



OER Commons Learning Object Metadata Element Set
Based on IEEE Learning Object Metadata Information Model
OERCommons.org / ISKME.org

The framework presented in this document
is the basis for the description of the resources in OER Commons

OER Commons is a project of
ISKME - The Institute for the Study of Knowledge Management

Revision Table

Document ID	Date	Contributor	Summary of Changes
OER v.01	03-10-2006	Amee Godwin	Metadata conceptualization
OER v1	06-01-2009	Mayya Arroyo	Metadata application profile draft
OER v2	01-02-2010	Elena Shulman	OER-C Schema, database and UI redesign to enable Semantic discovery and navigation using RDF, with reference to LRE
OER v3	06-27-2012	Letha Goger	Summary of fields in use as of August 1, 2011; Spring 2012 addition of CR_Sublevel, CR_Grade, CR_TypicalAgeRange; deletion of Library and Community elements
OER v3.1	01-31-2013	Letha Goger	LRMI Schema.org Extension Values
OER v3.2	08-01-2013	Letha Goger	AfA DRDv3 values, materialType revisions to align with State CELT work
OER v4	06-18-2014	Kate Katz, Michelle Brennan	Education standard paradata, updated vocabulary for OER-C Schema to include new subject and topic structure

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Introduction

Purpose and Scope

Elements of the *OER Commons Learning Object Metadata Framework*, along with their definitions and use requirements are presented. This profile represents the efforts of the ISKME Technology team to build an interoperable and usable framework based on established standards. The ultimate purpose is to facilitate search,

evaluation, acquisition, and use of learning objects by learners or instructors or automated software processes. The description of this framework is also intended to facilitate the sharing and exchange of learning objects.

Audience

This document supports the technology team at ISKME that builds and develops the OER Commons environment, its content and tools. It additionally supports our diverse community of content providers who build, describe and provide resource collections to OER Commons. Similarly, it will be useful to members of the OER community who work to build open learning infrastructures. Finally, it may be helpful to users who wish to increase their success in discovering resources by understanding the descriptive language used on resources in OER Commons.

Project Contacts and Information

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Methodology

Process

OER-C needs a publicly available Metadata Application Profile to clarify schema elements and their use, and to provide definitions for controlled vocabularies.

All required metadata fields in OER-C should conform to a metadata standards to further interoperability and preserve meaning when integrating harvested records from providers using controlled vocabularies and elements currently not supported in the OER-C schema.

Versions

Version 3.2 builds upon 3.1 and includes new vocabulary for Material Types that align with CELT state vocabulary and support work with the States. 3.2 also includes IMS AFA values that have been added to the framework to support enhanced user accessibility.

Version 3.1, extends upon v.3 and includes a newly deployed Primary_User fields, that define the intendedEndUser for the resources.

Version 3.1 also includes microdata mapping to support the Learning Resource Metadata Initiative (LRMI) extension to Schema.org.

Version 3 is a reflection of metadata elements used in the OER-C framework as of August 1, 2011, and includes changes integrated since then.

Currently some fields and OER-C controlled vocabulary for fields such as Material Types, Level and Media Formats require crosswalks when exposing the metadata in the OAI-PMH harvester to vocabularies used and referenced by some learning object content providers.

Recommendations for Future Work

- It is recommended that the SubSubject field be built. SubSubject values have been defined and used in the Keyword field since September of 2012 and so the bulk of resources tagged with these values is growing in anticipation of building out a field for these more discrete values. *(Winter 2014 - projected)*
- CR_Collection field should be evaluated and the use of field clearly delineated and optimized. The use of this field often overlaps with CR_Institution. It is envisioned the CR_Collection field will be used to define topic-specific collections in OER Commons to support new subscription services. *(Winter 2014, projected)*
- Evaluate vocabularies of Geographic Regions for equitable and representative terms. *(Spring 2014 – projected)*
- Evaluate possible use of LOM Intended End User Role, currently mixed with the Educational Context field,

resulting in some loss of meaning when records are imported. (*Spring 2014 – projected*)

Definitions

Elements

We have not specified below all elements of the IEEE Learning Object Metadata (LOM) standard; rather, we have indicated LOM elements and the related OER-C field, including the multiplicity of constraints and values on those elements.

DataTypes

CharacterString: text can be entered in the element directly (e.g. “ISBN”, “ARIADNE”, “LOMv1.0”, etc.).

LangString: the text must identify its language and there can be one or more character strings in the element (e.g. “en”, “organic agriculture”).

DateTime: the element contains date and time information and there can also be textual information about this point in time (e.g. “2008-07-21”).

Duration: the element contains information about an interval in time and there can also be textual information about the duration (e.g. “PT2H45M”, “PT50S”).

VocabularyTerm: the element contains source and value where source is a reference to publicly sourced and maintained value set and value is a value from that set (e.g. “Yes”/ “No”, “atomic”. “collection”).

Mapping of OER-C Element Set to IEEE LOM, DC, LRMI

IEEE LOM	OER Commons	OER-C db Field		Dublin Core	LRMI /Schema.org Property	Notes
1. General	1. General					
1.1 Identifier	1.1 Identifier			dc:identifier		
1.1.1 Catalog						
1.1.2 Entry						
1.2 Title	1.2 Title	CR_Title	M	dc:title	name	Free text, single
1.3 Language	1.3 Language	CR_Language	M	dc:language	inLanguage	Vocabulary controlled, multiple
1.4 Description	1.4 Description	CR_Abstract	M	dc:description	description	Free text, single
1.5 Keyword	1.5 Subject	CR_Subject	M	dc:subject	about	Vocabulary
1.5.1 Keyword	1.5.1 Keywords	CR_Keywords	M	dc:keywords	keywords	Free text, multiple
1.6 Coverage	1.6 Coverage	CR_Irr	R	dc:spatial		Vocabulary controlled, multiple
1.7 Structure						
1.8 Aggregation Level						
2. Life Cycle	2. Life Cycle					
2.1 Version						
2.2 Status						
2.3 Contribute						
2.3.1 Role	2.3.1 Role	CR_Author_Name	R		author	Free text, multiple
2.3.2 Entity	2.3.1 Entity	CR_Institution	M		publisher	Free text, single
	2.3.2 Copyright Holder	CR_COU_Copyri ght_Holder	R			Free Text, single
2.3.3 Date	2.3.3 Date	CR_Create_Date	R		dateCreated	Date format, yyyy-mm-dd, single
3. Meta-Metadata	3. Meta-Metadata					

3.1 Identifier						
3.1.1. Catalog						
3.1.2 Entry						
3.2 Contribute						
3.2.1 Role						
3.2.2 Entity						
3.2.3 Date						
3.3 Metadata Schema						
3.4 Language						
4. Technical	4. Technical					
4.1 Format	4.1 Format	CR_Media_Form at	M	dc:format	genre	Vocabulary controlled, multiple
IMS Global AFA	4.1.1 Book Format	CR_Book_Forma t				Vocabulary controlled, multiple
4.2 Size						
4.3 Location						
4.4 Requirement	4.4 Requirement	CR_Notable_Req s	O			Free text, multiple
4.4.1 OrComposite						
4.4.1.1 Type				dc:type		
4.4.1.2 Name						
4.4.1.3 Minimum Version						
4.4.1.4 Maximum Version						
4.5 Installation Remarks						
4.6 Other Platform Requirements						
4.7 Duration						
4.8 Facet						
4.8.1 Name						
4.8.2 Value						
4.8.3 Description						
5. Educational	5. Educational					
5.1 Interactivity Type						
5.2 Learning Resource Type	5.2 Learning Resource Type	CR_Material_Typ e	M		learningResour ceType	Vocabulary controlled, multiple
5.3 Interactivity Level						
5.4 Semantic Density						
5.5 Intended End User Role	5.5 Primary User	CR_Primary_Use r	R		intendedEndU serRole	Vocabulary controlled, multiple
5.6 Context	5.6 Context	CR_Level	R			Vocabulary controlled, multiple
	5.6.1 SubLevel	CR_SubLevel	M			Vocabulary controlled, multiple
	5.6.2 Grade	CR_Grade	O			Vocabulary controlled, multiple
5.7 Typical Age Range	5.7 Typical Age Range	CR_Typical_Age _Range	O		typicalAgeRan ge	See notes
5.8 Difficulty						
5.9 Typical Learning Time						
5.10 Description						
5.11 Language						
6. Rights	6. Rights			dc:rights		
6.1 Cost						

6.2 Copyright and Other Restrictions	6.2 Copyright Title	CR_COU_Title	R			Vocabulary controlled, single
6.3 Description	6.3 Description	CR_COU_Description	O			Free text, single
	6.3.1 Description URI	CR_COU_URL	M			URL, single
7. Relation				dc:relation		
7.1 Kind						
7.2 Resource						
7.2.1 Identifier						
7.2.1.1 Catalog						
7.2.1.2 Entry						
7.2.2 Description						
8. Annotation						
8.1 Entity						
8.2 Date						
8.3 Description						
9. Classification	9. Classification					
9.1 Purpose						
9.2 Taxon Path						
9.2.1 Source						
9.2.2 Taxon						
9.2.2.1 Id	9.2.2.1	CR_Native_ID	O			Local ID
9.2.2.2 Entry						
9.3 Description						
9.4 Keyword						
10. Accessibility	10. Accessibility					
IMS Global AFA	10.1 Adaptation of	CR_Adaptation_of_URL				URL, single
IMS Global AFA	10.2 Has Adaptation	CR_Has_Adaptation_URL				URL, single
IMS Global AFA	10.3 Access Hazard	CR_Access_Hazard				Vocabulary controlled, multiple
IMS Global AFA	10.4 Access Mode	CR_Access_Mode				Vocabulary controlled, multiple
IMS Global AFA	10.5 Media Feature	CR_Media_Feature				Vocabulary controlled, multiple

OER-C Elements Table, v3 (revised 2013-08-1)

Within the IEEE LOM framework, this document outlines each OER-C element used and defines: *name*: the name by which the data element is referenced; *description*: the definition of the data element; *field name*: the name of the field in the OER-C database; *obligation*: whether a value is required in the field, or not; *multiplicity*: the number of values allowed; *order*: whether the order of the values is significant; *value space*: reference to the set of allowed values for the data element; *data type*: indicates whether the values are LangString, DateTime, Duration, Vocabulary, CharacterString or Undefined; *input method*: whether the entry is automatic or manually made; *example*: an illustrative example.

Element - Name	Description	OER-C db Field	Multiplicity	Order	Value Space	Data Type	Obligation	Input Method
1. General	Groups the general information that describes this learning object as a whole.							
1.1 Identifier	A globally unique label that identifies this learning object.							Automatic
1.1.1 Catalog	The name or designator of the identification or cataloging scheme for this entry. A namespace scheme.							
1.1.2 Entry	The value of the identifier within the identification or cataloging scheme that designates or identifies this learning object. A namespace specific string.	CR_ID	1	Unspecified	Repertoire of ISO/IEC 10646-1:2000	CharacterString (smallest permitted maximum: 1000 char)	Mandatory	Automatic
1.2 Title	Name given to this learning object.	CR_TITLE	1	Unspecified		CharacterString (smallest permitted maximum: 2000 char)	Mandatory	Manually
1.3 Language	The primary human language or languages used within this learning object to communicate to the intended user.	CR_LANGUAGE	1..*(10)	Unordered	Use 2 letter code from ISO 639-1	VocabularyTerm ISO Language Codes	Mandatory, If no language identified use "x-none"	Manually
1.4 Description	A textual description of the content of the learning object.	CR_ABSTRACT	0..*(10)	Unordered		CharacterString (smallest permitted maximum: 3000 char)	Mandatory, this description need not be in language and terms appropriate for the users of the learning object being described. The description should be in language and terms appropriate for those that decide whether or not the learning object being described is appropriate and relevant for the users.	Manually
1.5 Keyword	A keyword or phrase describing the topic of the learning resources	CR_KEYWORDS	1..*(30)	Unordered		CharacterString (smallest permitted maximum: 2000 char)	Recommended Keywords are free text. Avoid long phrases. Select most specific term to describe the learning object.	Manually
1.6 Coverage	The geographic region to which this learning object applies.	CR_IRR	0..*(10)	Unordered		VocabularyTerm OER-C Geographic Region vocabulary	Optional	Manually
1.7 Structure	Underlying organizational structure of this learning object.							
1.8 Aggregation	The functional granularity of this learning object.							
2. Life cycle	Describes the history and current state of this learning object and those entities that have affected this learning object during its evolution.							
2.1 Version	The edition of this learning object.							

2.2. Status	The completion status or condition of this learning object in the OER-C repository.	CR_Status*	o..1	Unspecified	draft published deaccessioned pending private	VocabularyTerm		Automatically
2.3 Contribute	Those entities (people, organizations) that have contributed to the state of this learning object during its life cycle (e.g., creation, edits, publication)							
2.3.1 Role	Kind of contribution	CR_AUTHOR	o..* (30)	Ordered		CharacterString	Recommended	Manually
2.3.2 Entity	Identification of entities contributing to this learning object, with most relevant first.	CR_INSTITUTION	o..* (30)	Ordered		CharacterString	Recommended	Manually
2.3.3. Date	The date of contribution. Date the object was created/modified by the provider.	CR_CREATE_DATE				Date, yyyy-mm-dd	Recommended	Manually
3. Meta-metadata	This category describes this metadata record itself, rather than the object that this record describes.							
3.1 Identifier	A globally unique label that identifies this metadata record.							
3.1.1 Catalog	The name or designator of the identification or cataloging scheme for this entry. A namespace scheme.							
3.1.2 Entry	The value of the identifier within the identification or cataloging scheme that designates or identifies this metadata record. A namespace specific string.							
3.2 Contribute	Those entities (people, organizations) that have affected the state of the metadata during its life cycle(e.g. creation, validation)							
3.2.1 Role	Kind of contribution. Exactly one instance of this data element with value Creator should exist.							
3.2.2 Entity	The identification of information about entities (i.e., people, organizations) contributing to this metadata instances.							
3.2.3 Date	The date of the contribution.	CR_ENTRY_DATE	o..1	Unspecified		DateTime	Mandatory	Automatic
3.3 Metadata Schema	The name and version of the authoritative specification used to create this metadata instance		o..* (10)	Unordered	ISO/IEC 10646-1:2000	CharacterString	This element is not exposed to users. If multiple values are provided then the metadata instance shall conform to multiple metadata schemas	Automatic
3.4 Language	Language of the metadata. This is the default language for all LangString values in this metadata instance.		o..1	Unspecified		LanguageString	Recommended	
4. Technical	This category describes the technical requirements and characteristics of this learning object.							
4.1 Format	Technical datatype(s) of (all the components of) this learning object. This data element shall be used to identify the software needed to access the learning object.	CR_MEDIA_FORMAT	1..* (40)	Unordered		VocabularyTerm <i>OER-C Media Format vocabulary</i>	Mandatory	Manually, and automatic when possible
4.1.1 Book Format		CR_Book_Format				VocabularyTerm, <i>OER-C Book Format vocabulary</i>	Optional	
4.2 Size	The size of the digital learning object in bytes (octets). The size is represented as a							

	decimal value (radix 10). Consequently, only the digits "0" through "9" should be used. The unit is bytes, not Mbytes, GB, etc.							
4.3 Location	A URL string, or URI that resolves to a location that is used to access the learning object. URL is preferred. This is where the learning object described by this metadata is physically located.	CR_URL	1..* (40)	Unspecified	ISO/IEC 10646-1:2000	CharacterString	Mandatory	Manually
4.4 Requirement	Technical capabilities necessary for using this learning object.							
4.4.1 OrComposite	Grouping of multiple requirements. The composite requirement is satisfied when one of the component requirements is satisfied, i.e., the logical connector is OR.							
4.4.1.1 Type	Technology required to use this learning object, e.g., hardware, software, network, etc.							
4.4.1.2 Name	Name of technology required to use this learning object	CR_NOTABLE_REQS		Unspecified	Not defined	CharacterString (currently), need to define value space in next revision	Optional The value for this data element may be derived from 4.1 Technical.Format automatically, e.g. 'video/mpeg' implies 'multi-os'	Manually
4.5 Installation Remarks	Description of how to install this learning object.							
4.6 Other Program Requirements	Information about other software and hardware requirements.							
4.7 Duration	Time a continuous learning object takes when played at intended speed.							
5. Educational	This category describes the key educational or pedagogic characteristics of this learning object.							
5.1 Interactivity Type	Definition of a LO accord to the interactivity type.						Evaluate use of this field for needed micro-site values.	
5.2. Learning Resource Type	Specific kind of learning object, the most dominant kind first.	CR_MATERIAL_TYPES	1..* (20)	Ordered		VocabularyTerm OER-C Material Type vocabulary Suggest adding: Case Study	Mandatory	Manually
5.3 Interactivity Level	The degree of interactivity characterizing the learning object. Interactivity in this context refers to the degree to which the learner is supposed to take an active part in dealing with the learning object.							
5.4 Semantic Density	The degree of conciseness of a learning object. The semantic density of a learning object may be estimated depending on the relation between the amount of information provided and the size, span or duration of the LO.							
5.5 Intended End User Role	Role of principal user(s) for which this learning object was designed, most dominant first.	CR_Primary_User	0			Vocabulary Term OER-C Primary User vocabulary	Recommended.	Manually
5.6 Context	Principal environment within which the learning and use of this learning object is intended to take place	CR_LEVEL	0..12	Ordered		VocabularyTerm OER-C Level vocabulary	Recommended	Manually, automated if CR_Sublevel, CR_Sublevel, CR_Grade, CR_TypicalAgeRange are entered
5.6.1	Educational level of users of the learning object.	CR_SUBLEVEL	0..12	Ordered		VocabularyTerm OER-C SubLevel	Mandatory	Manually, automated if CR_Grade, CR_TypicalAgeRange

						vocabulary		are entered
5.6.2	Intended grade of user of the learning object, as applicable.	CR_GRADE	0..12	Ordered		VocabularyTerm OER-C Grade vocabulary	Optional	Manually, automated if grade level achievement standard is associated to learning object.
5.7 Typical Age Range	Age of the typical intended user.	CR_TYPICAL_AGE_RANGE	0..1	Unordered	Minimum-maximum age in years	CharacterString	Optional	Manually (CR_Typical_Age_Range automatically populates CR_SubLevel)
5.8 Difficulty	How hard it is to work with or through this learning object for the typical intended target audience.							
5.9 Typical Learning Time	Approximate or typical time it takes to work with or through this learning object for the typical intended target audience.							
5.10 Description	Comments on how the learning object is to be used.						<i>Consider this field for needed micro-sites educational values</i>	
5.11 Language	The human language(s) used by the typical intended user of this learning object						<i>Explore best use of this field for Arabic language site</i>	
6. Rights	This category describes the intellectual property rights and conditions of use for this learning object.							
6.1 Cost	Whether use of this learning object requires payment.							
6.2 Copyright and other Restrictions	Comments on the conditions of use of this learning object.	CR_COU_Copyright_Holder	0..* (20)	Unspecified		CharacterString (smallest permitted maximum: 2000 char)	Recommended List copyright holder name	Manually
		CR_COU_Title	0..# (20)	Unspecified		CharacterString (smallest permitted maximum; 2000 char)		Manually
6.3 Description	Comments on the conditions of use of this learning object	CR_COU_URL	0..* (40)	Unspecified	ISO/IED 10646-1:2000	CharacterString	Recommended	Manually
7. Relation	This category defines the relationship between this learning object and other learning objects, if any.							
7.1 Kind	Nature of the relationship between this learning object and the target	CR_CURRIC_STANDARDS / CR_PREREQ_TITLE/CR_POSTREQ_TITLE	0..1			VocabularyTerm OER-C Curriculum Standard ID vocabulary	This element loosely corresponds with the Dublin Core element DC.Relation and conformsto ispartof haspart isversionof hasversion isformatof hasformat references isreferencedby isbasedon isbasisfor requires	Manually, automatically if Common Core alignment tool is used to align resource to standards

							isrequiredby	
7.2 Resource	The target learning object that this relationship references.						http://www.achievementsstandards.org/index.htm (conformsto) uri for collection homepage (ispartof)	
7.2.1 Identifier	A globally unique label that identifies the target learning object.	CR_PREREQ_URL/CR_POSTREQ_URL/CR_CURRIC_STANDARDS_URL	..# (20)	Unspecified		CharacterString (smallest permitted maximum; 2000 char)		Manually
7.2.1.1 Catalog	The name or designator of the identification or cataloging scheme for this entry. A namespace scheme.							
7.2.1.2 Entry	The value of the identifier within the identification or cataloging scheme that designates or identifies this learning object. A namespace specific string.							
7.2.2. Description	Description of the target learning object.		0..* (10)	Unspecified		CharacterString (smallest permitted maximum: 1000 char)		Manually
8. Annotation	This category provides comments on the educational use of this learning object, and Information on when and by whom the comments were created.	YES					Optional. This category enables educators to share their assessments of learning objects, suggestions for use etc.	
8.1 Entity	Entity (i.e., people, organization) that created this annotation.	YES					Optional. This category enables educators to share their assessments of learning objects, suggestions for use etc.	
8.2 Date	Date that this annotation was created.	YES					Optional. This category enables educators to share their assessments of learning objects, suggestions for use etc.	
8.3 Description	The content of this annotation	YES					Optional. This category enables educators to share their assessments of learning objects, suggestions for use etc.	
9. Classification	This category describes where this learning object falls within a particular classification system.	YES						
9.1 Purpose	The facets taken into account for classifying this learning object.						In OER-C, purpose = discipline	
9.2 Taxon Path	A particular term within a taxonomy.	CR_SUBJECT	0..* (15)			VocabularyTerm <i>OER-C Subject vocabulary</i>	Required	
9.2.2.1 I.D		CR_NATIVE_ID	0..* (20)			CharacterString (smallest permitted maximum: 1000 char)		
9.2.2.2 Entry								
9.3 Description	A textual description of learning object relative to its stated purpose							
9.4 Keyword								
10. Accessibility								
10.1 Adaptation of	Identifier of a resource for which this is an adaptation, for accessibility purposes.	CR_Adaptation_of_URL				URL		
10.2 Has Adaptation	Identifier of a resource that is an adaptation, for accessibility purposes, for this resource.	CR_Has_Adaptation_URL				URL		
10.3 Access	A characteristic of the described	CR_Access_Ha				VocabularyTerm		Flashing

Hazard	resource that is physiologically dangerous to some users. This is related to WCAG 2.0 guideline 2.3 . All three of the negative properties should be set if there are not any of the hazards known to date. If no properties are set, the state of accessibilityHazards is unknown, rather than no hazard.	zard						Motion/Simulations/Sound
10.4 Access Mode	An access mode through which the intellectual content of a described resource or adaptation is communicated. The IMS model defines this as "The human sensory perceptual system or cognitive faculty through which a person may process or perceive information." If adaptations for the resource are known, the access modes of those adaptations are not included. The accessModes after visual in the list are all refinements of what is presented in the visual mode.	CR_Access_Mode				VocabularyTerm		Auditory Color Dependent Tactile Text on Image Textual Visual
10.5 Media Feature	Content features of the resource, such as accessible media and alternatives. For more detailed explanation of these values, please refer to the W3C Web Schemas wiki .	CR_Media_Feature				VocabularyTerm		Alternative Text Audio Description Braille Captions Large Print Transcript [ChemML] [Described Math] [Display Transformability] [Haptic] [High Contrast] [Latex] [Long Description] [MathML] [Nemeth Braille] [Sign Language] [Structural Navigation] [Tactile Graphics]

OER Commons Vocabularies

Subject (CR_Subjects)

Arts

Includes: art, art history, cinema, dance, fine arts, music, photography, theatre, and visual arts.

Business

Includes: accounting, e-commerce, economics, finance, international business, management, and marketing.

Humanities

Includes: history, language and literature, library and information studies, linguistics, philosophy, religion, rhetoric, world languages, writing, language arts, debate, grammar, journalism, phonics, reading, speaking, spelling, storytelling, and vocabulary.

Mathematics and Statistics

Includes: mathematics, statistics and probability, algebra, arithmetic, calculus, geometry, measurement, number theory, and trigonometry.

Science and Technology

Includes: agriculture, architecture, astronomy, biology, chemistry, computer sciences, digital media, engineering, environmental science, geology, health policy, health sciences, information technology, nanotechnology, physics,

Social Sciences

Includes: anthropology, archaeology, business law, communication studies, criminal justice, education, gender studies, geography, history, law, political science, psychology, sociology, social studies, civics, current events, human behavior, human relations, social work, urban studies.

Primary User (CR_Primary_User)

Student

Teacher

Administrator

Parent

Other

Education Level (CR_Level)

Primary

Includes: items for kindergarten to grade 6, (lower and upper elementary school grades.)

Secondary

Includes: items for grades 7 to 12 (junior high/middle school and high school grades.)

Post-secondary

Includes: items for higher education, college, university, graduate school, professional development, and training.

Educational Context (CR_SubLevel)

Preschool (*Birth to Prekindergarten*)

Lower-Primary (*Grades K-2*)

Upper-Primary (*Grades 3-5*)

Middle School (*Grades 6-8*)

High School (*Grades 9-12*)

Community College - Lower Division

College - Upper Division

Graduate / Professional

Career / Technical

Grade (CR_Grade)

- PK** (Pre-kindergarten)
- K** (Kindergarten)
- 1** (Grade 1)
- 2** (Grade 2)
- 3** (Grade 3)
- 4** (Grade 4)
- 5** (Grade 5)
- 6** (Grade 6)
- 7** (Grade 7)
- 8** (Grade 8)
- 9** (Grade 9)
- 10** (Grade 10)
- 11** (Grade 11)
- 12** (Grade 12)

Educational Use (CR_Educational_Use)

- Curriculum/Instruction
- Assessment
- Professional Development
- Other

Media Format (CR_Media_Format)

- Audio
- Braille/BNF
- Downloadable docs
- eBook
- Graphics/Photos
- Interactive
- Mobile
- Text/HTML
- Video
- Other

Material Type (CR_Material_Types)

- Activities and Labs
- Assessments
- Audio Lectures
- Case Study
- Full Course
- Games
- Homework and Assignments
- Images and Illustrations
- Interactive
- Lecture Notes
- Lesson Plans
- Primary Source

- Readings
- Reference
- Resource Review
- Simulations
- Syllabi
- Teaching and Learning Strategies
- Textbooks
- Unit of Study
- Video Lectures
- Other

Geographic Relevance (CR_IRR)

- All
- Africa
- Asia
- Australia
- Developing countries
- Europe
- Middle East
- North America
- South America

A11Y Values *(available, but not available in UI)*

Book Format

- Daisy202
- Daisy3
- EPUB2
- EPUB3

Access Hazard

- Flashing
- Motion/Simulation/Sound

Access Mode

- Auditory
- Color Dependent
- Tactile
- Text on Image
- Textual
- Visual

Media Feature

- Alternative Text
- Audio Description
- Braille

- Captions
- Large Print
- Transcript
- [ChemML]
- [Described Math]
- [Display Transformability]
- [Haptic]
- [High Contrast]
- [Latex]
- [Long Description]
- [MathML]
- [Nemeth Braille]
- [Sign Language]
- [Structural Navigation]
- [Tactile Graphics]

Legacy Fields

Community Topics *(available, but currently unused)*

- How and Why of OER
- Teaching and Learning
- Localization
- Standards/Certifications
- Intellectual Property
- Open Source
- Technology
- Research
- Policy

Community Types *(currently unused)*

- News Stories
- Articles and Reports
- Tools and Technology
- Organizations and Associations
- Conferences and Workshops
- Discussion Forums
- Blogs and Wikis