ACQF

African Continental
Qualifications Framework

Capacity Development Qualifications and Credentials Platform (QCP):

Skills, Learning Outcomes and Structured Data

3rd ACQF Forum – RPL for Practitioners

4 October 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 and eLearning for self-paced learning

Aim

- Addressing baseline knowledge for QCP usage

- Providing hands-on support when QCP launches

- Several major themes identified until the end of 2024

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

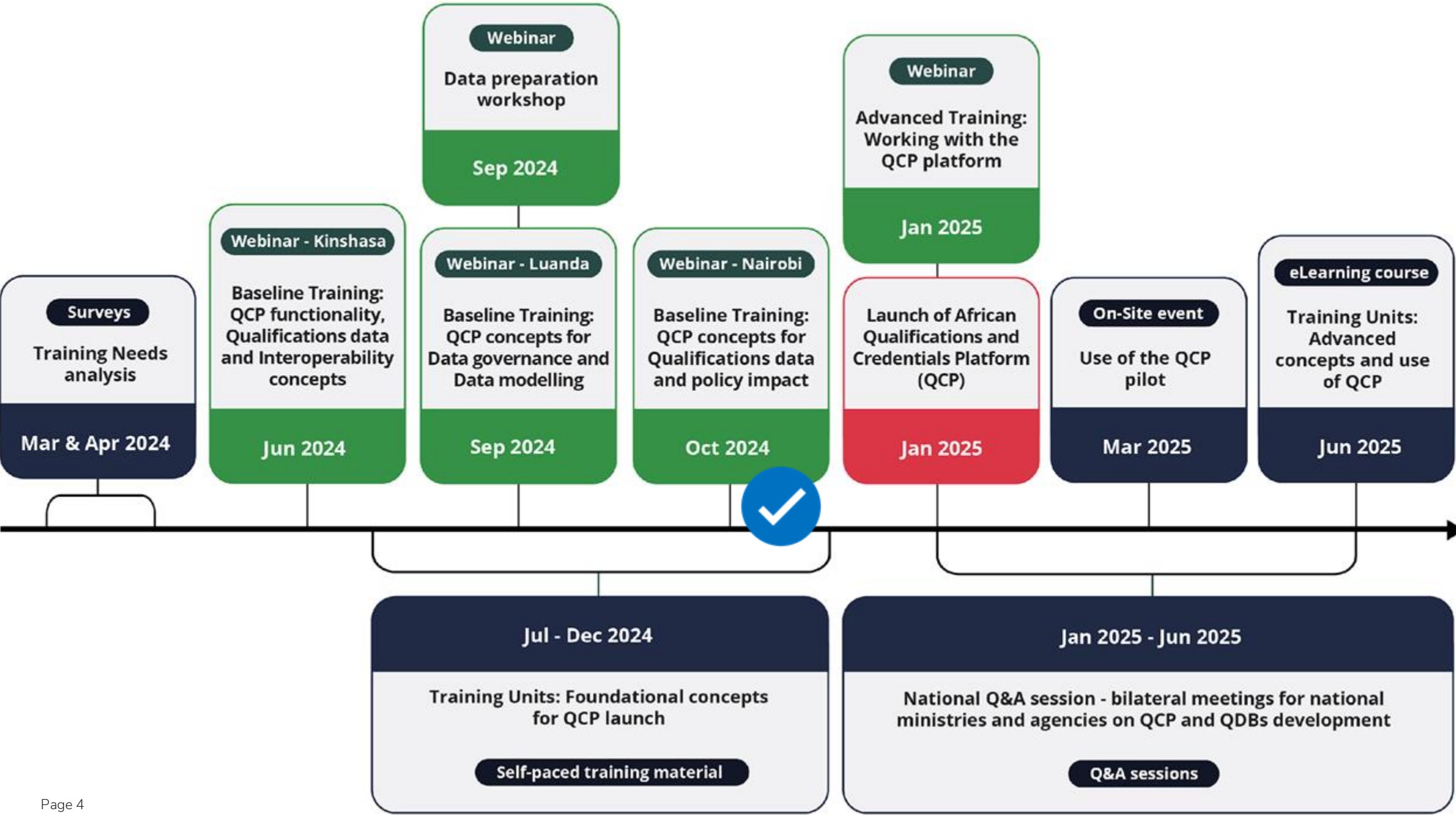- Processes for validating and verifying qualifications data

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

Webinar
Data preparation workshop
Sep 2024

Webinar
Advanced Training: Working with the QCP platform
Jan 2025

Surveys
Training Needs analysis
Mar & Apr 2024

Webinar - Kinshasa
Baseline Training: QCP functionality, Qualifications data and Interoperability concepts
Jun 2024

Webinar - Luanda
Baseline Training: QCP concepts for Data governance and Data modelling
Sep 2024

Webinar - Nairobi
Baseline Training: QCP concepts for Qualifications data and policy impact
Oct 2024

Launch of African Qualifications and Credentials Platform (QCP)
Jan 2025

On-Site event
Use of the QCP pilot
Mar 2025

eLearning course
Training Units: Advanced concepts and use of QCP
Jun 2025

Jul - Dec 2024
Training Units: Foundational concepts for QCP launch
Self-paced training material

Jan 2025 - Jun 2025
National Q&A session - bilateral meetings for national ministries and agencies on QCP and QDBs development
Q&A sessions

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

Objective of today's training

Advanced understanding of **Learning Outcomes**, **Skills** and **QCP requirements** to take full advantage of comparable data

Agenda

1. QCP and Learning Outcomes (LOs)
   a) Use of Artificial Intelligence (AI) for LOs
2. Data Formats
   a) Linked and Structured Data
   b) QCP Data Model for Skills and LOs
3. QCP Curation Portal - preview
4. Skills Matching – ESCO & ISCED-F 2013
5. Data analysis for Policy Making

Integrating Learning Outcomes into Qualifications Databases

Importance of Learning Outcomes - RPL

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

- 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.

Related **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.

Example:

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 using Artificial Intelligence (AI)

Artificial Intelligence – using LLM to support the creation of good Learning Outcomes

- Can only ever be a support!

- Still requires manual checks and Quality Assurance

- Can significantly increase efficiency and performance, particularly for large sets of data

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Have you previously worked with AI-LLM e.g. ChatGPT or Gemini in your daily work with qualifications?

ⓘ Start presenting to display the poll results on this slide.

Crafting Learning Outcomes using Artificial Intelligence (AI)

Artificial Intelligence – EXAMPLE

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.

Possible AI-LLM prompts

Weak - simple command	Turn this Learning Opportunity into a Learning Outcome: [LO]
Ok - asking the AI-LLM to research context first	Research the best way Learning Outcomes should be structured and then turn the following Learning Opportunity into a Learning Outcome: [LO]
Ideal - Providing the AI-LLM with concrete context and precise instructions yourself	Turn the following Learning Opportunity into a Learning Outcome, using the following context: Learning Outcome should be structures […]: [LO]

Crafting Learning Outcomes using Artificial Intelligence (AI)

Try yourself via anonymous access to most common AI-LLMs: https://duckduckgo.com/aichat

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 Structured Data

Definition

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

Examples

- Databases
- XML 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), thus 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.

Introduction to the ACQF Data Model

The ACQF Data Model (ALM) is developed in line with the international best practices and principles, as previously discussed.

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:
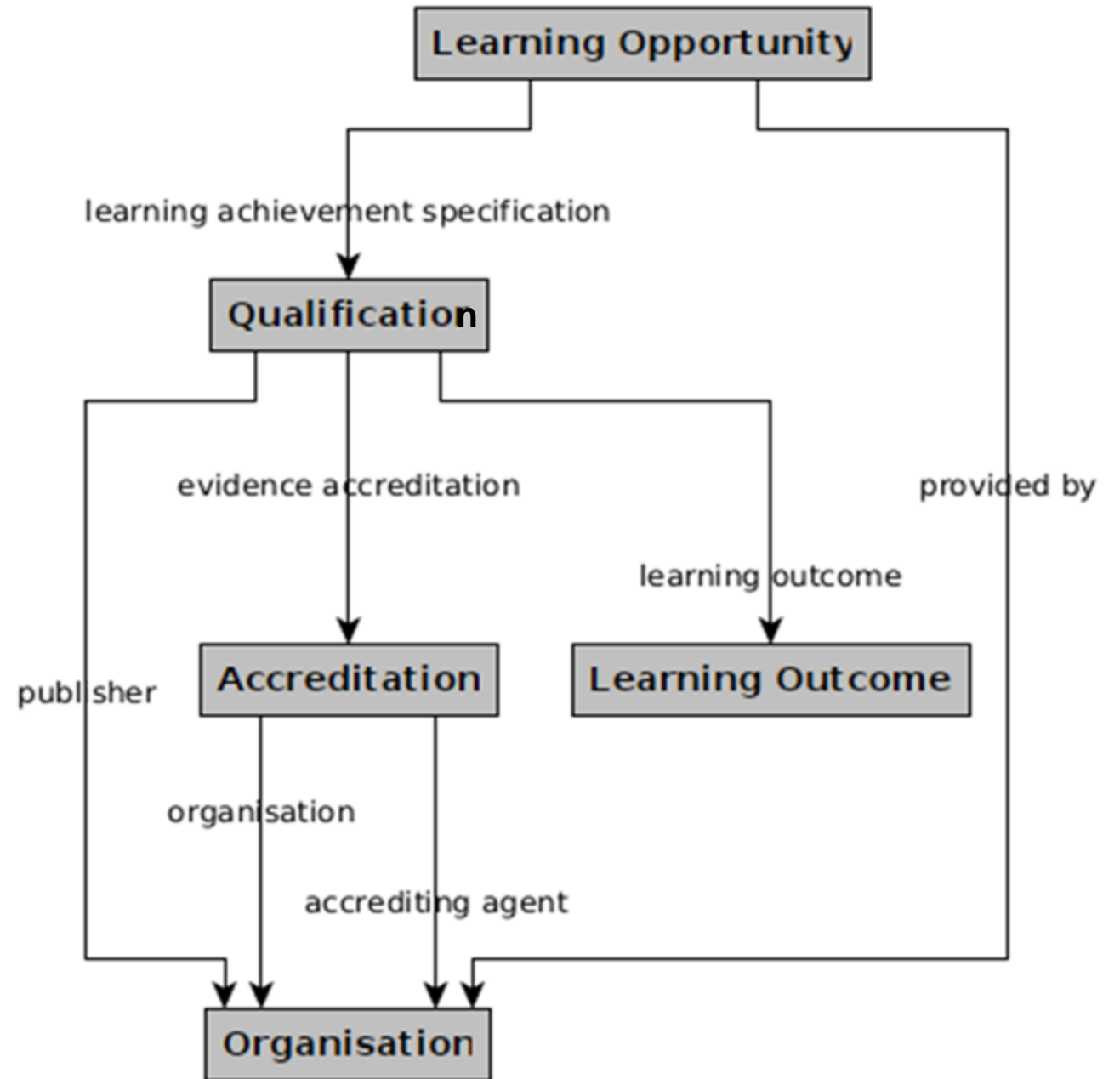 alignment with international standards & ALM
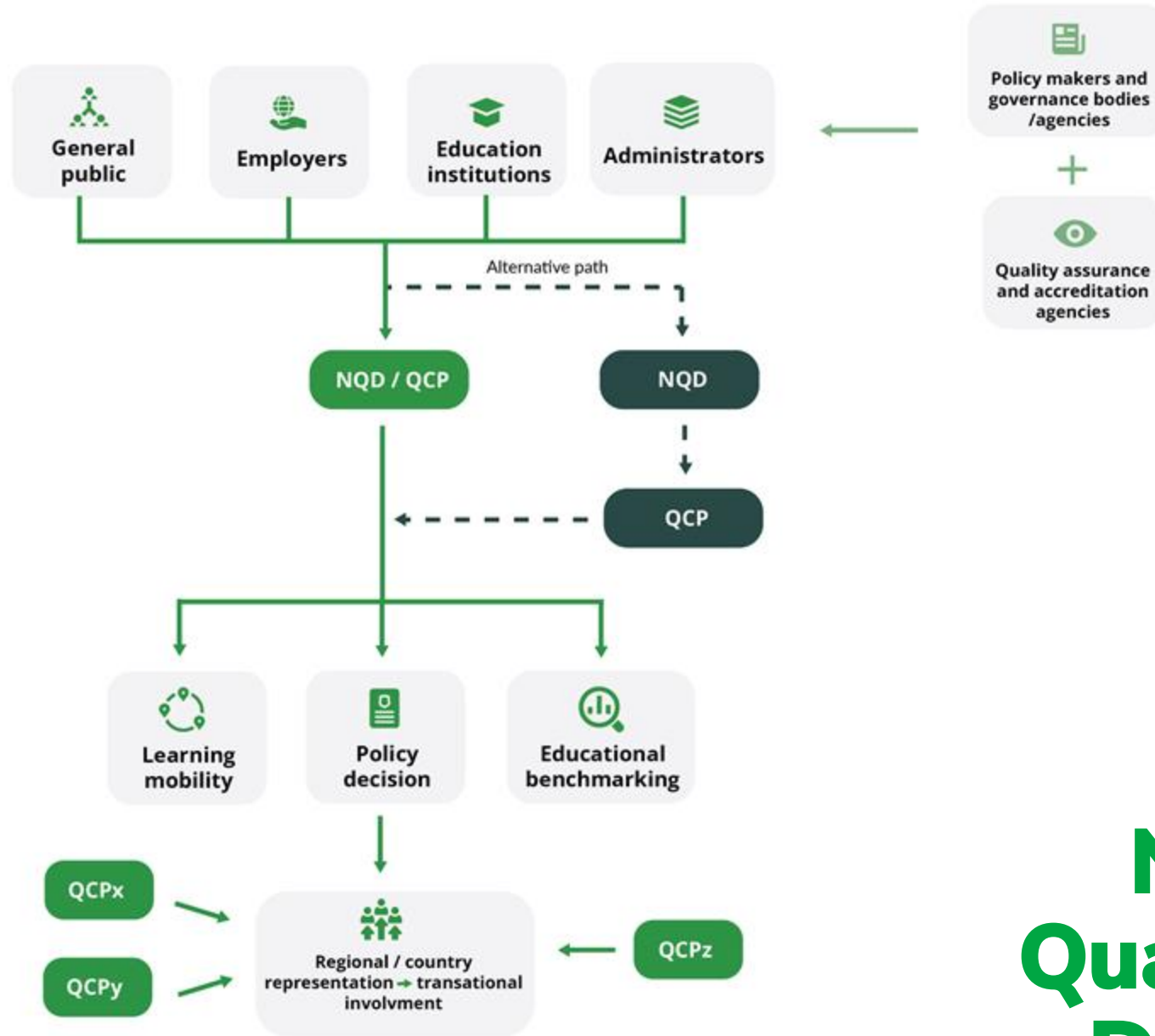
QCP Data Model

Simplified view of core elements and their relationships

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

QCP Curation Portal

In Development – Launch of first accessible version in January 2025

Current functionality:

Creating Qualifications

Title creation

ESCO skill search

QCP Curation Portal

Practical Demonstration

https://curate.acqf-qcp.africa/

KIC – Skills Finder

Learning Outcomes & skills matching

Uses ESCO skills

ESCO

- ESCO is a multilingual classification system developed in the European context, but which is applicable globally

- It categorizes **skills**, **competences**, **qualifications**, and **occupations**

- Latest version (1.2) has around 14.000 skills linked to 3.000 occupation

KIC – Skills Finder

- Try to enter a description of a qualification in the skills finder:

https://knowledgeinnovation.eu/skill-finder/

📇 use the description from this presentation (slide 14) or any description available through your own data

- Identify the **three most relevant skills/competences** for the qualification description

KIC – Skills Finder

- What are main challenges in connecting Course or Programme descriptions to Skills?

Data analysis for policy-making

National qualifications database

- Overview of qualifications supply
- Monitoring (trends, policy evaluation, user data)
- Development/updating of qualification standards
- Improve connections between education levels

Connected qualifications databases

- More coverage - better trend analysis
- Comparisons of qualifications (e.g. design best practice)
- Regional policy-making (harmonisation, recognition)

Multi-source analysis

- Skills gaps analysis
- Forecasting skills demand
- Inclusivity
- Optimise resource allocation

National qualifications databases

Overview of Supply: Monitor the availability, variety, and distribution of qualifications.

Monitoring Trends: Identify emerging patterns in qualification developments, system evolution, and skill demand shifts; track updates to qualification frameworks over time, such as the introduction of micro-credentials or new vocational qualifications (e.g. Microcred seeker);

Updating or developing standards: faster process; qualifications can be aligned better with emerging industry requirements

Source: https://www.microcredseeker.edu.au/ ; https://credentialengine.org/wp-content/uploads/2021/01/Policy-Brief-1.pdf

Connected qualification databases

The more, the merrier: broader coverage across regions or countries, allows for more comprehensive analysis of the status quo and trends.

Comparisons of Qualifications: compare qualifications and learning outcomes etc. with a best practice examples, identify gaps and opportunities for improvement;

Regional Policy-Making: harmonise standards, track and promote regional mobility, facilitate mutual recognition of qualifications.

Source: Qualifications databases_report.pdf (europa.eu)
https://dataqualitycampaign.org/wp-content/uploads/2018/09/DQC-Workforce-
Linkages-Roadmap-09262018.pdf

Multi-source analysis

Skills Gaps Analysis: analyse and contrast supply of qualifications with laber market needs (Big Data for Labour Market Intelligence project); evaluate qualifications vis-a-vis job market statistics to assess relevance

Forecasting Future Skills Demand: integrating qualifications databases with national censuses and labour market surveys, future skills demand can lead to better forecasting, supporting proactive policy decisions.

Optimise Resource Allocation: comprehensive data analysis can inform policy-makers on where and how to best allocate human and financial resources

Source: Day 1_Session 1_ETF_Big Data_E Castel-Branco.pdf (europa.eu); DQC-Workforce-Linkages-Roadmap-09262018.pdf (dataqualitycampaign.org)

Growing Benefits for Policy-Making

As the qualifications and credentials database expands in coverage and frequency of updates, its value for policy-making increases rapidly.

- Enhanced precision in policy-making
- Better monitoring and tracking
- More proactive policies
- Better alignment of labour market and workforce
- International cooperation
- More efficient resource allocation

The better the quality of qualifications data and the more connected it is to other databases and data sources (labour markets, international standards) the stronger the abilities to do in-depth, comprehensive analysis.

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What specific challenges have you faced with regards to data availability or using data for policy-making, and how could qualifications and credentials databases help address those?

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How do you currently track trends in qualifications and skill demand, and what could be improved by having a national qualifications database in place?

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How could connecting your country's qualifications database with others in the region benefit cross-border collaboration in education and employment?

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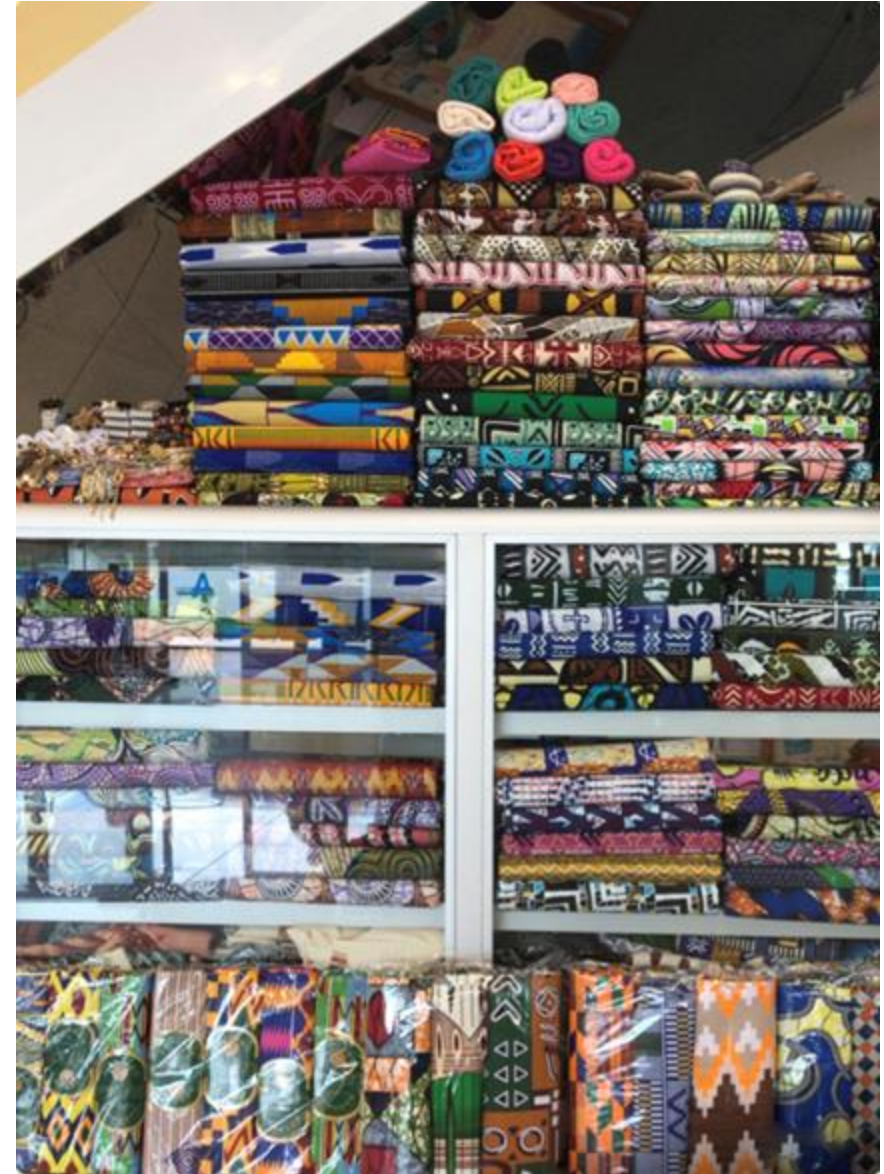Please download and install the
Slido app on all computers you use

What kinds of datasets could be combined with qualifications data that could bring you the largest added value? Would it be feasible? Why, why not?

ⓘ Start presenting to display the poll results on this slide.

Thank you

Obrigado

Merci

Credit: Eduarda Castel Branco