

Learning Maps, Common IDs and the Common Core

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• CCSS

The **Common Core State Standards** provide a consistent, clear understanding of what students are expected to learn

• LRMI

The **Learning Resource Metadata Initiative** is a standard way to tag learning content to make it easier to find. This includes alignment to standards like the CCSS.

Learning Maps

Are a logical and visual way for students and educators to engage directly with core standards and find corresponding learning resources



The Common Core State Standards

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Why Common Standards?

Consistency	 Previously, every state had its own set of academic standards and different expectations of student performance. 	
Equity	 Common standards can help create more equal access to an excellent education. 	
Economic Opportunity	 All students must be prepared to compete with not only their American peers, but also with students from around the world. 	
Clarity	 Clear and coherent standards will help students (and parents and teachers) understand what is expected of them. 	
Collaboration	 Common standards create a foundation for districts and states to work collaboratively. 	





Common Core State Standards Adoption





English Language Arts (ELA) Shifts

What Students Read	 Emphasis on non-fiction Attention to text complexity 	
Evidence	 Reading and writing are grounded in evidence from the text 	
		1
Academic Vocabulary	 Regular practice with vocabulary like "synthesize" and "correspond" 	







Math Shifts







Anatomy of a Standard

The Domain

The

Cluster

The Complex Number System

Perform arithmetic operations with complex numbers.

- Know there is a complex number i such that i² = -1, and every complex number has the form a + bi with a and b real.
 The Standard
- Use the relation i² = -1 and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
- (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.





www.lrmi.net

Education Metadata for Quality Search & Discovery

iNACOL VSS – 22 October 2012







WHO IS THE LRMI?

Leadership

- The Association of Educational Publishers
- Creative Commons

Contributing Organizations

- Full Potential Associates
- Participating Publishers! Educational Systemics, Inc.
- Agilix Labs
- Knovation

Funding

- Bill & Melinda Gates Foundation
- William and Flora Hewlett Foundation



So, why do we need a standard? •Ingredients vs.

Nutritional Facts



Nutrition F	acts	
Serving Size 1 cup (250.0 g	a)	
Amount Per Serving		
Calories 358		Calories from Fat 185
		% Daily Value*
Total Fat 20.5g		32%
Saturated Fat 3.6g		18%
Polyunsaturated Fat 9.3g		
Monounsaturated Fat 6.2	g	
Cholesterol 170mg		57%
Sodium 1323mg		55%
Total Carbohydrates 27.9g		9%
Dietary Fiber 3.2g		13%
Protein 6.7g		
Vitamin A 8%	•	Vitamin C 42%
Calcium 5%	2.00	Iron 9%
* Based on a 2000 calorie of	liet	- 1990 March 1990





Metadata is "Data About Data"



Data

It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light...

Metadata

Title: A Tale of Two Cities Author: Charles Dickens Publication Date: 1859 Pages: 400





So What? We Already Use...

IEEE LOM

Dublin Core Metadata

SCORM

Proprietary metadata schema



So why is this effort different?

- We need a common set of descriptors that allow us to structure our searches.
- Common is not so common!
- Education benefits from not going it alone... even with the trade-offs.
- We have lived in a world with different standards. The internet changes all that.
- This is an international initiative.





The Learning Resource Metadata Initiative (LRMI)

Goal: Make it easier and more convenient to find learning resources that meet specific student and class needs.







What is the Process?





SLC XLRMI



What is the Process?







LRMI Enables Better Search (Schema.org)

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 Q Everything Images Wideos 	Traditional Potato Salads Image: Compare America's favorite potato this summer. Ad	Ads Potato Salad • Q www.hiddenvalley.com/VeggieMonthly Lind now recipes to make potatoes
 News Shopping Recipes More 	Potato Salad 🖃 Q www.foodnetwork.com > > Holidays and Parties - Cached ***** 259 reviews - 30 min Food Network invites you to try this Potato Salad recipe from Ina Garten. Ingredients: potatoes, mayonnaise, milk,	Potato Salad Www.kraftrecipes.com Free Recipes From Kraft Foods. Find & Share Your Favorite Dishes!
IngredientsYes NomayonnaiseImage: Image:	Potato Salad www.foodnetwork.com > > Holidays and Parties - Cached ++++++ 146 reviews - 40 min Food Network invites you to try this Potato Salad recipe from Tyler Elorence	Easy Potato Salad Mar Q www.pillsbury.com/Salads Find Simple & Tasty Salad Recipes to Wow the Entire Family. Easy Potato Salad Recipe Mar Q





Open Source Tagger

C'New O Load	O Save → LRMI Version 1.0.0	Welcome, Michael Jay (Not Me?)
Tags Output	General Education Alignment	Mo Learning Media
New Item 0	End User	Te Pou Taki Korero
	Age Range	Home About us Our services Our work Tamomo Mahi
	Educational Use	Products Find a local distributor Online activities Teacher Suppor
Leami	Interactivity Type Learning Resource Type	Home + Resources + Pacific Science + The Wooden Drum
	Activity Assessment Audio Broadcast Calculator Discussion E-Mail Field Trip Hands-on In-Person/Speaker Kinesthetic Lab Material (Printed Activities - Instrum Lesson Plan Manipulative MBL (Microcomputer Based) Model N/A On-Line	nents





LRMI Enables Better Search (Registry)





LRMI Enables Better Search (Registry - New)





What does the LRMI enable?

- Search...
- Integrated Search
- Find instructional resources to address curriculum standards
- Determine which standards are addressed by a collection of instructional resources
- Personalized learning
- Individualized learning much more!



The LRMI Properties v1 (Irmi.net/the-specification)

General Terms:

- -title/name
- -URL
- -Description
- –Image
- -Topic
- -created (date)
- -Creator
- –Publisher
- -inLanguage
- -Mediatype
- -technologiesRequired
- -technologiesRecommended
- -Use RightsURL
- -is based on

Educational Terms:

- –intendedEndUserRole
- –educationalUse
- -timeRequired
- -typicalAgeRange
- -interactivityType
- –learningResourceType

Competency related:

- –educationalAlignment
- -Description
- -URL
- -Alignment Type
- –educationalFramework
- –targetDescription
- –targetName
- –targetURL





Look at one property

Learning Resource Type Schema.org practice is to have community use define values

We have created some recommended values:

Activity Kinesthetic Audio Lab Material Broadcast Manipulative Calculator MBL Discussion Model E-Mail On-Line Field Trip Podcast Hands-on Presentation In-Person/Speaker Printed

Robotics Still Image Video Wiki Worksheet Lesson Plan Test Quiz



Phase II: Adoption/Implementation March 2012 – February 2013

- Awareness building
- **Proof of Concept**
- Collaboration on Tagger/Search
- Educator/publisher surveys
- Encouraging/supporting Schema.org adoption



PoC Round One Participants

- Better Lesson
- CK-12
- Houghton Mifflin Harcourt
- Learning.com
- Learning Station
- McGraw-Hill
- Pearson
- PCI Educational Publishing
- Rosen



PoC Round Two Participants

22 actively pursuing Phase II700+ resources already submitted for Phase II

36 new publishers engaged in Phase II



For more Information on LRMI

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Learning Maps Authoring Tools and the Common Core

Sharren Bates





Learning Maps Authoring Tools

Learning Maps Authoring Tools offer easy-to-use content standards browsing and provide baseline functionality to kickstart innovation in data reporting interfaces and recommendation engines.

SLC will provide a Learning Map Authoring Tool for users to customize and publish their own path through the Common Core or to build new taxonomies for additional subjects.

The authoring tool will allow users to store paths and generate new visualizations.





Common Core Navigator

- Pre-Loaded with the Common Core state standards as published on corestandards.org
- Curriculum and Instruction teams can decide who they'd want to access an editing and publishing tool
- Future versions of the software will include authoring standards for different subjects
- Future versions of the software will allow users to login and save standards/paths or use standards/paths other have saved.



Visualizations

- Load points on the map from Common Core standards that have been stored as data
- Loads paths based on the paths users create in the Path Builder tool
- Will connect to SLC's LRI and search app when they are available
- SLC is investing in example visualizations and welcome additional great visualizations from the field.



Navigating Standards and Creating Paths







Creating Visualizations for Elementary School





Creating Visualizations for High School Students





High-Value Instructional Use Cases

- Publish Learning Maps to support teachers' understanding of the Common Core
- Publish Learning Maps to support teachers and students implementing CCSS-aligned Scope and Sequence
- Publish Learning Maps to support curriculum development in non-CCSS subjects
- Build reporting and curriculum systems that repurpose the base code to draw connections between student data and available content



High-Value Technology Uses

- Use the same standards in curriculum/content tagging and student achievement data to build connections between data and content
- Require content providers to align to your scope and sequence and other instructional priorities through automated connections to learning map metadata



Q & A

Resources

- <u>http://www.corestandards.org</u>
 Common Core State Standards
- <u>http://lrmi.net</u> Learning Resource Metadata Initiative teila@edusystemics.com
- <u>http://learningregistry.org</u>
 The Learning Registry
- <u>http://www.slcedu.org</u>
 The Shared Learning Collaborative

