

BDM Data Standard – Learning Opportunity

0.3

03 November 2009

Licence and IPR Statement

Use of Crown copyright material © Crown copyright 2009

The Information Standards Board (ISB) is an internal advisory body to the Department for Children, Schools and Families (DCSF) and the Department for Business, Innovation and Skills (BIS) which are Crown bodies. The information we produce is subject to Crown copyright, which is administered by the Office of Public Sector Information. Unless otherwise stated on individual documents or pages, the following copyright statement applies to material found on this site.

Authorisation to reproduce any information in this standard which is identified as being the copyright of a third party must be obtained from the copyright holders concerned.

Research and private study

The Crown copyright protected information in this standard may be reproduced free of charge in any format or medium in order to carry out research for non-commercial purposes, for private study or for internal circulation within an organisation. This is subject to the material being reproduced accurately and not used in a misleading context. The material must be acknowledged as Crown copyright and you must give the title of the source document/publication.

Licences

Copying Crown copyright protected material for re-use, distribution or publication, requires a licence. You can apply for a Click-Use licence online, by email or by writing to:

Office of Public Sector Information
Information Policy Team
Kew
Richmond
Surrey
TW9 4DU
Email: licensing@opsi.gsi.gov.uk

Document Version History

Version	Status	Date	Modified by	Change description	Section & line Ref	Changed from	Changed to	Effects of change
0.1	Draft	18/09/2009	DFoster	Initial Draft	-	-	-	-
0.2	Draft	30/10/2009	LHogarth	Learning Opportunity split into two parts Definitions Amended Attributes added/moved Qualification Framework Type now linked to Qualification Learning Opportunity recursion structure changes Rules of Combination recursion structure renamed LO Hierarchy type added to identify the recursion type e.g. "rules of combination". Removes the diploma centric naming. and allows for any LO recursion structure to be accommodated.				
0.3	Draft	02/11/2009	TKnowles LHogarth	Definitions Amended Document Map updated to show Side Notes and Appendix replaced with a reference to new document				

Contents

Introduction	2
Data Standard.....	4
Entity relationships	4
Diagram Notation.....	4
Entity and Attribute Naming Standards and Conventions used	4
Entity Definition Model	5
Attribute Model.....	6
Data definitions.....	7
Entity: Learning Opportunity	7
Entity: Learning Opportunity Hierarchy	10
Entity: Learning Opportunity Component.....	11
Entity: LO Prerequisite Qualification	13
Entity: Learning Opportunity Subject	15

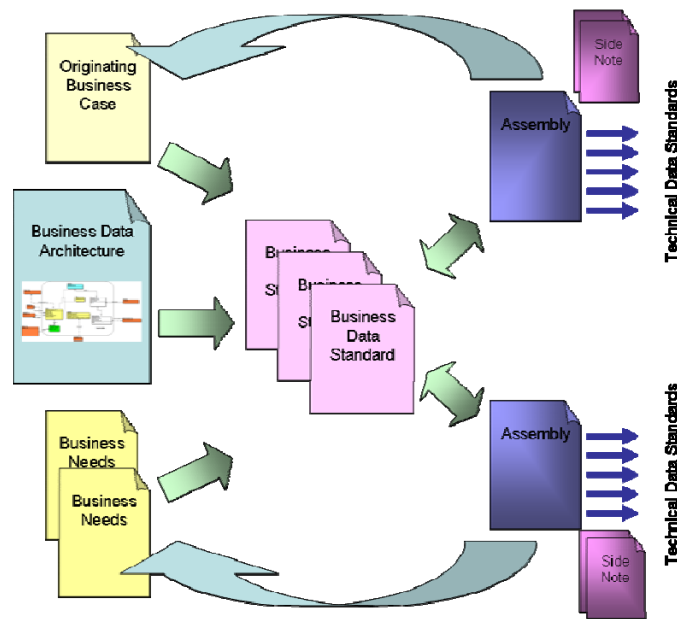
Introduction

This Business Data Standard has been designed to satisfy all Education Skills and Children’s Services (ESCS) business needs to exchange information about learning opportunities.

It describes data that relates to a learning opportunity. A learning opportunity is defined as an offering of a COURSE or SUBJECT or other educational opportunity provided by a LEARNING OPPORTUNITY PROVIDER.

A Business Data Standard is defined in response to a business need captured in a Business Case. In development, every effort is made to ensure that the Business Data Standard is capable to support all ESCS business needs for the same data. The Business Case may in fact give rise to a number of Business Data Standards, and the way that the standards are associated to meet the originating business need is shown via an “Assembly” document. Each Assembly may in addition need some guidance regarding Data Quality issues and implementation issues and these are contained in “Side Notes”.

The related documents are shown in the following diagram:



Many ESCS ICT systems will need to define Technical Data Standards that specify an encoding schema for data exchange and may include implementation-specific details. Such Technical Data Standards may conform to this and other ESCS ISB Business Data Standards. Those that do conform can be assured that their data will be interchangeable with any other conformant systems. A Technical Data Standard may indicate that within the scope of its use one or more attributes are Mandatory.

This Business Data Standard shows how information relating to Learning Opportunities (advertising and presentation aspects of courses of study,

apprenticeships, diplomas etc) shall be structured into entities and relationships according to the ESCS Business Data Architecture and enumerates and defines each information attribute in terms of:

- The relationships between entities in this standard and further entities defined in other standards
- The semantics, or meaning, of each entity and each attribute
- The data type, field length and construction rules for each attribute in an encoding-independent manner.
- Where the value of an attribute is to be defined by a list of permitted values (a “code list”), a reference to the relevant code list standard
- Where the standard relates to information defined by a standard from an external organisation (ISO, BSI, CEN etc) then this will also be noted.
- Any business rules (e.g. mandatory status) that are true for every business use of the standard.

Many ESCS ICT systems will need to define Technical Data Standards that specify an encoding schema for data exchange and may include implementation-specific details. Such Technical Data Standards may conform to this and other ESCS ISB Business Data Standards. Those that do conform can be assured that their data will be interchangeable with any other conformant systems. A Technical Data Standard may indicate that within the scope of its use one or more attributes are Mandatory.

Data Standard

Entity relationships

The following diagrams shows the entities covered in this standard and their relationships to each other. The diagrams are:

- Entity Definition Model – A high level diagram extracted from the ESCS Business Data Architecture showing just the entities, their descriptions and the relationships between the entities.
- Attribute Model – A lower level diagram also extracted from the ESCS Business Data Architecture showing the entities and the names of their attributes. Entities are divided into two sections. The top section contains only attributes that form the primary key of the entity and the remaining attributes are in the bottom section.

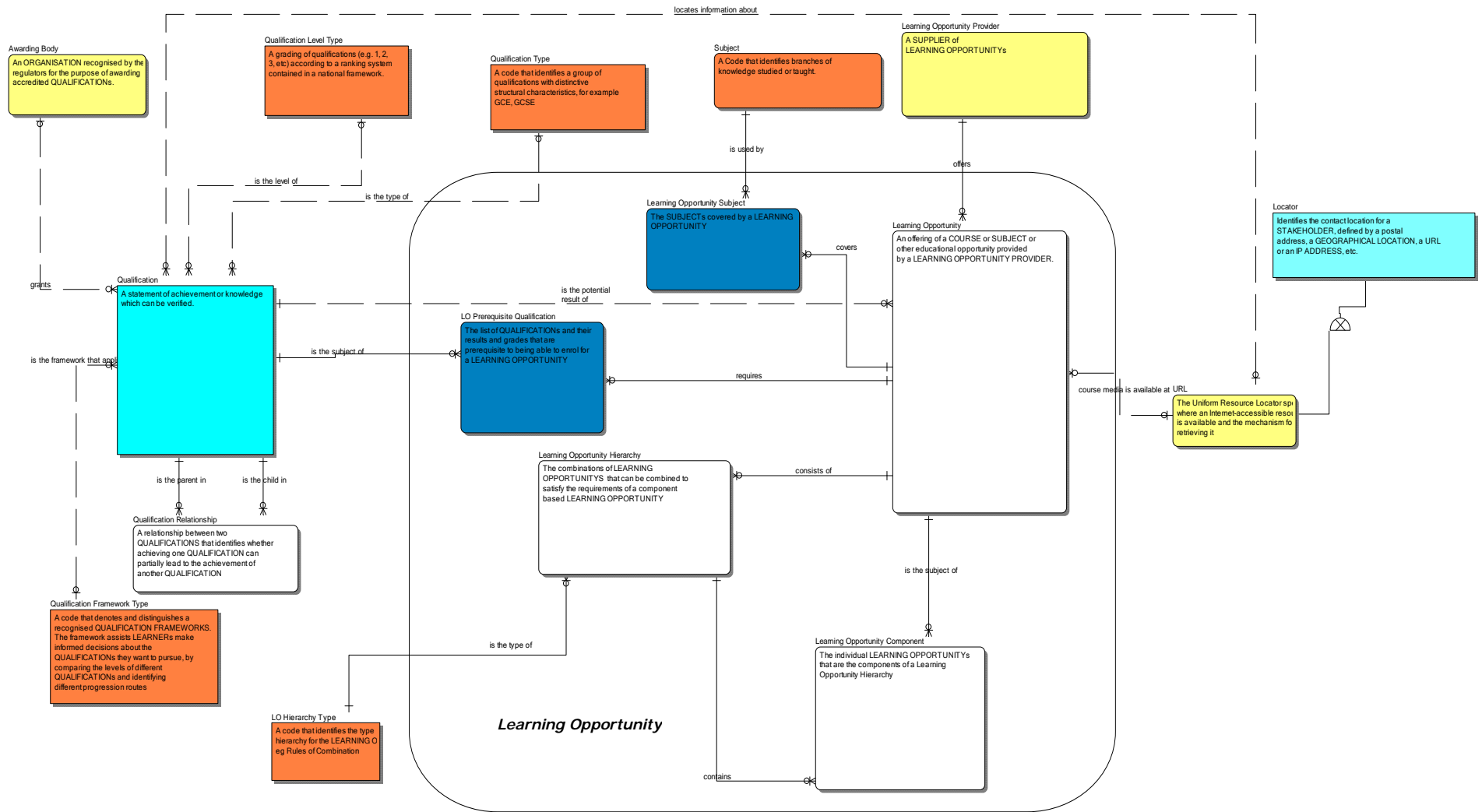
Diagram Notation

The notation used follows the Business Data Architecture Document notation (refer to ESCS Business Data Architecture document for further details). Only those entities within the boundary square are to be part of the particular data standard. Those entities outside of the boundary square are for context purposes only, or are separate reference data (orange coloured entities)

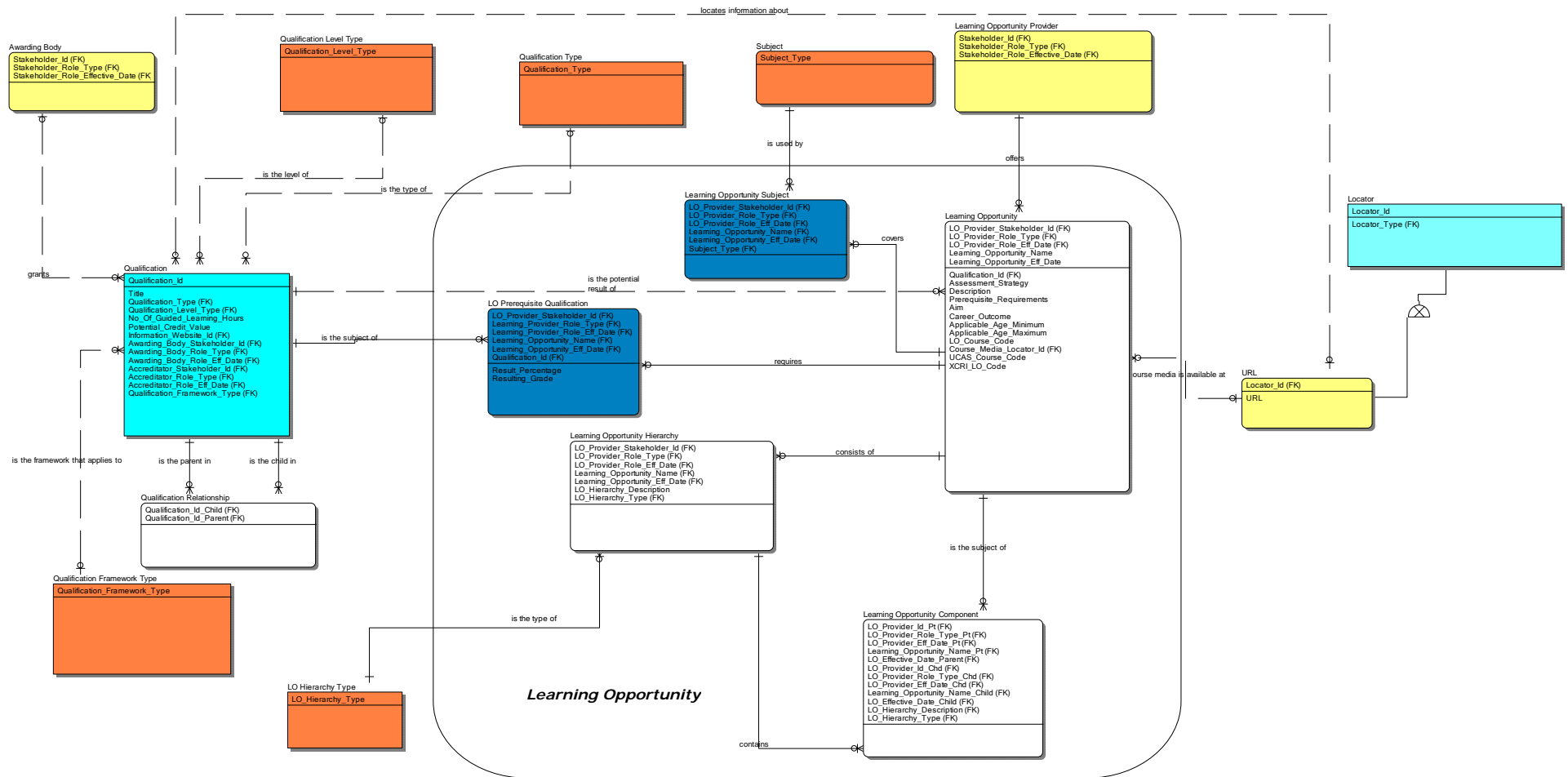
Entity and Attribute Naming Standards and Conventions used

The standards for Business Data Architecture naming and conventions used for this development is Business Data Architecture Naming Standards and Conventions Vs 1.2 by Steve Palmer.

Entity Definition Model



Attribute Model



Data definitions

The following section further describes the entities and their attributes covered in this standard.

PK = Primary Key Attribute

FK =Foreign Key Attribute

M = Mandatory Attribute

NOTE: Data Types are defined according to the conventions set out in the document “BDM Data Standard – Data Type Expressions”

Entity: Learning Opportunity

An offering of a COURSE or SUBJECT or other educational opportunity provided by a LEARNING OPPORTUNITY PROVIDER.

Attribute Name	Attribute Definition	P K	F K	M	Datatype	Parent Entity	Parent Attribute	Code List
LO_Provider_Stakeholder_Id	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String (1, 32)	Stakeholder Role	Stakeholder_Id	
LO_Provider_Role_Type	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String (1, 50)	Stakeholder Role	Stakeholder_Role_Type	

LO_Provider_Role_Eff_Date	The date at which the specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. Becomes effective. This attribute may appear prefixed with the role that is currently being undertaken. In this event the start date is that of the specifically named role	Y	Y	Y	Simple_Date_Time	Stakeholder Role	Stakeholder_Role_Eff_Date	
Learning_Opportunity_Name	A value that denotes the LEARNING OPPORTUNITY	Y	N	Y	Simple_String (1, 255)			
Learning_Opportunity_Eff_Date	The date and time from which the LEARNING OPPORTUNITY is offered to LEARNERS.	Y	N	Y	Simple_Date_Time			
Qualification_Id	A value that denotes and uniquely distinguishes in combination with the awarding stakeholder. Currently this is expected to be the QCA's QAN number	N	Y	Y	Simple_String(1,50)	Qualification	Qualification_Id	
Assessment_Strategy	The approach to implementation of an assessment, where an assessment may be formative or summative.	N	N	N	Simple_String (1, 2000)			
Description	The description of the LEARNING OPPORTUNITY in advertising terms.	N	N	N	Simple_String (1, 2000)			
Prerequisite_Requirements	A description of conditions that a Learner must meet before being enrolled on a LEARNING OPPORTUNITY	N	N	N	Simple_String (1, 2000)			
Aim	A narrative description of THE LEARNING OPPORTUNITY objectives and benefits	N	N	N	Simple_String (1, 255)			

Career_Outcome	A narrative list of potential career path choices associated with studying this LEARNING OPPORTUNITY.	N	N	N	Simple_String(1, 255)			
Applicable_Age_Minimum	The lowest age at which Learners can benefit from the LEARNING OPPORTUNITY	N	N	N	Simple_Integer(1,2)			
Applicable_Age_Maximum	The greatest age at which Learners can benefit from the LEARNING OPPORTUNITY	N	N	N	Simple_Integer(1,2)			
LO_Course_Code	The Learning Provider Course Code	N	N	N	Simple_String(1,50)			
Course_Media_Locator_Id	A value that denotes and distinguishes the LOCATOR.	N	Y	N	Simple_String(1,36)	Locator	Locator_Id	
UCAS_Course_Code	Simple_String(1,50)	N	N	N	The UCAS course code for this LEARNING OPPORTUNITY			
XCRI_LO_Code	The XCRI Code that identifies this LEARNING OPPORTUNITY	N	N	N	Simple_String(1,300)			

Entity: Learning Opportunity Hierarchy

The combinations of LEARNING OPPORTUNITYS that can be combined to satisfy the requirements of a component based LEARNING OPPORTUNITY

Attribute Name	Attribute Definition	P K	F K	M	Datatype	Parent Entity	Parent Attribute	Code List
LO_Provider_Stakeholder_Id	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String (1, 32)	Learning Opportunity	LO_Provider_Stakeholder_Id	
LO_Provider_Role_Type	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String (1, 50)	Learning Opportunity	LO_Provider_Role_Type	
LO_Provider_Role_Eff_Date	The date at which the specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. Becomes effective. This attribute may appear prefixed with the role that is currently being undertaken. In this event the start date is that of the specifically named role	Y	Y	Y	Simple_Date_Ti me	Learning Opportunity	LO_Provider_Role_Eff_Dat e	
Learning_Opportunity_Name	A value that denotes the LEARNING OPPORTUNITY	Y	Y	Y	Simple_String (1, 255)	Learning Opportunity	Learning_Op portunity_Na me	

Learning_Opportunity_Eff_Date	The date and time from which the LEARNING OPPORTUNITY is offered to LEARNERS.	Y	Y	Y	Simple_Date_Time	Learning Opportunity	Learning_Opportunity_Eff_Date	
LO_Hierarchy_Description	A description that identifies the reason for the hierarchy and separates different hierarchy's for the for the same LEARNING OPPORTUNITY.	Y	N	Y	Simple_Integer (1, 9999)			
LO_Hierarchy_Type	A code that identifies the type of hierarchy for the LEARNING OPPORTUNITY eg Rules of Combination	Y	Y	Y	Simple_String(1,50)			CL_LO_Hierarchy_Type

Entity: Learning Opportunity Component

The individual LEARNING OPPORTUNITYs that are the components of a Learning Opportunity Hierarchy

Attribute Name	Attribute Definition	P K	F K	M	Datatype	Parent Entity	Parent Attribute	Code List
LO_Provider_Id_Pt	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String (1, 32)	Learning Opportunity Hierarchy	LO_Provider_Stakeholder_Id	
LO_Provider_Role_Type_Pt	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String (1, 50)	Learning Opportunity Hierarchy	LO_Provider_Role_Type	

LO_Provider_Eff_Date_Pt	The date at which the specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. Becomes effective. This attribute may appear prefixed with the role that is currently being undertaken. In this event the start date is that of the specifically named role	Y	Y	Y	Simple_Date_Time	Learning Opportunity Hierarchy	LO_Provider_Role_Eff_Date	
Learning_Opportunity_Name_Pt	A value that denotes the LEARNING OPPORTUNITY	Y	Y	Y	Simple_String (1, 255)	Learning Opportunity Hierarchy	Learning_Opportunity_Name	
LO_Effective_Date_Parent	The date and time from which the LEARNING OPPORTUNITY is offered to LEARNERS.	Y	Y	Y	Simple_Date_Time	Learning Opportunity Hierarchy	Learning_Opportunity_Eff_Date	
LO_Provider_Id_Chld	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String (1, 32)	Learning Opportunity	LO_Provider_Stakeholder_Id	
LO_Provider_Role_Type_Chld	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String (1, 50)	Learning Opportunity	LO_Provider_Role_Type	

LO_Provider_Eff_Date_Chld	The date at which the specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. Becomes effective. This attribute may appear prefixed with the role that is currently being undertaken. In this event the start date is that of the specifically named role	Y	Y	Y	Simple_Date_Time	Learning Opportunity	LO_Provider_Role_Eff_Date	
Learning_Opportunity_Name_Child	The name or topic of the LEARNING OPPORTUNITY	Y	Y	Y	Simple_String (1, 255)	Learning Opportunity	Learning_Opportunity_Name	
LO_Effective_Date_Child	The date and time from which the LEARNING OPPORTUNITY is offered to LEARNERS.	Y	Y	Y	Simple_Date_Time	Learning Opportunity	LO_Effective_Date	
LO_Hierarchy_Description	A simple integer that separates different rules of combinations for the same LEARNING OPPORTUNITY.	Y	Y	Y	Simple_Integer (1, 9999)	Learning Opportunity Hierarchy	LO_Hierarchy_Description	
LO_Hierarchy_Type	A code that identifies the type of hierarchy for the LEARNING OPPORTUNITY eg Rules of Combination	Y	Y	Y	Simple_String(1,50)	Learning Opportunity Hierarchy	LO_Hierarchy_Type	

Entity: LO Prerequisite Qualification

The list of QUALIFICATIONS and their results and grades that are prerequisite to being able to enrol for a LEARNING OPPORTUNITY

Attribute Name	Attribute Definition	P K	F K	M	Datatype	Parent Entity	Parent Attribute	Code List
----------------	----------------------	--------	--------	---	----------	---------------	------------------	-----------

LO_Provider_Stakeholder_Id	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String (1, 32)	Learning Opportunity	LO_Provider_Stakeholder_Id	
Learning_Provider_Role_Type	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String (1, 50)	Learning Opportunity	Learning_Provider_Role_Type	
Learning_Provider_Role_Eff_Date	The date at which the specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. Becomes effective. This attribute may appear prefixed with the role that is currently being undertaken. In this event the start date is that of the specifically named role	Y	Y	Y	Simple_Date_Time	Learning Opportunity	Learning_Provider_Role_Eff_Date	
Learning_Opportunity_Name	A value that denotes the LEARNING OPPORTUNITY	Y	Y	Y	Simple_String (1, 255)	Learning Opportunity	Learning_Opportunity_Name	
Learning_Opportunity_Eff_Date	The date and time from which the LEARNING OPPORTUNITY is offered to LEARNERS.	Y	Y	Y	Simple_Date_Time	Learning Opportunity	Learning_Opportunity_Eff_Date	
Qualification_Id	A value that denotes and uniquely distinguishes in combination with the awarding stakeholder. Currently this is expected to be the QCA's QAN number	Y	Y	Y	Simple_String(1,50)	Qualification	Qualification_Id	

Result_Percentage	The required minimum result of an AWARD ASSESSMENT as a percentage to be able to ENROL for the LEARNING OPPORTUNITY	N	N	N	Simple_Integer(1,3)			
Resulting_Grade	The required minimum grade awarded to be able to ENROL for the LEARNING OPPORTUNITY	N	N	N	Simple_String(1,10)			

Entity: Learning Opportunity Subject

The SUBJECTs covered by a LEARNING OPPORTUNITY

Attribute Name	Attribute Definition	P K	F K	M	Datatype	Parent Entity	Parent Attribute	Code List
LO_Provider_Stakeholder_Id	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String(1, 32)	Learning Opportunity	LO_Provider_Stakeholder_Id	
LO_Provider_Role_Type	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String(1, 50)	Learning Opportunity	LO_Provider_Role_Type	

LO_Provider_Role_Eff_Date	The date at which the specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. Becomes effective. This attribute may appear prefixed with the role that is currently being undertaken. In this event the start date is that of the specifically named role	Y	Y	Y	Simple_Date_Time	Learning Opportunity	LO_Provider_Role_Eff_Date	
Learning_Opportunity_Name	A value that denotes the LEARNING OPPORTUNITY	Y	Y	Y	Simple_String (1, 255)	Learning Opportunity	Learning_Opportunity_Name	
Learning_Opportunity_Eff_Date	The date and time from which the LEARNING OPPORTUNITY is offered to LEARNERS.	Y	Y	Y	Simple_Date_Time	Learning Opportunity	Learning_Opportunity_Eff_Date	
Subject_Type	A Code list that contains a list of branches of knowledge studied or taught.	Y	Y	Y	Simple_String(1,100)			CL_Subject_Type