Objects
What is the Difference Between a SCO and a Learning Object?

SCOs are designed for the purpose of re-use in different learning environments, not necessarily true for Learning Objects.

Characteristics

**Sharable Content Objects**
- Self-paced online instruction delivered via a learning management system
- Learning content completely SCO-based
- Based on meta-data tagging for discoverability
- Designed for reusability
- Can move in and out of any LMS
- Based on content that can be sequenced

**Learning Objects**
- Instructor led or self-paced; classroom, hybrid or online
- Used to supplement a learning path
- Meta-data tagging not required; learning objects could be proprietary
- Reusability not the immediate priority
- May not be LMS based
- Sequencing may not be needed

However...

- How low do you go? Can a SCO be one Asset or must they be a collection of assets?
- Can a SCO be one complete course?
- Can assessment pieces be SCO’s?
- What do you call a Learning Object that has meta-data tagging and can be reused in different learning contexts?
- Why should the concept of SCO’s be limited to just online instruction using LMS’s?
- What do you call a SCO that isn’t really instruction, but is needed for functionality of the course (introductions, syllabus, reviews, etc)?

When Should You Use SCORM?

**You do want to be SCORM conforming if:**
- You want to design learning content that tracks learner performance and progress
- You plan to use an LMS to deliver and manage learning content
- You are designing content that might be reused in other learning contexts
- You want to create a library of learning objects

**You probably don’t need to be SCORM conforming if:**
- The content is short-lived and won’t be reused
- You don’t plan to use an LMS to deliver and track content
- Your content is proprietary and you do not want it shared
- You want only content that can be used to supplement learning such as hyperlinks and reference material
Teaching in the Information Age

A Collaborative “Proof of Concept Project” of the Academic ADL Co-Lab Partners

Modules

- Experiencing the Online Learning Environment
- Orienting Students to Online Learning
- Promoting Confidence in the Online Learning Environment
- Ethics and Legal Issues in Online Learning
- Quality Assessment and Evaluation in Online Learning
- Developing Sound Instructional and Interface Design for the Online Learning Environment
- SCORM Specific Instruction
- Managing the Online Learning Environment
- Developing Effective Interactive and Collaborative Communication Skills Online
- Effective Teaching Strategies for Online Instruction
- Using Online Learning and Authoring Tools
- Online Learning Models, Theories and Strategies-Pedagogy for Online Instruction
- Augmenting Online Learning With the Face-to-Face Classroom

Prototype SCOs for Professional Development for Online Instructors

Final Analysis

- “…it is not possible to predict all of the clever strategies people will devise to solve interesting instructional problems. In the end, people and companies are encouraged to call object chunks of instructional content whatever they want and to arrange them in the most creative fashions they can imagine that effectively solve teaching and learning problems…”

The Instructional Designers Guide to SCORM, July 24, 2002
Philip V.W. Dodds and Eric J. Roberts

Possible Navigation Scenarios:

In SCORM the LMS always determine what activities are delivered to the learner. A navigation request essentially asks the LMS to figure out which activity the learner should see.
Learning Objects

- Definition
  - Stand-alone
  - Meta-data
  - Assembled and contextualized
- LO, RLO, KO, IO, nugget, bite-size learning, SCO
- Classroom, blended, online

Technology Evolution in eLearning

Reusable Learning Object (RLO)

Molecular Content Model View

Reusable Learning Object

Sharable Content Object
SCOs

Benefits of Learning Objects

- Increased value of content
- Improved content flexibility
- Improved updating, searching, and content management
- Content customization

Warren Longmire

Advantages of Objects

- Extended use
  - Classroom
  - Blended
  - Online
- Assembly, rather than creation
- Not entire course

Getting Started With Learning Objects

Perceived Benefits of Learning Objects

Status of Learning Object Usage

Source: SRIC-BI

Source: SRI Consulting Business Intelligence
Barriers to Learning Objects

- Lack of awareness
- Lack of perceived need
- Budgetary considerations
- Lack of robust standards
- Immaturity of learning object approaches
- Confusion over vendors and technologies
- Lack of IT infrastructure
- Lack of management support

Source: SRIC-BI

Tools (Definitions)

- LMS
- CMS
- Collaboration
- Aggregation
- Repository
- Authoring / Content Creation

Lectora by Trivantis

Macromedia Dreamweaver

Dreamweaver MX
What Have We Learned?

Four Year Progress Report

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<th>2002 Conditions</th>
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<tr>
<td>No interoperable eLearning content standards</td>
<td>SCORM 1.2, tested and with conformance test software</td>
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<tr>
<td>No standards group agreement (AICC, IEEE, IMS, ARIADNE, etc.)</td>
<td>ADL brokered agreement on process and flow among all groups</td>
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<td>No industry consensus</td>
<td>Strong SCORM support by industry (e.g., Plugfest 5)</td>
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<td>Concern and suspicion about ADL Initiative and DoD motives</td>
<td>Support for ADL leadership and SCORM process in particular</td>
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<td>No advanced work on next generation architectures</td>
<td>ADL Funded / supported key research at CMU, now harmonizing with MIT OKI work</td>
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<tr>
<td>ADL’s role unclear to many</td>
<td>ADL viewed as “key” accelerator/ catalyst</td>
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New Approach to E-Learning is Needed to Tap Into $14 Billion Market, Says Booz Allen Report
“Re-Learning E-Learning”

- Develop and distribute education in “bite-sized chunks” – that is, small, self-contained units, rather than full semester-long courses as part of complete degree programs;
- Fill gaps in the traditional learning market through customized instructional tools or new delivery methods, rather than trying to replace the traditional teacher/textbook offering;
- Provide new and better mediums for learning built around traditional content, such as electronic versions of print-based products with added features, rather than focus on creating new and improved content.

July 2002 Conference

“The e-learning plane has not left the runway; the ship has not left the slip; there just isn’t any content.”

Kieran McBride, Transware

“Although demand seems to be high, we are still in the early days.”

Elliott Masie

UW-LI Experience

- Begin to think, live, and breathe the concept of learning objects
- Treat your SCORM odyssey as an e-learning project
- Familiarize yourself with the resources made available through ADL and its three co-labs
- Learn about meta-data
- Test your content for conformance using the ADL test suites

T+D, August 2002

How Can You Participate?

- Partnerships
- Working groups
  – SCORM
  – Instructional Design
  – Repository
- Projects / joint grants
- Time in Co-Lab

Resources

- www.academiccolab.org
- www.adnet.org
- www.jointadlicolab.org/guidelines
- www.academiccolab.org/Resources
www.academiccolab.org

Thank You!

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Questions / Discussion

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