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Part 2: Core elements

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Project co-editors' notes:

1. At the time of issuing this CD3 draft, MLR Part 1 FCD was still not distributed for review or ballot. Proper adjustments and additions will be made as it becomes available.
2. Significant progress was made at March 2009 Wellington WG4 work session on the MLR Standard as a whole. As a result, Part 2 co-projects editors have taken into account the requirement for complete Dublin Core compatibility and adjusted the scope accordingly, shifting from the previous MRL "core" approach.
3. Part 2 co-projects editors recommend that a request be made to SC36 to change Part 2 title from "Core elements" to "Common Properties".
4. Expert contribution from DC community will be required to determine if "DC source" is a specific kind of "DC relation" and, if not, how those two elements are interrelated.
5. Some of the DC elements as copyright, context, subject or contributor (described in section 5.2 of this document) could have a different connotation in the context of MLR. To be as compatible as DC as possible, we should be aware of the problems if we change the definition of these terms. If we change the definition, we should also change the identifier. This will have the consequence that a change of identifier will lead to some challenge in keeping a high level of compatibility with DC. One solution could be to subtype our concepts like learning resource (lr) lr_copyright, lr_context, lr_subject etc. and that these terms would have their own definition and identifier. We could also argue that e.g. lr_context is a subtype of dc.context and therefore we have a some compatibility between lr_context and dc.context.
6. The co-editors express their gratitude to Erlend Øverby who acted as an adjunct project editor for the preparation of this CD3

1 Information Technology

2 Learning, Education, and Training

3 Metadata for Learning Resources

4 Part 2: Core elements

5 **0 Introduction**

6 The purpose of Part-2 of the MLR standard is to ease the work of implementers and editors of the subsequent
7 Parts by providing common properties, such as Title, Description and others. To avoid duplication, and maybe
8 inconsistent definitions of these common properties, we have chosen to define them in this Part.

9 Subsequent Parts should include this Part 2 in their Normative References section whenever common
10 properties are used as such or within application profiles.

11 This standard has been developed with full compatibility with ISO 15836 (Dublin Core) and optimal
12 compatibility with IEEE 1484.12.1 (LOM), while also addressing user-driven requirements and uses not
13 explicitly addressed in those two standards.

14 **1 Scope**

15 **1.1 Scope of the ISO/IEC multipart Standard**

16 The primary purpose of the ISO/IEC 19788 multipart standard “Metadata for Learning Resources (MLR)” is to
17 specify, in a rule-based manner, metadata elements and their attributes for the description of learning
18 resources¹. This includes the rules governing the identification of metadata elements and the specification of
19 metadata attributes.

20
21 These metadata elements are used to form the description of a learning resource, i.e., as a metadata learning
22 resource record (MLRR).

23
24 This multipart standard is based on identified user requirements and is structured in a manner which
25 facilitates activities such as search, acquisition, evaluation, management, sharing, reuse, et cetera of learning
26 resources by as wide and varied audience as possible. The approach and methodology of ISO/IEC 19788 is
27 directed at maximizing interoperability of these functions and interchange of the metadata elements of
28 learning resource records, through the use of various information and communication technologies.

29
30 In addition to having a Part 1: Framework and a Part 2: Core elements, this multipart standard is modularly
31 structured with all subsequent parts having a distinct scope. Each of these parts represents a specified set of
32 user requirements for the identification and specification of metadata elements having a particular focus and
33 intended use in the description of a learning resource. This includes categories of metadata elements focused
34 on technical perspectives, educational (pedagogical) aspects, availability and intellectual property aspects,
35 classification schemes, lifecycle management, registration, etc. This also includes the use of MLR application
36 profiles stating the rules for combining metadata elements from various parts of ISO/IEC 19788 and other
37 specifications to support the description of a learning resource, i.e., a MLRR, in a particular context, as well
38 as that of a particular jurisdictional domain, organization, public administration, etc.

40 **1.2 Scope of Part 2**

41 This Part provides full Dublin Core interoperability for this Standard. This is achieved through the
42 description of each Dublin Core element using the MLR data element specification template provided in the
43 MLR Part 1 Framework. In addition, Dublin Core definitions were reviewed in order to level out interpretation

44 ambiguity and best practice guidance is provided in Note(s).

45
46 This level of semantic interoperability is particularly essential when these elements refer to common
47 properties, such as title, definition and date, which can be found in a recurring manner among various MLR
48 Parts. For convenience, these common properties are grouped in the MLR properties specifications section.
49

50 **2. Normative references**

51 The following referenced documents are indispensable for the application of this document. For dated
52 references, only the edition cited applies. For undated references, the latest edition of the referenced
53 document (including any amendments) applies.

54 **2.1 ISO/IEC**

55 ISO/IEC 19788-1 Metadata for learning resources — Part 1: Framework

56 ISO 15836:2009 (E) Information and documentation - The Dublin Core metadata element set
57

58 **2.2 Referenced Specifications**

59 ANSI/NISO Z39.85:2007, The Dublin Core Metadata Element Set DCAM, DCMI Abstract Model available at:
60 <http://dublincore.org/documents/abstract-model/>

61 **3 Terms and definitions**

62 For the purposes of this Part, the concepts and definitions from ISO/IEC 19788-1 and DCAM, DCMI Abstract
63 Model apply.

64
65 In addition, the following concepts and their definitions are introduced.

66 **3.1**

67 **person**

68 entity, i.e., a natural or legal person, recognized by law as having legal rights and duties, able to make
69 commitment(s), assume and fulfil resulting obligation(s), and able of being held accountable for its action(s)

70 NOTE 1 Synonyms for "legal person" include "artificial person", "body corporate", etc., depending on the terminology used
71 in competent jurisdictions.

72 NOTE 2 "Person" is capitalized to indicate that it is being used as formally defined in the standards and to differentiate it
73 from its day-to-day use.

74 NOTE 3 Minimum and common external constraints applicable to a business transaction often require one to differentiate
75 among three common subtypes of Person, namely "individual", "organization", and "public administration". [ISO/IEC
76 14662:2004]

77 **3.2**

78 **resource**

79 anything that might be identified [RFC 3986, DCMI Abstract Model]

80 NOTE(S) This definition is introduced to achieve full interoperability with ISO 15836:2009 Dublin Core. **Learning**
81 **resource** are a sub-class of resource.

82 4 Symbols and abbreviations

83 The following symbols and abbreviations and acronyms are used in this document.

84	DC	Dublin Core
85	DCAM	Dublin Core Abstract Model
86	DCMI	Dublin Core Metadata Initiative
87	MLR	Metadata for Learning Resources
88	MLRR	Metadata Learning Resource Record
89	URI	Uniform Resource Identifier
90	RDF	Resource Description Framework

91 5 Data element specifications

92 5.1 MLR common properties

93 Subsequent Parts of this Standard will include specific element sets focused on technical, pedagogical and
 94 life cycle management perspective. Within those Parts, such concepts as title, description and identifier will be
 95 used and refined. To insure global semantic interoperability, a cluster of DC elements, defined in this section,
 96 have been identified as common properties.

97 To support proper referencing within MLR applications profiles, a MLR specific identifier is provided along with
 98 the original Dublin Core PURL identifier.

99 5.1.1 Title

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES0100 http://purl.org/dc/elements/1.1/title
Data element attributes	
Name	Title
Definition	name assigned to a resource
Presence type	optional
Linguistic indicator	linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource

Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<title>(金葉和歌集, jap), (Collection of Golden Leaves, eng)</title>
Note(s)	There may be one or more titles associated with a work. Other titles under which the work has appeared may be treated as variant titles for the work.

100 5.1.2 Description

Attribute	Attribute value (string)
Identifier	http://purl.org/dc/elements/1.1/description
MLR Identifier	ISO_IEC_19788-1:2009::DES0200
Name	Description
Definition	statement about the content of a resource, including but not limited to: -abstract, -summary, -narrative and -synopsis
Presence type	optional
Linguistic indicator	linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001
Refines	-

Example(s)	<p>Dieses Java-Applet zeigt ein Auto, das sich mit konstanter Beschleunigung bewegt. Die grüne Schaltfläche enthält Textfelder zum Eintragen von Anfangsposition, Anfangsgeschwindigkeit und Beschleunigung, deu,</p> <p>Tento Java-Applet ukazuje auto, ktoré sa pohybuje s konštantným zrýchlením. Zelená rozvodná plocha obsahuje textové polia na zapísanie počiatkovej pozície, počiatkovej rýchlosti a zrýchlenia ("Enter"-klávesu nezabudnúť!), slv,</p> <p>Acest applet Java ne arata o masina care se misca cu acceleratie constanta. Panoul de comanda verde contine casete de text pentru modificarea valorilor pozitiei initiale, vitezei initiale si a acceleratiei.), ron</p>
Note(s)	

101 **5.1.3 Relation**

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES0300 http://purl.org/dc/elements/1.1/relation
Data element attributes	
Name	Relation
Definition	identification of a resource relationship with another one for tracking purposes
Presence type	optional
Linguistic indicator	non-linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<relation> http://eprints.bath.ac.uk/archive/00000003/01/1097.pdf </relation>

Note(s)	<ul style="list-style-type: none"> • a source of information tracking identical expressions or manifestations of a resource • a source of information identifying the resource as a whole, (e.g., a kit). <p>Since MLR is based on RDF and compatible with semantic web technologies, a information element could be related to anything that have an identifier. Any information element could therefore provide relationships of any kind to any other information element such as collection, version, comment, etc.</p>
---------	---

102 **5.1.4 Date**

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES0400 http://purl.org/dc/elements/1.1/date
Data element attributes	
Name	Date
Definition	a particular calendar point in time, usually expressed by day, month and year NOTE(S) the scope of this definition does not include the use of duration
Presence type	optional
Linguistic indicator	linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0002
Refines	-
Example(s)	<date>1987-02-25</date> <date>spring 2005, eng</date>
Note(s)	<ol style="list-style-type: none"> 1. a date can be associated with an event in the resource life cycle, time rights distribution or coverage 2. date may be used to express temporal information at any level of granularity. Recommended best practice is to use ISO 8601:2004

103 5.1.5 Identifier

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES0500 http://purl.org/dc/elements/1.1/identifier
Data element attributes	
Name	Identifier
Definition	unambiguous and persistent reference to the learning resource or a MLRR
Presence type	optional
Linguistic indicator	non-linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<identifier>ISSN 1918-4239</identifier>
Note(s)	1. recommended practice is to identify the resource by means of a string conforming to a formal identification system. 2. URI identifier can be used for location

104 5.1.6 Language

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES0600 http://purl.org/dc/elements/1.1/language
Data element attributes	
Name	Language
Definition	human language utilized in the resource or by the resource user NOTE(S) the scope of this definition does not include the identification of a language in a metadata string value

Presence type	optional
Linguistic indicator	non-linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<language>fre</language>
Note(s)	ISO 639-2/T and ISO 3166-1:2006 domains are recommended

105 5.2 Other properties

106 This section lists DC elements that have not been identified as candidates for common properties but are
107 nevertheless essentials to achieve MLR DC interoperability.

108 5.2.1 Subject

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES0700 http://purl.org/dc/elements/1.1/subject
Data element attributes	
Name	Subject
Definition	the topic of the content of the resource
Presence type	optional
Linguistic indicator	linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001

Refines	-
Example(s)	<subject>disease</subject>
Note(s)	Typically, the subject will be represented using keywords, key phrases, or classification codes. Recommended best practice is to use a controlled vocabulary. To describe the spatial or temporal topic of the resource, use the Coverage element.

109 **5.2.2 Type**

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES0800 http://purl.org/dc/elements/1.1/type
Data element attributes	
Name	Type
Definition	scope of pedagogical usage
Presence type	optional
Linguistic indicator	non-linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<type>image</type>
Note(s)	The use of ISO_IEC_19788-2:2008::VDES0310, Type (source: DCMI Type Vocabulary) is recommended Recommended best practice is to use a controlled vocabulary such as the DCMI Type Vocabulary [DCMI-TYPE]. To describe the file format, physical medium, or dimensions of the resource, use the Format element.

110 **5.2.3 Source**

Attribute	Attribute value (string)
-----------	--------------------------

Identifier	ISO_IEC_19788-1:2009::DES0900 http://purl.org/dc/elements/1.1/source
Data element attributes	
Name	Source
Definition	identifier for the related work, expression, manifestation, or item reference to a resource from which the present resource is derived
Presence type	optional
Linguistic indicator	non-linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<source>ISBN 978-0262680936</source>
Note(s)	Use of URI, URL, URN, PURL, DOI, ISBN, ISSN, ISAN, ISMN, UUID is recommended; The described resource may be derived from the related resource in whole or in part. Recommended best practice is to identify the related resource by means of a string conforming to a formal identification system.

111 **5.2.4 Coverage**

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES1000 http://purl.org/dc/elements/1.1/coverage
Data element attributes	
Name	Coverage
Definition	chronological or geographic topic of the content of a resource
Presence type	optional

Linguistic indicator	linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<coverage>Vancouver, British Columbia, Canada</coverage> <coverage>Paleolithic Age</coverage>
Note(s)	<ul style="list-style-type: none"> • Spatial topic and spatial applicability may be a named place or a location specified by its geographic coordinates. Temporal topic may be a named period, date, or date range. A jurisdiction may be a named administrative entity or a geographic place to which the resource applies. • Recommended best practice is to use a controlled vocabulary such as the Getty Thesaurus of Geographic Names [TGN]. Where appropriate, named places or time periods can be used in preference to numeric identifiers such as sets of coordinates or date ranges.

112 **5.2.5 Creator**

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES1100 http://purl.org/dc/elements/1.1/creator
Data element attributes	
Name	Creator
Definition	An entity primarily responsible for making the content of the resource
Presence type	optional
Linguistic indicator	linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-

Domain	Person
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<author>Mitchel Resnick</author>
Note(s)	Example(s) of Creator include a person, an organization, or a service. Typically, the name of a Creator should be used to indicate the entity.

113 **5.2.6 Publisher**

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES1200 http://purl.org/dc/elements/1.1/publisher
Data element attributes	
Name	Publisher
Definition	statement of custodian relating to the edition of the resource
Presence type	optional
Linguistic indicator	linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	Person
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<publisher>CCCMD</publisher>
Note(s)	Example(s) of Publisher include a person, an organization, or a service. Typically, the name of a Publisher should be used to identify the entity.

114

115

116 5.2.7 Contributor

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES1300 http://purl.org/dc/terms/contributor
Data element attributes	
Name	Contributor
Definition	An entity responsible for making contributions to the content of the resource
Presence type	optional
Linguistic indicator	linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	Person
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<contributor>Rolf Lindner</contributor>
Note(s)	Example(s)s of a Contributor include a person, an organization, or a service. Typically, the name of a Contributor should be used to indicate the entity.

117 5.2.8 Rights

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES1400 http://purl.org/dc/elements/1.1/rights
Data element attributes	
Name	Rights
Definition	conditions or terms of availability under which the publisher or distributor will supply a resource, including restrictions on access or the price for which a resource sells
Presence type	optional

Linguistic indicator	linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001
Refines	-
Example(s)	<rights>British Museum</rights>
Note(s)	Typically, rights information includes a statement about various property rights associated with the resource, including intellectual property rights.

118 **5.2.9 Format**

Attribute	Attribute value (string)
Identifier	ISO_IEC_19788-1:2009::DES1500 http://purl.org/dc/elements/1.1/format
Data element attributes	
Name	Format
Definition	encoding format, file type or medium of performance
Presence type	optional
Linguistic indicator	non-linguistic
Repeatability indicator	repeatable
Ordered indicator	unordered
Order relation description	-
Domain	LearningResource
Range	literal
Content value rules	PRS0001
Refines	-

Example(s)	<format>video/mpeg</format> <format>text/html</format>
Note(s)	Use of IANA RFC 2048 Internet Media Type is recommended Example(s) of dimensions include size and duration. Recommended best practice is to use a controlled vocabulary such as the list of Internet Media Types [MIME].

119

120 **6 Resource Class**121 **6.1 Learning resource**

Identifier	ISO/IEC 19788-2:2009:RC0001
Name	learning resource
Definition	set of all entities that can be referenced and used for learning, education and training
Subclass of	-
Note	

122 **6.2 Person**

Identifier	ISO/IEC 19788-2:2009:RC0002
Name	person
Definition	set of all Persons, identified by a particular name, that acts as an agent in relation to the production, the referencing or the distribution a resource
Subclass of	-
Note	access information may include name, term, code, etc., under which information pertaining to a specific person or corporate body including country, address, affiliation, profession or occupation note: examples of format used are RDA Corporate Bodies or Persons Core Elements, hCard and vCard the result of Person expression should form a unique identifier

123

124

125 **7 Predefined rule sets**

126 For the purposes of this Part, the following predefined rule sets from ISO/IEC 19788- apply:

- 127 • PRS0001 String
128 • PRS0002 Date

129 **8 Bibliography**

130
131 RDA, Resource Description and Access

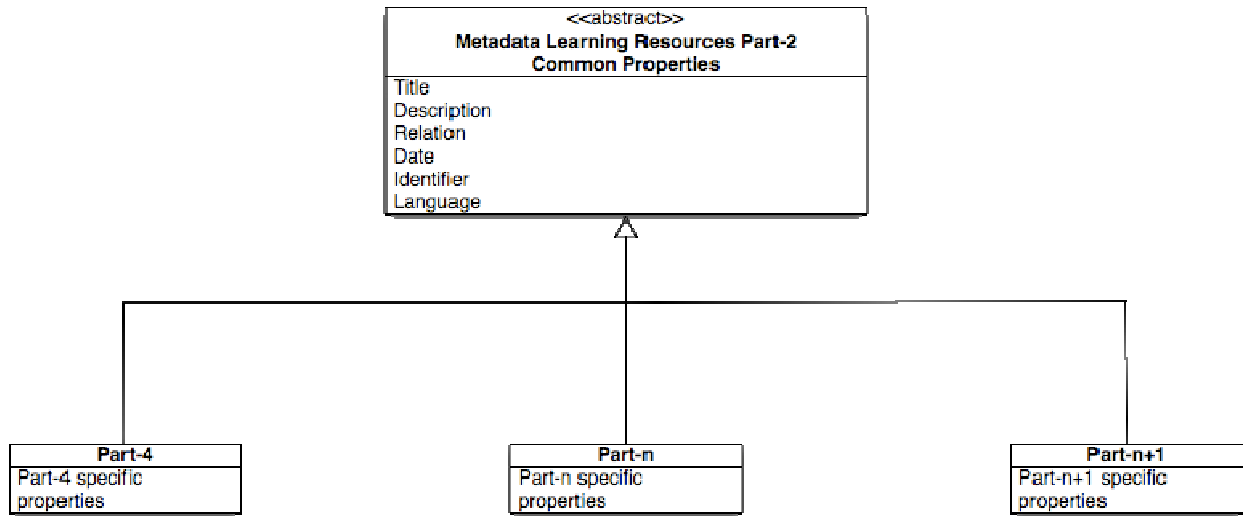
132 RDF, Resource Description Framework

133

134
135 Annex A : Abstract data model for Part 2

136 This abstract data model illustrates how the common properties of MLR Part 2 is inherited by subsequent parts of MLR.

137 The specific properties identified in other Parts of MLR are to be viewed as in addition to the properties specified in this
138 Part.



139