ACQF
African Continental Qualifications Framework

Theme 6
Qualifications and Credentials Platform (QCP) – Training on QCP concepts and tools

Forum of the institutions of National Qualifications Frameworks

18 – 20 June 2024

Context

In parallel to the technical development of the Qualifications and Credentials Platform (QCP), we will conduct a **training programme** for stakeholders involved in managing and using qualifications databases

Means

- Training activities (such as during this meeting)
- Training material for self-paced learning

Aim

- Addressing foundational knowledge and providing hands-on support to ensure successful adaptation and usage of the QCP
- Several major themes identified until the end of 2024

Context

Major themes

Technical Aspects

- Using the QCP, navigating UI, accessing/querying databases

- Data entry, validation, and management

Interoperability Concepts

- Standards and protocols (e.g., Linked Data, ISCED) for data exchange

Data Governance and Security

- Data governance principles, ownership, privacy, security

- Compliance with data protection regulations

Quality Assurance and Validation

- Processes for validating and verifying qualifications data

Capacity Development

- Building capacity for managing/updating national databases

- Aligning national data with international standards.

Policy and Strategic Alignment

- Policy frameworks and strategic initiatives in the African context

Qualifications and Credentials Platform (QCP) – Training on QCP concepts and tools

Objective of today's training

Understand qualifications databases and their implementation in the context of ACQF and the QCP

Agenda

1. Purposes and Users of Qualification Databases
2. Role of Qualification Databases in International Context
3. Mapping and Standardising Qualifications Data
4. Integrating Learning Outcomes into Qualifications Databases
5. Structured Data , Data Standards and Interoperability
6. Introduction to the ACQF Data Model

Purposes and Users of Qualification Databases

Purpose

- Central repository for storing and managing qualification information
- Facilitates recognition and comparison of qualifications
- Supports educational and workforce planning

Functions

- Storing qualifications data
- Providing access to reliable and up-to-date information
- Enabling data analysis for policy making

Purposes and Users of Qualification Databases

Benefits

- Easy access to **reliable and up-to-date information** for learners, employers, and policymakers

- Streamlines the process of **verifying and validating** qualifications

- Enables **data-driven decision-making** through comprehensive data analytics

- Supports the **mobility** of learners and professionals by providing transparent and comparable qualifications data

- Enhances the integration of national qualifications frameworks **with regional and international standards**

National Qualifications Database (QDB) Models

Understanding the Evolution and Benefits of QDB Models

**Model A:
Paper Listings**

Traditional method involving physical documents and paper listings of qualifications.

Pros: Simple to maintain for small-scale needs

Cons: Difficult to update, limited accessibility, and prone to errors

**Model B:
Repositories of Information on Qualifications**

Online repositories containing PDFs and static documents accessible through a website.

Pros: More accessible than paper listings, easier to update

Cons: Limited searchability, no interoperability, and static information

**Model C:
Searchable Qualifications Databases**

Databases that allow users to search for qualifications using various criteria.

Pros: Improved accessibility and searchability, dynamic updates

Cons: Requires more resources to develop and maintain, limited interoperability

**Model D:
Interoperable Open Data QDB**

Advanced databases using open data standards and ensuring interoperability with other systems.

Pros: High accessibility, real-time updates, supports data exchange and integration

Cons: Requires significant investment and technical expertise to implement and maintain

Purposes and Users of Qualification Databases

User groups

1. **General Public (Job Seekers and Learners)** - Find and verify qualifications for educational and career planning.

2. **Employers and Industry** - Verify the credentials of potential employees and ensure they meet industry standards.

3. **Education Institutions (e.g. Schools and Universities)** - Design curriculum and align educational programs with industry standards.

4. **Administrators** - Manage and update national qualifications databases and QCP.

5. **Policy-Makers and Governance Bodies/Agencies** - Develop and implement educational policies based on reliable qualifications data.

6. **Quality Assurance and Accreditation Agencies** - Ensure qualifications meet established standards and maintain quality assurance.

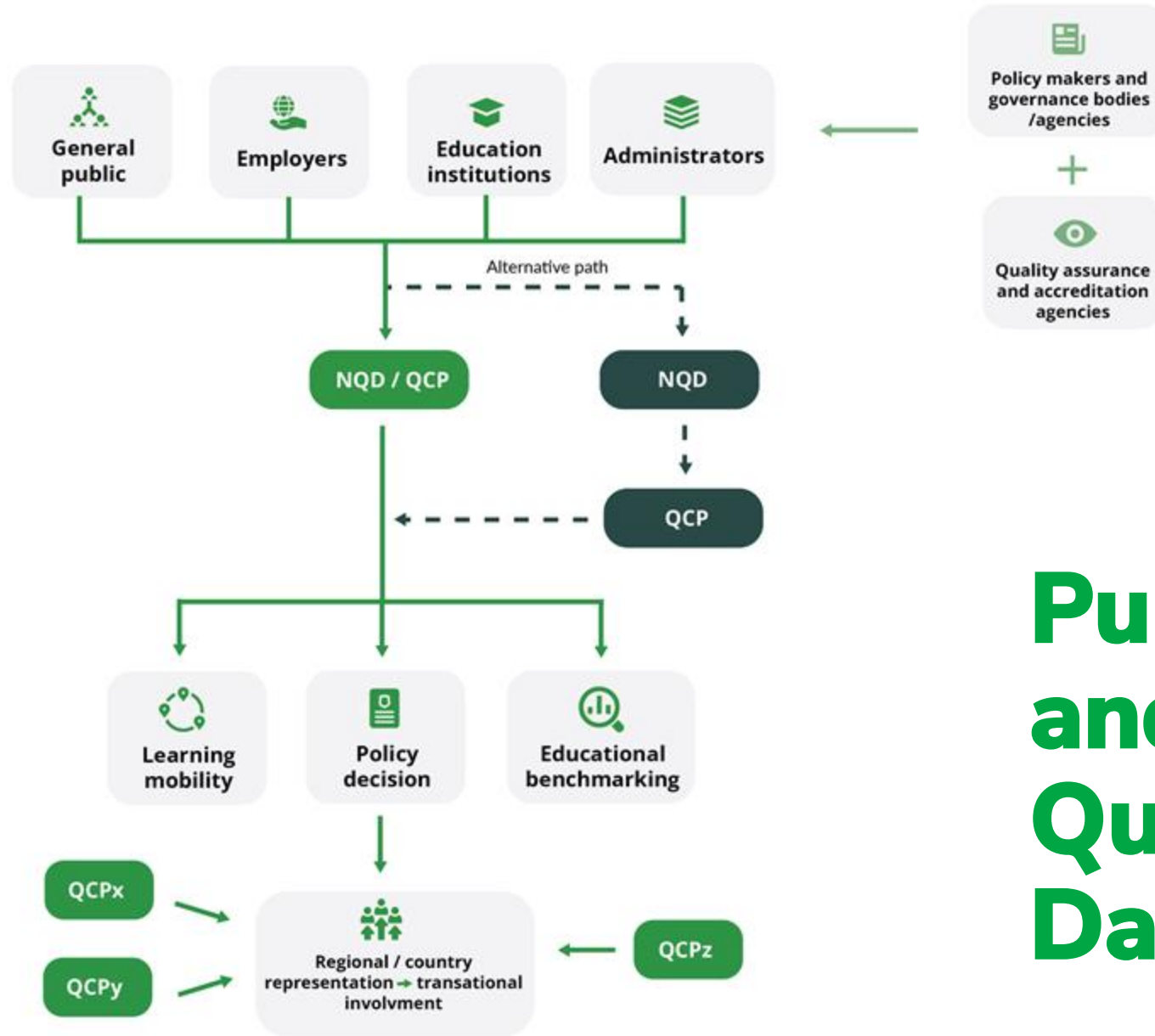# Purposes and Users of Qualification Databases

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Purposes and Users of Qualification Databases

Role of Qualifications Databases in the International Context

Importance in International Context

- Facilitates cross-border recognition of qualifications

- Enhances mobility of students and professionals

- Information-sharing real time - comparability, transparency, harmonisation

- Supports international collaboration,

Case Studies

- Referencing of NQFs to RQFs / ACQF

- Use of RQF / ACQF levels on newly issued qualifications (upon referencing)

- Recognition of qualifications within the African Union

- Cross-border education programmes and learning & labour mobility

Mapping and Standardising Qualifications **Data**

Steps

- Identify and list all existing qualifications
- Categorise qualifications by level, field, and awarding body
- Use tools like surveys, databases, and official records

Tools and Techniques

- National education databases
- Collaboration with educational institutions and accreditation bodies

Mapping and Standardising Qualifications Data

Establishing Minimum Data Fields

- Ensures consistency and completeness of data

- Facilitates interoperability and data exchange

HOW IN 5 STEPS

Mapping and Standardising Qualifications Data

Example

Field Name	Description	Example
Qualification Title	The official name of the qualification	Bachelor's Degree in Engineering
Qualification Level	The level of the qualification	QF Level 6
Field of Study	The specific area or discipline of the qualification	Mechanical Engineering
Awarding Body	Institution that issues the qualification	University of Nairobi
Date of Award	The date when the qualification was awarded	June 2020
Learning Outcomes	Skills and competencies gained	Ability to design mechanical systems
Duration	The time taken to complete the qualification	4 years
Credits	The credit value of the qualification	240 ECTS
Mode of Study	The mode in which the qualification was delivered	Full-time, Part-time, Online
Others	Any other relevant information	Accreditation details, Language of instruction

Mapping and Standardising Qualifications Data

Step1 - Understand the Education Ecosystem Needs

Engage Stakeholders:

- Conduct workshops and meetings with educators, institutions, employers, and policymakers.

- Collect feedback on essential data needs for curriculum development, workforce planning, and policy making

Assess Current Systems:

- Review existing databases and data collection practices.

- Identify gaps and areas for improvement.

Mapping and Standardising Qualifications Data

Step2 - Define Core Qualification Fields

Example

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Mapping and Standardising Qualifications Data

Step 3 – Align with International Standards

- Use the **African Continental Qualifications Framework (ACQF)** to ensure compatibility

- Implement best practices from international bodies such as UNESCO, OECD, and ISO

- Standardise Data Formats

  - Use standardised formats like XML, JSON, or CSV to facilitate data exchange and interoperability

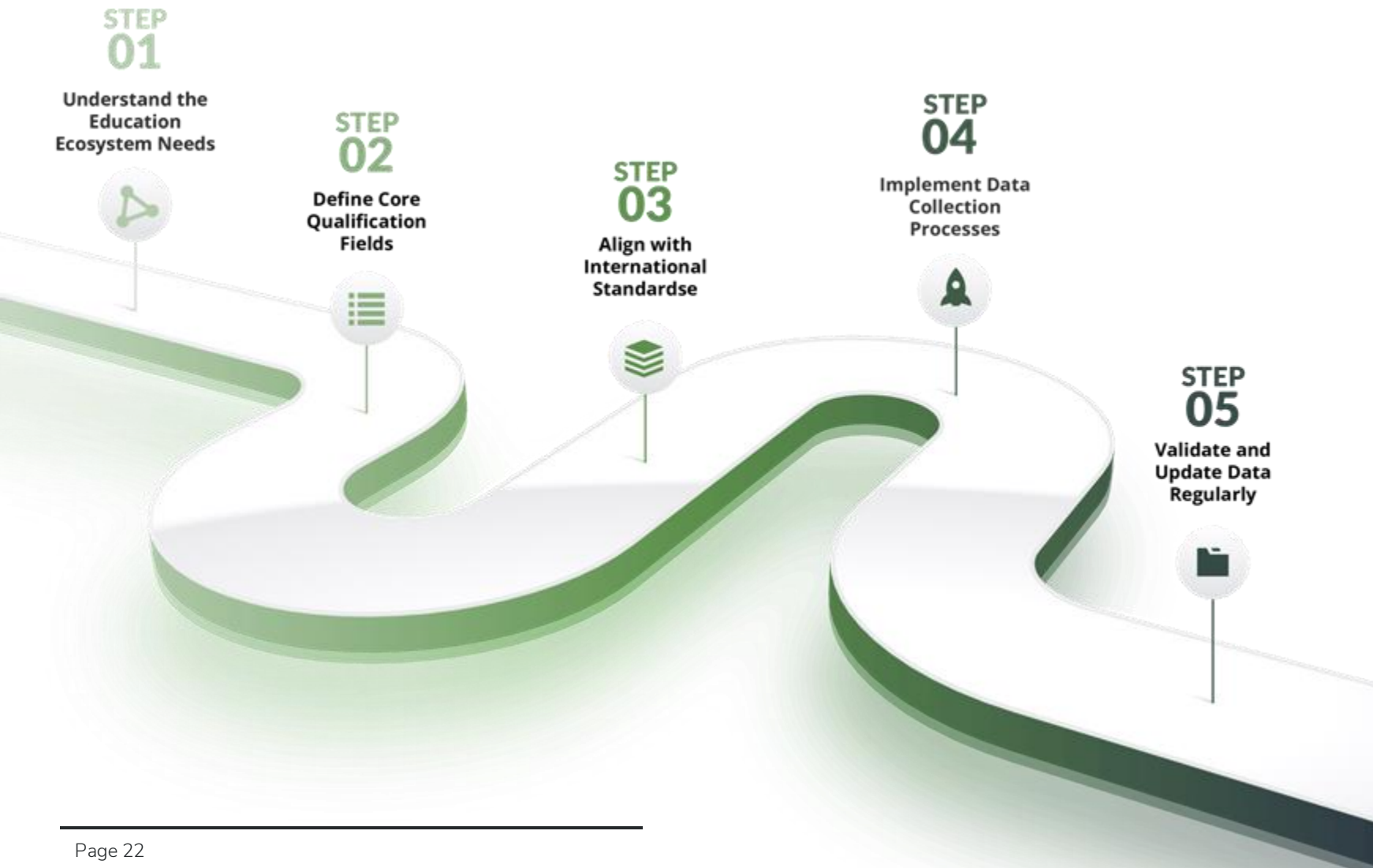# Mapping and Standardising Qualifications Data

Step 4 – Implement Data Collection Processes

- Create standardised templates for data collection

- Ensure all educational institutions use these templates to maintain consistency

- Train Data Collectors

- Establish Data Governance:

  - Set up governance structures to oversee data collection, validation, and management

  - Ensure compliance with data protection laws and standards

Mapping and Standardising Qualifications Data

Step 5 – Validate and Update Data Regularly

- Conduct Regular Audits:
  - Perform periodic audits to verify data accuracy and integrity

- Update Data Fields:
  - Regularly update data fields to reflect changes in qualifications, standards, and requirements

ACQF

STEP
01
Understand the Education Ecosystem Needs

STEP
02
Define Core Qualification Fields

STEP
03
Align with International Standardse

STEP
04
Implement Data Collection Processes

STEP
05
Validate and Update Data Regularly

Mapping and Standardising Qualifications Data

Integrating Learning Outcomes into Qualifications Databases

Importance of Learning Outcomes

Learning Outcomes Definition: Statements describing what learners are expected to know, do and value upon completion of a programme

- Provides clear expectations and standards for learners

- Facilitates recognition and comparison of qualifications

- Enhances transparency and accountability

Integrating Learning Outcomes into Qualifications Databases

Steps to Integrate Learning Outcomes

1. Identify Relevant Learning Outcomes
2. Standardise Learning Outcomes Descriptions
3. Embed Learning Outcomes in Qualification Descriptions
4. Use Competency Frameworks
5. Implement Quality Assurance Mechanisms

Integrating Learning Outcomes into Qualifications Databases

Tools and Techniques for Integrating Learning Outcomes

- Use **tools** designed for managing qualifications and learning outcomes to ensure effective integration and retrieval

- Create and distribute **templates and guidelines** for documenting learning outcomes consistently

- Offer **training programmes** and workshops for stakeholders on developing and integrating learning outcomes

- **Involve** educators, industry representatives, and learners in the development and review process of learning outcomes

- **Map learning outcomes** to established competency frameworks to ensure they meet national and international standards

Crafting Learning Outcomes

Example Learning Opportunity Description:

- **Course Topic:** Introduction to Data Analysis
- **Course description:** This course will provide students with fundamental skills in data analysis, including data collection, cleaning, visualisation, and interpretation. Students will learn how to use statistical software to manage and analyse data sets, create visual representations of data, and interpret results to make informed decisions.

Example learning outcome:
By the end of this course, students will be able to create visual representations of data with the use of statistical software demonstrating accuracy and clarity as measured by the ability to correctly interpret and explain the visualized data in a project presentation.

Crafting Learning Outcomes

Learning Outcome Structure:

- **Audience:** Who is achieving the outcome.
- **Behaviour:** The outcome, which should start with an action verb
- **Context or conditions:** The context of, or the condition under which the knowledge or skills will be applied.
- **Criterion for acceptable performance:** The standards that the learner should meet to achieve the outcome.

By the end of this course, **students** will be able to **create visual representations of data with the use of statistical software demonstrating accuracy and clarity as measured by the ability to correctly interpret and explain the visualized data in a project presentation.**

Crafting Learning Outcomes

Audience activity:

Structure a Learning Outcome for the following learning opportunity

Course Topic: Environmental Science

Description: In this course, students will learn the principles of environmental science, including ecosystem dynamics, natural resource management, and environmental policy. They will engage in fieldwork where they will apply different methods for collecting samples and data, analyse the collected environmental data using basic software tools, and develop strategies for sustainable resource management.

Read the course description and structure at least one learning outcome, completing the sentence:
"By the end of the course, students should be able to ..."

Crafting Learning Outcomes

Audience activity:

Structure a Learning Outcome for the following learning opportunity

Possible response:

"By the end of the course, students should be able to apply appropriate methods for collecting samples and data during field work in different environmental contexts, providing clear and well-supported reasons for their choices, and demonstrating adherence to best practices, including correct use of equipment and safety protocols. "

Structured Data and Data Standards

Understanding <u>Structured</u> Data

Definition

Data that is organised in a fixed, predefined format or schema, making it easily viewable, sortable and searchable.

Examples

Databases, spreadsheets (.xls, Google Sheets), XML files, CSV files

Structured Data and Data Standards

Benefits and Importance of Structured Data

Consistency and reliability:

- Structured data ensures data is consistent and reliable across the database, and reduces errors in data handling.
- **Example:** all entries in a "date" field will follow the same date format (YYYY-MM-DD), reducing discrepancies.

Efficient storage & retrieval:

- The consistent format allows databases to store information in an efficient way ⮕ through indexes it also reduced the amount of data examined during a search operation ⮕ speeds up data retrieval.

Structured Data and Data Standards

Benefits and Importance of Structured Data

Enhanced data analysis & visualisation:

- The organised and consistent format, with defined data types and relationships, makes it easier to apply analytical tools and techniques.

- The predictability and integrity of structured data help visualisation tools to easily generate meaningful and interactive visualizations such as charts, graphs, and dashboards, helping to uncover patterns, trends, and insights that drive informed decision-making.

Structured Data and Data Standards

Understanding Data Standards

Definition

Agreed-upon conventions and guidelines for formatting and handling data.

Examples

XML, JSON, CEDS (Common Education Data Standards), SWIFT, SCORM...

Structured Data and Data Standards

Benefits and Importance of Data Standards

Interoperability: Different systems and applications can understand and use data in a consistent way, which facilitates better data exchange, integration, and communication across different platforms, organisations and systems.

Consistency and Accuracy: Standardised data formats and definitions ensure that data is captured, stored, and processed uniformly, which reduces eros in data.

Data Quality and Integrity: Standards provide guidelines for data validation, ensuring data meets defined criteria.

Structured Data and Data Standards

Data Standards in Education

- Many US states use **CEDS (Common Education Data Standards)** to align their data systems, enabling consistent data reporting to federal agencies.

- **SCORM (Sharable Content Object Reference Model),** is a set of technical standards used in e-learning software products, which tells programmers how to write their code so that it works with other e-learning software.

- **ISCED 2011**, a UNESCO maintained standard, describes educational levels which can be attained by learners.

- **ISCED-F 2013**, a UNESCO maintained standard defining subject matters so that education elements can be compared.

- **MLO (Metadata for Learning Objects - Advertising),** a European Standard specifying the characteristics of electronic representation of Learning Opportunities, to make it easier for prospective learners to find them.

- **EuroLMAI (European Learner Mobility - Achievement information),** a EU standard specifying the model for recording and exchange of achievement information between student management information systems.

Introduction to the ACQF Data Model

The ACQF Data Model (ALM) is developed in line with the international best practices and principles, as discussed above. In short, the data model considers:

- Centralised management of identifiers: consistent data referencing across the countries of the continent

- Common data exchange format

- Common data specification: constrained and uniform language; structural requirements

- Interoperability between models: alignment with international standards, existing LMs - ALM

International standards

The data model observes various international standards to ensure seamless exchange and recognition of educational achievements across borders.

- Standardised metadata (Dublin Core - DCMI)

- Widely used elements of existing LMs (e.g. credit system, QF)

- Standards for describing individuals/entities and their relationships (Friend of a Friend ontology)

- System for representing knowledge organisation systems i.e. hierarchical taxonomies such as qualifications frameworks (Simple Knowledge Organisation Systems - SKOS)

Classes and properties of the data model

Simplified view of the core elements and their relationships within the ACQF Data Model
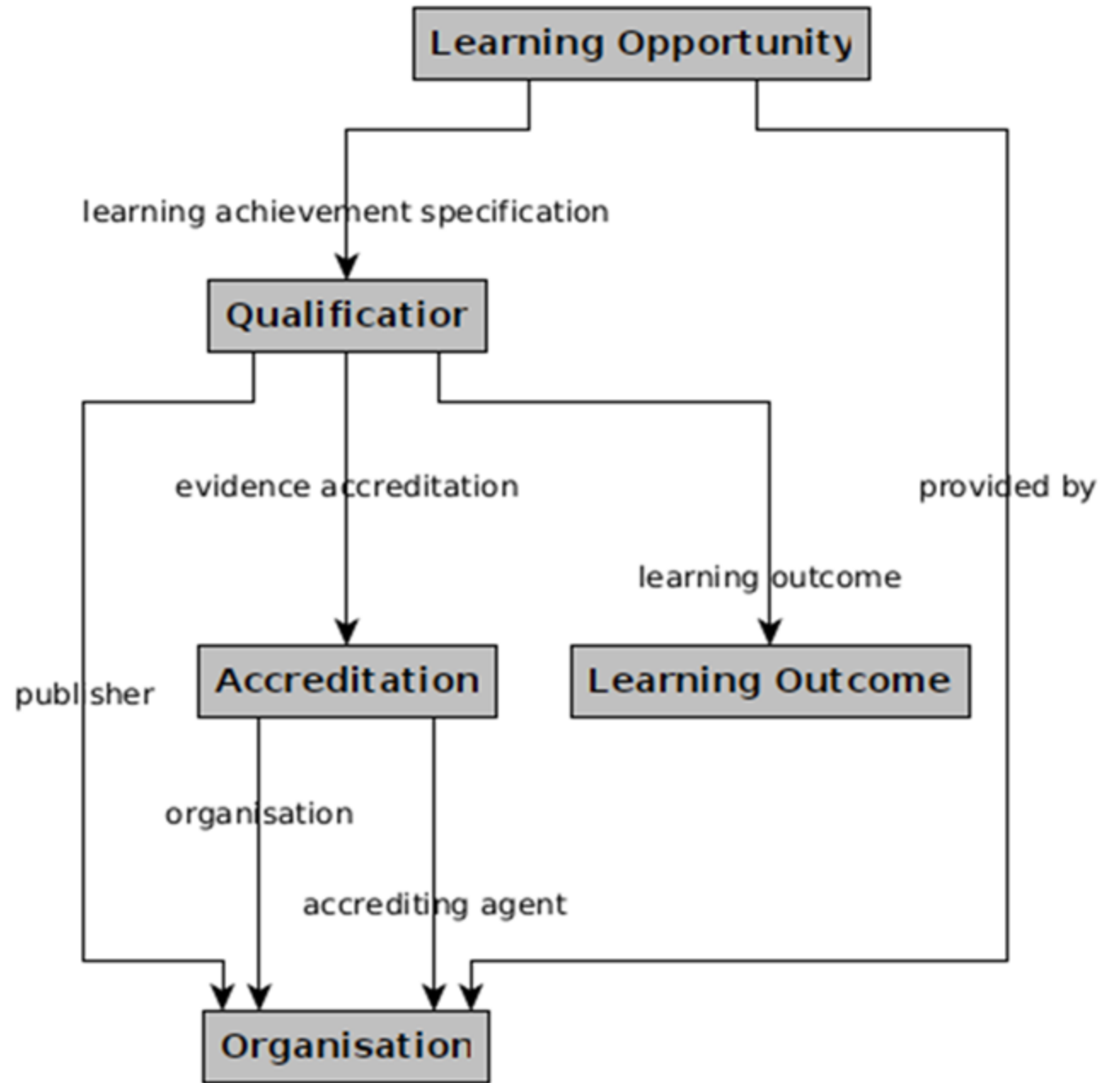
Overview of data properties

Class	Property	Expected value
Qualification	awarding information	Awarding Opportunity
	education level	ACQF levels
	learning outcome	Learning Outcome
	publisher	Organisation
	thematic area	ISCED-F
	title	String with language
Awarding Opportunity	awarding body or note	Organisation or Note
Learning Opportunity	default language	Language
	provided by	Organisation
	qualification	Qualification
	title	String with language
Learning Outcome	title	String with language
	related skill or note	Skill or Note
Location	spatial code	Location code
Organisation	location	Location
	name	String with language

Controlled vocabularies

Controlled vocabularies are essential in the ACQF Data Model for ensuring consistency, accuracy, and interoperability of qualifications data across different systems and regions.

- Reduces ambiguity and ensures uniform data entry

- Allows for data sharing between various systems

- Global recognition

- Validation mechanism and data integrity

- Enhanced searchability and data linking

Areas of application: accreditation type, credit points, learning entitlement, learning outcome, location, education level, thematic area

Conclusion and Next Steps

Software development next steps

- User experience and final data modelling steps ongoing until the end of August 2024

- First-phase qualification curation portal to be delivered by the end of 2024

- Dissemination and testing of the curation portal start from early 2025

Training

- Ascertain further training needs

- Coordination with ACQF-II project to present you with more interactive activities

- Provision of training material rolled out throughout 2024

Training on QCP concepts and tools

ACQF

- **Thank you**
- **Obrigado**
- **Merci**