

**RDA Minimal Metadata for Learning Resources Schema Comparison
October 2021**

	A	B	C	D	E	F	G
1	"Generic" Term	Description	LRMI Term	EOSCPilot minimum MD	ENVRI-LOM Term *	bioschemas Term **	Notes / Issues re mapping
2							
3	abstract	A brief overview of the item (container)				abstract (recommended marginality)	
4	abstract_data	A brief synopsis about or description of the learning resource.		Description	description (General 1.6)	description (minimum marginality)	
5	access_cost	Choice stating whether or not there is a fee for use of the resource (Boolean).			cost (Educational 3.10)		
6	accessibility_control	Indicates input methods that are sufficient to fully control the described resource (CV list of values at https://www.w3.org/wiki/WebSchemas/Accessibility)	accessibilityControl				
7	accessibility_features	Content features of the resource, such as accessible media, alternatives and supported enhancements for accessibility (WebSchemas wiki lists possible values). Only 4 values of the entire list were available in the drupal production system; others are to be added to the CV for this field as called for.	Same as schema.org				
8	accessibility_hazard	A characteristic of the described resource that is physiologically dangerous to some users. (CV list of values at: https://www.w3.org/wiki/WebSchemas/Accessibility)	Same as schema.org				
9	accessibility_summary	A human-readable summary of specific accessibility features or deficiencies, consistent with the other accessibility metadata but expressing subtleties such as "short descriptions are present but long descriptions will be needed for non-visual users" or "short descriptions are present and no long descriptions are needed."				accessibilitySummary (optional marginality)	
10	accessibility_api	Indicates that the resource is compatible with the referenced accessibility API (CV list of values at https://www.w3.org/wiki/WebSchemas/Accessibility)	accessibilityAPI				
11	alignment_type	A category of alignment between the learning resource and the framework node. (See notes for recommended values).	Same as schema.org				
12	author(s)	List of full name of the author(s)	Same as schema.org			author (recommended marginality)	
13	author.familyName	Last or family name of person(s) authoring the resource.		Author - Person			

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14	author.givenName	First or given name of person(s) authoring the resource		Author - Person			
15	author_org	Name of organization authoring the resource.		Author - Org		author (recommended marginality)	
16	citation	Preferred form of citation					
17	completion_status	Completion status or condition of the resource (draft, final, revised, unavailable)			status (Life Cycle 2.2)	status	bioschemas is recommending that this be added as a expected type to schema.org. Bioschemas recommended values include: active, Under development, and Archived.
18	completion_time	Approximate or typical time it takes to work with or through the resource for the typical, intended target audience.	timeRequired		typical learning time (Educational 3.8)	timeRequired (recommended marginality)	
19	contact	Name of person who has been asserted as the contact(s) for the resource in case of questions or follow-up by resource user.					
20	context	Principal environment within which the learning & use of the resource is intended to take place, e.g., school, higher education, etc.			context (Educational 3.6)		
21	contribution_date	Date of the contribution to the resource			date (Life Cycle 2.4)		
22	contribution_entity	Identification of and information about entities (i.e., people, organizations) contributing to the resource			entity (Life Cycle 2.3.2)		An ENVRI LOM example provided for this is FOAF.
23	contributor(s)	List of full name of secondary person(s) contributing to the resource.			contribute (Life Cycle 2.3)	contributor (optional marginality)	
24	contributor_orgs.name	Name of contributing organization(s)			contribute (Life Cycle 2.3)	contributor (optional marginality)	
25	contributor_orgs.type	Type of contribution made by the organization			role (Life Cycle 2.3.1)		CV values recommended by ENVRI-LOM can be found at the url in the reference section. DMTC values are not currently linked to any public CV list.
26	contributors.familyName	Family or last name of the contributor.					
27	contributors.givenName	Given or first name of contributor(s)					

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							CV values recommended by ENVRI-LOM can be found at the url in the reference section. DMTC values are not currently linked to any public CV list. Another option that might be available are the MARC relator codes or a subset thereof. See: https://www.loc.gov/marc/relators/relaterm.html
28	contributors.type	Type of contribution made by a person or organization.			role (Life Cycle 2.3.1)		
29	country_of_origin	Code for country from which resource was generated;					
30	coverage	Time, culture, geography or region to which this learning object applies. The extent or scope of its content. Coverage will typically include spatial location (a place name or geographic coordinates), temporal period (a period label, date, or date range) or jurisdiction (such as a named administrative entity).			coverage (General 1.7)		
31	created	The date on which the metadata record was created.					is a DMTC system generated term / value.
32	creator	The login name of the person creating the MD record.					is a DMTC system generated term / value.
33	credential_status	Type of credentialing offered for the resource, if any.					Null value should be allowed.
34	date_created	The date on which the resource was created.			date (Life Cycle 2.4)	dateCreated (optional marginality)	
35	difficulty	How hard it is to work with or through the resource for the typical intended target audience (very easy, easy, medium, difficult, very difficult, knowledge-dependent)			difficulty (Educational 3.7)		
36	ed_frameworks.name	The name of an framework to which the resource is aligned, if any.	Same as schema.org				
37	ed_frameworks.nodes.description	The description of a node in an educational framework	Same as schema.org				
38	ed_frameworks.nodes.name	The name of a node in an established educational framework.	Same as schema.org				
39	ed_frameworks.nodes.url	The URL of a node in an established educational framework.	Same as schema.org				
40	ed_frameworks.url	The URL of an established educational framework					
41	email	Email address of person or organization that has been asserted as the contact for the resource.					

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42	featured_event	Course instance or event where this training resource was or will be featured. (inverse of workFeatured)				featuredInEvent (optional marginality)	bioschemas is recommending that this be added to schema.org for training resources. Also recommends that isPartOf should be used to refer to a course, unless this training resource is unique to a specific course instance.
43	hasPart	A sub-Training resource or externally referenced resource				hasPart (optional marginality)	Is inverse of IsPartOf.
44	id	System identifier for the MD record.					
45	interactivity_level	Degree of interactivity characterizing the resource; refers to the degree to which the learner can influence the aspect of behavior of resource (e.g., very low, low, medium, high, very high).			interactivity level (Educational 3.3)		
46	interactivity_type	The predominant mode of learning supported by the learning resource (i.e., active, expositive, or mixed)	interactivityType		interactiviy type (Educational 3.1)		Extensive explanation of the different types found at the url in the reference section for ENVRI LOM.
47	is_based_on_url	A resource that was used in the creation of this resource (repeatable)	isBasedOnUrl				
48	isPartOf	Course in which this resource was/will be used, or the resource in which this resource is a part (e.g., part of a book or slide-set associated with a course).				isPartOf	Inverse property of hasPart.
49	keywords	Keywords or tags used to describe the resource.		Keywords	keywords (General 1.7)	keywords (minimum marginality)	
50	language_primary	Language in which the resource was orginally published or made available.	Same as schema.org		language (General 1.5)	inLanguage (recommeded marginality)	
51	languages_secondary	Additional languages in which the resource is available, if any.	Same as schema.org		language (General 1.5)	translatedInfo	could also be mapped to schema.org/Thing/availableLanguage property.
52	learning_outcome	Descriptions of what knowledge, skills or abilities students should acquire on completion of the resource.				learningOutcome (recommended marginality)	bioschemas is recommending that this term be added to schema.org; also recommends using terms from Blooms taxonomy. DMTC adds this information to the description when the information is available.

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53	license	A license document that applies to this content, typically indicated by URL.	Same as schema.org	License		license (recommended marginality)	
54	locator.data	From DC "An unambiguous refernce to the resources within a given context." Use a string that conforms to an ID system. See how FAIRsFAIR deals with this...		PID	location (Technical 4.1)		ENVRI LOM provides for the value of this term to be "text".
55	locator.type	Controlled vocabulary designating the persistent identifier schemes used for the resource, e.g., DOI, ARK, Handle.					
56	lr_type	The predominant type or kind that characterizes the learning resource.	Same as schema.org		learning resource type (Educational 3.2)	learningResourceType (recommended marginality)	
57	md_record_id	Globally unique, persistent ID for the metadata record within the system for the resource being described.					
58	media_type	From schema.org def: "Media type of resource, typically expressed using a MIME format" from IANA site & MDN reference.					
59	mentions	Data-sets, tools, technologies, entities, other training materials in the series, etc., to which the resource <i>makes reference</i> . **				mentions (recommended marginality)	Schema.org description: "Indicates that the CreativeWork contains a reference to, but is not necessarily about a concept."
60	modification_date	Date at which the educational resource was most recently modified; could also be considered a version date.		Date modified		dateModified (optional marginality)	
61	name_identifier	The unique identifier for individual or organization referenced.					
62	name_type	The name of the identifier scheme.					
63	org	Name of organization that has been asserted as the contact for the resource in case of questions or follow-up by resource user.					
64	published	Date of publication / broadcast.			date (Life Cycle 2.4)	datePublished (optional marginality)	
65	publisher	The organization credited with publishing or broadcasting the resource (does not include the repository where resource is stored).	Same as schema.org				
66	purpose	The purpose of the work in the context of education.	Same as schema.org				
67	rating	Placeholder for comments given by users assessing the educational resource after use.					

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68	ratings	If applicable, placeholder for overall ratings for the educational resource, based on a collection of reviews or ratings.					
69	resource_id_label	A globally unique label that identifies the learning object.			identifier (General 1.1); The combo of ENVRI LOMs identifier, catalog and entry would be the equivalent of schema.org's identifier or url and and bioschemas identifier.		The combo of ENVRI LOMs identifier, catalog and entry would be the equivalent of schema.org's identifier or url and and bioschemas identifier.
70	resource_id_scheme	Name or designator of the identification or cataloging scheme for the globally unique label (resource ID)			catalog (General 1.2); The combo of ENVRI LOMs identifier, catalog and entry would be the equivalent of schema.org's identifier or url and and bioschemas identifier.		The combo of ENVRI LOMs identifier, catalog and entry would be the equivalent of schema.org's identifier or url and and bioschemas identifier.
71	resource_id_value	Value of the identifier within the identification or cataloging scheme that designates or identifies the learning object. Should be a namespace specific string.			entry (General 1.3);The combo of ENVRI LOMs identifier, catalog and entry would be the equivalent of schema.org's identifier or url and and bioschemas identifier.	identifier (recommended marginality)	Bioschemas profile adds an expected type of "PropertyValue" for their instance of resource identifier.
72	resource_size	Size of the resource in bytes (uncompressed)			size (Technical 4.2)		
73	semantic_density	Degree of conciseness; may be estimated in terms of its size, span or duration			semantic density (Educational 3.4)		
74	skill_level	Target skill level in the topic being taught; example values include: beginner, intermediate, advanced.				skillLevel (recommended marginality)	

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75	subject	Subject domain toward which the resource is targeted.	Same as schema.org	Domain	topic codes (Technical 4.3)	about (recommended marginality)	ENVRI LOM is creating a training topic list of title and code to be used for this term.
76	submitter_email	Person submitting the resource into the DMTC queue for publication.					
77	submitter_name	Email address of person submitting the resource into the DMTC queue for publication.					
78	target_audience	Principle users(s) for which the resource was designed.	Same as schema.org	Target professional group	intended end user role (Educational 3.5)	audience (recommended marginality)	From ENVRI LOM, values are : teacher, author, learner, manager. DMTC has a more expansive list.
79	title	The name of the resource.	Same as schema.org	Title	title (General 1.4)	name (minimum marginality)	
80	typical_age_range	The typical range of ages for the content's intended end user.	typicalAgeRange				
81	url	URL that resolves to the learning resource or to a "landing page" for the resource that contains important contextual information including the direct resolvable link to the resource, if applicable. Should be a PID, if possible.		URL		URL (recommended marginality)	
82	usage_info	Text describing information about using the resource, not addressed by the license URL.			rights (Educational 3.9) and condition of use (Educational 3.12)		ENVRI LOM provides for more explanation than of usage; i.e., "intellectual property rights and conditions of use" for the resource using an example "Copyright 2018).
83	usage_restrictions	Yes / No response to whether copyright or other restrictions apply to the use of the resource			copyright and other restrictions (Educational 3.11)		
84	use_rights_url	The URL where the owner specifies permissions for using the resource	useRightsUrl				
85	uses	Data-sets, tools, technologies, entites, etc. that are <i>actively utilised</i> in this resource.				uses (recommended marginality)	bioschemas is recommending that this term be added to schema.org
86	version	The specific version of the resource, if declared.			version (Life Cycle 2.1)	version (optional marginality)	
87							
88							
89							
90	REFERENCES						

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91	* Taken from https://zenodo.org/record/3903341 (ENVRI LOM profile)						
92	** Taken from https://bioschemas.org/profiles/TrainingMaterial/0.7-DRAFT-2019_11_08/						
93							