ACQF

African Continental
Qualifications Framework
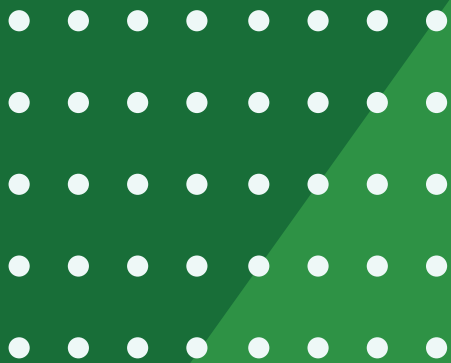
T4
—
Integrating Learning Outcomes

INTO QUALIFICATIONS DATABASES

Table of Content

Introduction & Learning Outcomes

This training module provides an in-depth understanding of Learning Outcomes' role in Qualification provision and Qualification Databases (QDBs). The African Qualifications and Credentials Platform (QCP) will focus specifically on this. Participants will gain hands-on experience and practical skills to ensure the accurate and effective integration of learning outcomes into the qualifications databases, thereby enhancing the platform's overall functionality and value.

Purpose and Relevance in the Context of QCP Development

The module is essential for developing and enhancing the overall usability of the QCP. By integrating well-defined and transparent learning outcomes, the QCP can provide a more detailed and accurate representation of qualifications, which is crucial for students, educators, employers, and policymakers. This integration supports the QCP's mission to facilitate transparent and comparable qualifications across different regions and institutions, enhancing the platform's utility and reliability.

Articulating and documenting learning outcomes has become increasingly important in today's dynamic educational landscape. Learning outcomes define what a learner is expected to know, understand, and be able to do upon completion of a course or program. Integrating these outcomes into qualifications databases offers numerous benefits, which will be explained at the end of this segment.

This training aims to provide a comprehensive understanding of integrating learning outcomes into qualifications databases, aligning with developing and enhancing the Qualifications and Credentials Platform (QCP). By the end of this training, you will be equipped with the practical skills to:

- Define and draft effective learning outcomes.
- Understand the structure and purpose of qualifications databases.
- Implement integration steps, from data collection to database modification.
- Overcome common challenges and utilise best practices.
- Engage with stakeholders and maintain updated, accurate databases.

INTEGRATING LEARNING OUTCOMES

Learning Outcomes

By the end of this training module, you will:

1. Define Key Concepts

- Clearly explain what learning outcomes are and their significance in the context of educational qualifications.
- Describe the purpose and components of qualifications databases.

2. Identify and Draft Learning Outcomes

- Develop specific, measurable, achievable, relevant, and time-bound (SMART) learning outcomes for various qualifications.
- Differentiate between cognitive, affective, and psychomotor learning outcomes.

3. Understand the Benefits

- Articulate the benefits of integrating learning outcomes for students, educators, employers, and institutions.
- Provide examples of how learning outcomes enhance the usability and transparency of qualifications databases.

4. Implement Integration Steps

- Outline the steps necessary for integrating learning outcomes into a qualifications database, including data collection, standardisation, and database modification.
- Demonstrate techniques for seamless integration and pilot testing.

5. Address Challenges

- Identify common challenges in integrating learning outcomes into qualifications databases and propose practical solutions.
- Discuss strategies for overcoming data inconsistency, resistance to change, and technical limitations.

6. Utilise Tools and Resources

- Navigate and use software and platforms that facilitate the integration of learning outcomes.
- Access and apply relevant guides, frameworks, and support networks to aid the integration process.

7. Engage in Practical Exercises

- Participate in hands-on activities to draft learning outcomes and integrate them into a sample database.
- Analyse case studies of successful integration to extract best practices and lessons learned.

Understanding Qualification Databases

What are Qualifications Databases?

Qualifications databases are comprehensive repositories of information about educational and professional qualifications. Their primary purposes are to facilitate transparency by providing precise and accessible information, enhance comparability to enable the recognition and mobility of qualifications across different institutions and regions and support academic and career planning decision-making. Types of qualifications databases include national databases, regional databases, and institutional databases managed by individual educational institutions. We will focus on the importance of Learning Outcomes as an integral part of any qualifications database.

Key Components of a Qualifications Database

Key components of a qualifications database include primary data fields such as the qualification name, awarding institution, qualification level, duration, and mode of study. Enhanced data fields provide detailed information on learning outcomes, competencies, skills, assessment methods, prerequisites, and career pathways. These elements help users understand the structure and function of qualifications, ensuring detailed and accurate data supporting learning outcomes integration.

By grasping these aspects, participants can improve the usability and transparency of qualification databases, supporting the Qualifications and Credentials Platform (QCP) goals.

You can find more information about Qualifications Databases in the dedicated **Training Unit 1 - Qualifications Databases Purpose and Users**
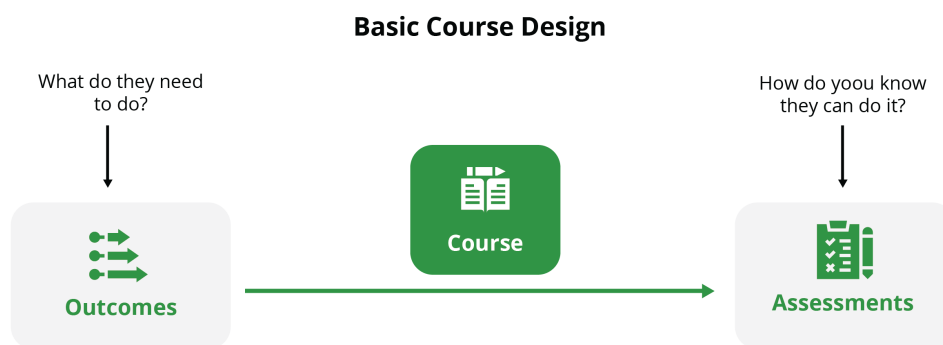
Learning Outcomes: Definition and Structure

Learning outcomes are statements that outline the knowledge and skills students should gain by the end of an assignment, class, course, or programme. They serve to:

- Clarify the usefulness of the knowledge and skills
- Emphasise the context and potential applications
- Connect learning across different contexts
- Guide assessment and evaluation

Effective learning outcomes focus on applying and integrating knowledge rather than just covering material. They describe how students will use the material both within the course and in broader contexts.

It is recommended that each assignment include five to ten learning outcomes to ensure that the students cover a range of knowledge and skills while staying focused on the course's essential elements.

Basic Course Design

What do they need to do?

How do yoou know they can do it?

Outcomes

Course

Assessments

Emphasising learning outcomes in education transforms practices and policies by enhancing learning and making it explicit. This approach aims to actively engage learners in managing their learning process alongside their teachers. When this shift occurs, it impacts pedagogy, with teachers acting as learning facilitators and delivering instruction.

From a qualifications perspective, learning outcomes help:

- Align qualifications with labour market expectations
- Increase the recognition of learning achievements regardless of where they were acquired
- Enhance the flexibility and accountability of education and training systems, enabling greater autonomy in achieving defined outcomes.

Learning outcomes must be purpose-specific and suitable for setting occupational and educational standards, describing qualifications and curricula, outlining assessment criteria, and guiding learning and teaching processes. This approach increases transparency, benefiting stakeholders both within and outside the country. Learning outcomes focus on what a learner knows, understands, and can do, independent of the learning process.

Policy papers emphasise the importance of learning outcomes at various policy levels (national, regional, continental, international), including through the ACQF policies. Most qualification frameworks and credit transfer systems are based on learning outcomes, as they are a common factor in achieving better and more equitable lifelong learning.

National qualification systems are complex due to social and cultural traditions and institutions, making them difficult to understand from both inside and outside the country. Learning outcomes can bring transparency by clearly defining the expected learning outcomes. National interests in learning outcomes focus on:

- Basing education and training on explicit standards defined by stakeholders from society, labour markets, and individuals, creating a common language for education and training objectives.
- Creating transparency of qualifications and learning pathways for learners and employers and offering flexibility in learning organisation.
- Setting clear expectations for education and training institutions based on national, regional, or sectoral standards.

- Improving quality assurance processes in education and qualification systems.

Developing national qualifications frameworks with descriptors based on learning outcomes makes qualifications and learning levels explicit for all users. For years, many countries have partially based their education and training systems on learning outcomes. However, the move towards comprehensive adoption of learning outcomes remains a challenge and a priority for most countries.

The difference between Learning Outcomes, Learning Objectives and Learning Indicators

Learning Objectives

Definition: Learning objectives are specific, measurable goals defining what learners should achieve during a course, lesson, or assignment.

Purpose: They provide a clear roadmap for both instructors and students on what will be covered and achieved in a specific time frame.

Characteristics: They are typically stated in terms of what the instructor intends to teach. Often short-term and narrowly focused.

Example: "Students will be able to identify the main components of a cell."

Learning Outcomes

Definition: Learning outcomes describe what learners should know, understand, or be able to do by the end of a course, program, or instructional unit.

Purpose: They articulate the intended results of education, focusing on the skills and knowledge that students should demonstrate after the learning experience.

Characteristics: Centred on the learner's achievements.Broader in scope than objectives, encompassing both the learning process and end results.

Example: "Students can apply the scientific method to design and conduct experiments."

Expected Learning Outcomes

Enlist various resources

Classify the resources into Natural and Man-made

Demonstrate how a resource gets exhausted

Compare exhaustible resources with non-exhaustible resources with examples

Value and enlist responsible use of exhaustible resources

Define Fossil Fuels with examples

Create a web-chart on resources

Learning Indicators

Definition: Learning indicators are specific signs or metrics used to measure the progress towards achieving learning outcomes.

Purpose: They help assess whether students are on track to meet the desired learning outcomes.

Characteristics: Quantifiable and observable. Serve as benchmarks to monitor and evaluate student performance.

Example: "The number of students who can correctly identify cell components in a test."

Learning Objectives

- Goals set by the teacher
- Provides a structure to the teaching and learning process
- Students and teachers know what they are striving for

Learning Outcomes

- Tells about Learning Actions
- Indicates how the learning will be visible
- Observable and measurable.

Learning Indicators

- Evidences of learning
- Pointers which indicates extent of learning and its quality.

Key Differences

	Objectives	Outcomes	Indicators
Focus	Focus on the instructional goals set by the teacher.	Focus on what the student will achieve and be able to demonstrate.	Focus on the metrics used to gauge progress towards achieving the outcomes.
Scope	Specific and narrow, often short-term.	Specific and narrow, often short-term.	Specific measurements or signs that indicate progress.
Perspective	From the instructor's perspective, detailing what will be taught.	From the learner's perspective, we are detailing what will be learned.	From an evaluative perspective, detailing how progress is measured.
Examples	"Students will be able to list the main functions of cell organelles by the end of the lecture."	"Students will be able to analyse and explain the roles of different cell organelles in cellular processes."	"80% of students will correctly identify and describe the function of at least five organelles in a quiz."

Recap

Learning Objectives are the goals which the student-teacher team is trying to achieve.	Learning Objectives gives structure to the teaching-learning process.	Learning Outcomes should be observable and measurable.	The action words used preferably should have some words which falls into the higher level of thinking skills according to Bloom's Taxonomy.	Learning Indicators are the evidence of learning with which students individual level of learning can be identified

GROUP ACTIVITY

Training Activity

Objective of **Sorting and Classification Exercise:** To enable participants to accurately distinguish between learning outcomes, objectives, and indicators through hands-on examples and collaborative discussion.

Introduction (10 minutes)

Overview:

Define and differentiate the terms:

- **Learning Outcomes:** Broad statements outlining what learners should achieve by the end of a course or program.
- **Learning Objectives:** Specific, measurable targets detailing what learners are expected to accomplish within a lesson or module.
- **Learning Indicators:** Specific criteria or evidence demonstrating the achievement of learning outcomes or objectives.

Examples:

- Provide at least five examples of each type to illustrate the distinctions clearly.

Group Formation (5 minutes)

Group Setup:

- Organise participants into small groups of 3-5 people to foster collaborative analysis and discussion.

Sorting Exercise (20 minutes)

1. Miro Board Setup

- **Create Sections:** Set up three labelled sections: "Learning Outcomes," "Learning Objectives," and "Learning Indicators."
- **Digital Cards:** Each example is presented on a separate digital card, distinguished by different colours or shapes.
- **Drag-and-Drop:** Groups drag and drop cards into the appropriate sections, collaborating in real-time on the Miro board.
- **Discussion and Annotations:** Use sticky notes or comments to explain choices and discuss uncertainties.

2. Physical Setup

- **Printed Cards:** Print each example on cards using colour coding (e.g., blue for outcomes, green for objectives, yellow for indicators) without revealing the categories upfront.
- **Sorting Areas:** Create three areas labelled "Learning Outcomes," "Learning Objectives," and "Learning Indicators."
- **Group Sorting:** Groups sort their set of cards into the correct categories.
- **Sticky Notes for Discussion:** Use sticky notes to annotate each card with explanations or comments.

Facilitation Tips
- **Provide Clear Definitions:** Keep definitions visible and accessible during the activity.
- **Encourage Critical Thinking:** Prompt groups to justify their classifications and explore alternative interpretations.
- **Offer Clarifications:** Be ready to assist groups with clarifications or additional examples as needed.

Group Presentations (15 minutes)

- **Share Findings:** Groups present their sorting decisions and reasoning.
- **Feedback:** Facilitate a discussion to compare group results, address any misconceptions, and clarify distinctions.

Summary (5 minutes)

- **Recap:** Summarise the key insights and learning points from the activity.
- **Q&A:** Address any final questions or clarifications from the participants.

Reflection and Application (10 minutes)

- **Discussion:** Reflect on how distinguishing between outcomes, objectives, and indicators impacts lesson planning and assessment.
- **Application:** Participants create their own examples of learning outcomes, objectives, and indicators based on a provided course topic.

Examples of Cards:

Learning Outcomes

1. "Students will develop the skills to communicate effectively in a professional business environment."
2. "Graduates will be proficient in using digital tools for data visualisation."
3. "Learners will demonstrate ethical reasoning and decision-making skills."
4. "Participants will be able to analyse historical events and their impacts on modern society critically."
5. "Students will be capable of designing and implementing educational programs."

Learning Objectives

1. "Describe the principles of effective business communication."
2. "Use Microsoft Excel to create and interpret various types of graphs."
3. "Explain the ethical theories related to business practices."
4. "Analyse primary and secondary sources to evaluate historical arguments."
5. "Develop a lesson plan incorporating learning objectives, activities, and assessments."

Learning Indicators

1. "Students participate in a role-play exercise demonstrating appropriate communication strategies."
2. "Students submit a data visualisation project using software tools, evaluated against a rubric."
3. "Students write an essay critically examining an ethical dilemma using multiple ethical frameworks."
4. "Student presentation includes a comprehensive analysis of a historical event using supporting evidence."
5. "Lesson plan includes clearly defined learning outcomes, objectives, and aligned assessments."

Characteristics of Effective Learning Outcomes

The difference between aims, objectives and learning outcomes

"Aims are broad purposes or goals, whereas objectives are specific steps that take us from where we are towards our goal. Objectives are intentions in measurable terms and are stated as the educator's intentions. Learning outcomes are what result from a learning process. They are specific, measurable achievements and are stated as student achievements. Learning outcomes should specify the minimum acceptable standard for a student to be able to pass a module or course (threshold level). Clearly, stated learning outcomes can - help students understand what is expected of them - help staff focus on precisely what they want students to achieve" (Sussex)

Learning outcomes are clear and concise statements that describe what learners are expected to know, understand, and be able to do by the end of a course or program. The SMART criteria characterise effective learning outcomes:

- **Specific:** Clearly define what the learner will achieve. They should focus on a precise aspect of learning and avoid vague language. For example, "Students will be able to identify the main components of a computer system."
- **Measurable:** Ensure that the outcomes can be assessed through various evaluation forms, such as tests, projects, or demonstrations. This involves using action verbs that indicate observable and assessable actions, such as "describe," "analyse," or "create."
- **Achievable:** Learning outcomes should be realistic and attainable within the given timeframe and with the available resources. They should match the learners' level and the course's scope.
- **Relevant:** Align outcomes with the broader goals of the program, course, or learners' career and personal development. Relevant outcomes ensure that the knowledge and skills gained are valuable and applicable.
- **Time-bound:** Specify the timeframe in which the learners should achieve the outcomes. This helps set expectations and structure the course or programme accordingly. For instance, "By the end of the semester, students will be able to..."

Different Types of Learning Outcomes and Their Alignment with Bloom's Taxonomy

Learning outcomes can be categorised into three main types based on the learning domains they address: cognitive, affective, and psychomotor. Each type aligns with levels of complexity and specificity as outlined in Bloom's Taxonomy, a framework that classifies educational learning objectives.

Cognitive (Knowledge-Based)

Focus: Intellectual skills and knowledge acquisition.

- **Remembering:** Recalling facts and basic concepts. - "Students will be able to list the main components of a cell."

- **Understanding:** Explaining ideas or concepts. - "Students will be able to summarise the process of photosynthesis."

- **Applying:** Using information in new situations. - "Students will be able to use the scientific method to design an experiment."

- **Analysing:** Drawing connections among ideas. - "Students will be able to compare and contrast prokaryotic and eukaryotic cells."

- **Evaluating:** Justifying a decision or course of action. -"Students will be able to assess the validity of different sources of scientific information."

- **Creating:** Producing new or original work. - "Students will be able to design a new model of a sustainable ecosystem."

Affective (Values and Attitudes)

Focus: Development of values, attitudes, and feelings.

- **Receiving:** Awareness and willingness to hear. - "Students will show awareness of ethical issues in scientific research."

- **Responding:** Active participation. - "Students will participate in discussions about the implications of genetic engineering."

- **Valuing:** The worth or value a student attaches to a particular object, phenomenon, or behaviour. - "Students will demonstrate a commitment to sustainability practices in their projects."

- **Organising:** Integrating values into one's value system. - "Students will integrate principles of equity and inclusion in their group work."

- **Characterising:** Acting consistently with new values. - "Students will consistently advocate for ethical practices in their professional conduct."
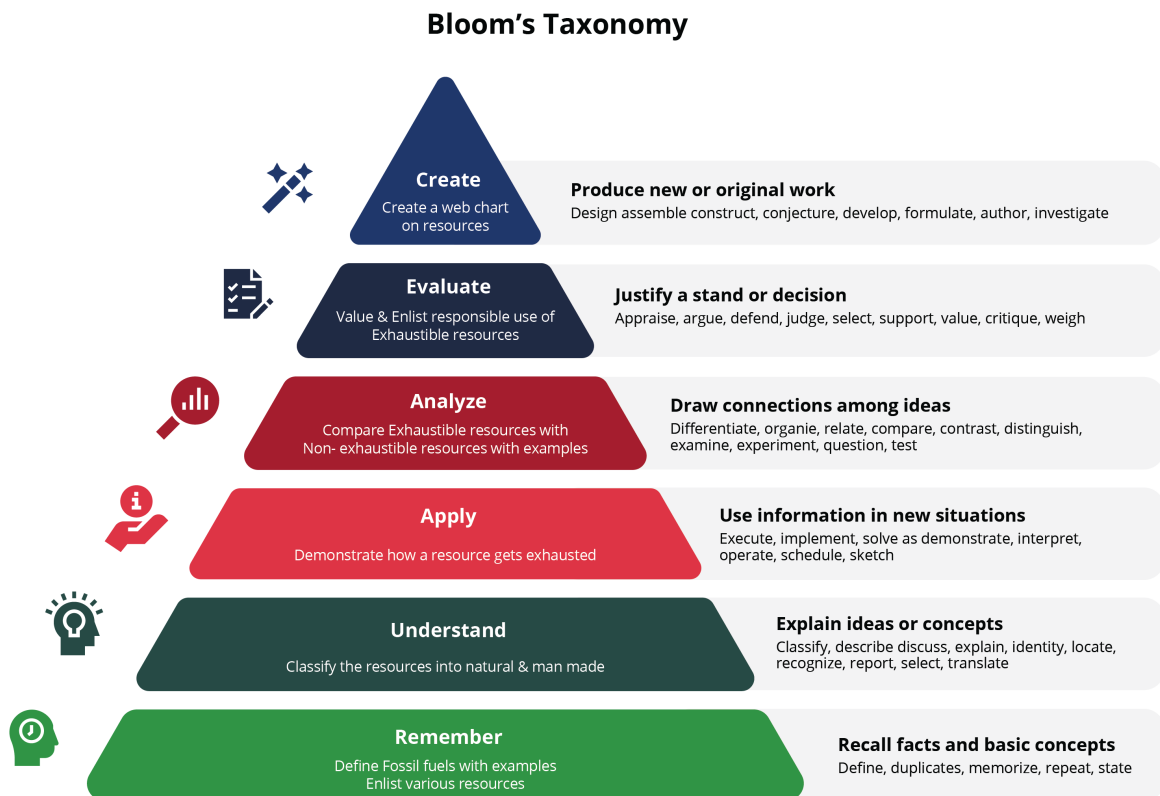
Psychomotor (Skills-Based)

Focus: Physical skills and motor coordination.

- **Receiving:** Awareness and willingness to hear. - "Students will show awareness of ethical issues in scientific research."

- **Responding:** Active participation. - "Students will participate in discussions about the implications of genetic engineering."

- **Valuing:** The worth or value a student attaches to a particular object, phenomenon, or behaviour. - "Students will demonstrate a commitment to sustainability practices in their projects."

- **Organising:** Integrating values into one's value system. - "Students will integrate principles of equity and inclusion in their group work."

- **Characterising:** Acting consistently with new values. - "Students will consistently advocate for ethical practices in their professional conduct."

By categorising learning outcomes into these three domains and aligning them with Bloom's Taxonomy, educators can create a comprehensive educational framework that addresses diverse aspects of student development, from cognitive skills to emotional growth and physical abilities. This approach ensures a balanced and holistic educational experience.

Bloom's Taxonomy

Create
Create a web chart on resources

Produce new or original work
Design assemble construct, conjecture, develop, formulate, author, investigate

Evaluate
Value & Enlist responsible use of Exhaustible resources

Justify a stand or decision
Appraise, argue, defend, judge, select, support, value, critique, weigh

Analyze
Compare Exhaustible resources with Non- exhaustible resources with examples

Draw connections among ideas
Differentiate, organie, relate, compare, contrast, distinguish, examine, experiment, question, test

Apply
Demonstrate how a resource gets exhausted

Use information in new situations
Execute, implement, solve as demonstrate, interpret, operate, schedule, sketch

Understand
Classify the resources into natural & man made

Explain ideas or concepts
Classify, describe discuss, explain, identity, locate, recognize, report, select, translate

Remember
Define Fossil fuels with examples
Enlist various resources

Recall facts and basic concepts
Define, duplicates, memorize, repeat, state

How to Design Learning Outcomes

Designing effective learning outcomes is crucial for guiding instruction and assessment in educational settings. Learning outcomes clearly articulate what students are expected to know, understand, and be able to do by the end of a course or program. They can be categorised into three main types—cognitive, affective, and psychomotor—each corresponding to different domains of learning and aligning with Bloom's Taxonomy, a hierarchical framework that classifies educational objectives.

Guidelines for Writing Learning Outcomes

1. Identify the Level

Determine the appropriate level of learning (e.g., basic knowledge, application, analysis) for the course or program.

2. Begin with an Active Verb

Use verbs that specify the action students are expected to perform, derived from Bloom's Taxonomy.

Cognitive Domain:

1. Remembering: list, define, recall
2. Understanding: explain, summarise, interpret
3. Applying: use, implement, execute
4. Analysing: compare, contrast, differentiate
5. Evaluating: judge, critique, assess
6. Creating: design, construct, produce

Affective Domain:

1. Receiving: acknowledge, listen, recognise
2. Responding: participate, discuss, comply
3. Valuing: demonstrate, support, justify
4. Organising: integrate, synthesise, adapt
5. Characterising: exemplify, advocate, embody

Psychomotor Domain:

1. Imitation: copy, follow, mimic
2. Manipulation: perform, execute, carry out
3. Precision: calibrate, measure, refine
4. Articulation: coordinate, integrate, harmonise
5. Naturalisation: automate, master, perfect

3. Use One Verb per Outcome

Generally, use one verb per outcome to maintain clarity, though combining closely related actions can sometimes be logical (e.g., "Compare and contrast...").

4. Align with Assessment

Ensure that the learning outcomes can be measured with appropriate assessments. For example, an outcome involving "analysing" should be assessed through tasks that require analysis rather than simple recall.

5. Ensure Outcomes Are Acquirable

Ensure the outcomes are realistic and achievable for students within the given course or program.

6. Avoid Complicated Sentences

Use clear and concise language. If necessary, use more than one sentence for clarity.

7. Limit the Number of Outcomes

Aim for no more than two outcomes per type (cognitive, affective, psychomotor) to maintain focus and clarity.

Example of Learning Outcome Design
Objective: Teach students the process of photosynthesis.
Learning Outcome: "Students will be able to explain the process of photosynthesis and apply it to understand plant growth under different light conditions."
Bloom's Taxonomy Alignment: Understanding (explain), Applying (apply).

Action Verbs for Describing Learning Outcomes

In education, clearly articulated learning outcomes are essential for guiding both instruction and assessment. These outcomes describe what students are expected to know, understand, and be able to do by the end of a course or program. Action verbs are central to the formulation of effective learning outcomes. These verbs precisely define the level of cognitive, affective, or psychomotor skills students are to achieve and provide a concrete basis for evaluating their performance.

Action verbs are derived from Bloom's Taxonomy, a hierarchical classification of cognitive skills that educators use to craft comprehensive learning objectives. Educators can specify students' expected actions and achievements by selecting appropriate action verbs, ranging from basic recall of information to complex analysis and creation. This clarity helps instructors design targeted instructional activities and enables students to understand and effectively engage with their learning goals.

Knowledge - Breadth & Kind

Describe	Recite
Define	Recognise
Identify	Repeat
List	Reproduce
Quote	Select
Recall	State
	Write

Know-How and Skill - Range & Selectivity

Apply	Demonstrate	Experiment	Organise	Translate
Assess	Describe	Express	Practise	Use
Associate	Develop	Extend	Predict	
Choose	Differentiate	Extrapolate	Produce	
Clarify	Discover	Generalise	Recognise	
Classify	Discriminate	Give examples	Report	
Compute	Discuss	Identify	Rewrite	
Contrast	Distinguish	Illustrate	Review	
Complete	Dramatise	Indicate	Select	
Construct	Employ	Infer	Specify	
Convert	Estimate	Interpret	Simulate	
Decode	Examine	Modify	Solve	
Defend	Explain	Operate	Summarise	

Competence - Context & Role

Acknowledge	Combine	Display	Justify	Relate
Act	Complete	Dispute	Listen	Report
Adhere	Conform	Embrace	Order	Resolve
Ask	Co-operate	Follow	Organise	Respond
Accept	Defend	Hold	Participate	Share
Answer	Demonstrate (a belief in or	Initiate	Practise	Show
Assist	an appreciation of)	Integrate	Share	Support
Attempt	Differentiate	Join	Praise	Synthesise
Challenge	Discuss	Judge	Question	Value

Competence - Learning to Learn

Acknowledge	Demonstrate (a belief in or an appreciation of)	Justify
Ask	Differentiate	Order
Accept	Discuss	Organise
Attempt	Dispute	Practise
Challenge	Embrace	Question
Combine	Initiate	Relate
Complete	Integrate	Synthesise
Co-operate	Judge	Value
Defend		

Competence - Insight

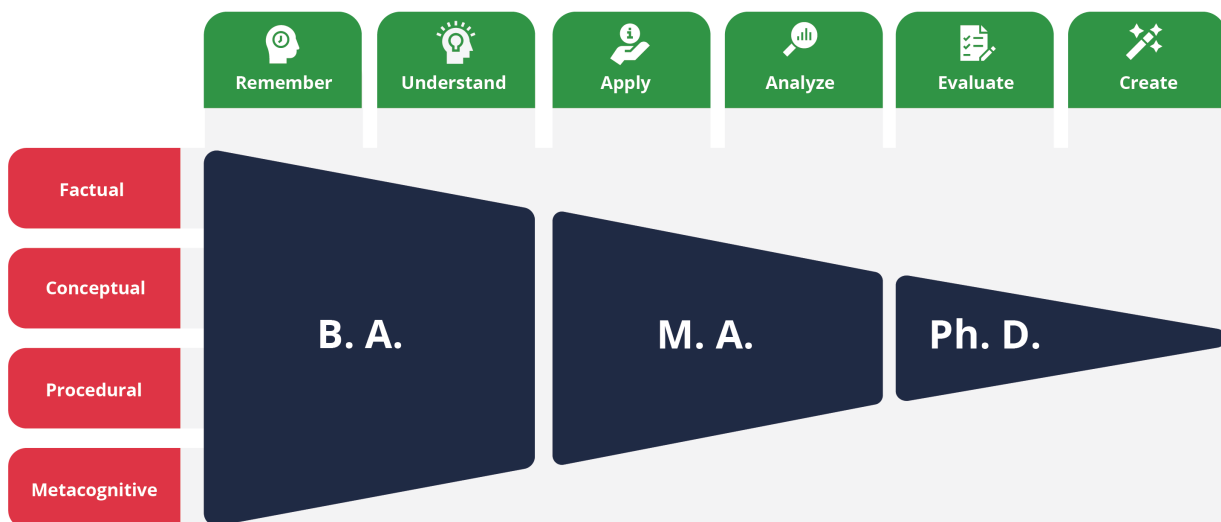|			
Acknowledge	Contrast	Explain	Question
Appraise	Convince	Evaluate	Recommend
Ascertain	Critique	Initiate	Resolve
Argue	Defend	Interpret	Select
Assess	Differentiate	Judge	Standardise
Challenge	Discuss	Justify	Summarise
Choose	Dispute	Predict	Synthesise
Conclude	Discriminate	Persuade	Value

Application Across Educational Levels

Bloom's Revised Taxonomy also considers different types of knowledge (factual, conceptual, procedural, and metacognitive) and can be applied across various educational levels:

- **Bachelor's Degree:** Students are often introduced to a broad range of fundamental knowledge and skills at the bachelor's level. Learning outcomes at this stage typically cover all four types of knowledge, emphasising the foundational levels of the cognitive process dimension but also beginning to engage with higher-order thinking.

- **Master's Degree:** At the master's level, students are expected to build on their foundational knowledge and engage more deeply with specialised content. Learning outcomes at this stage typically involve higher-order cognitive processes and a greater emphasis on the application and synthesis of knowledge.

- **PhD Degree:** At the PhD level, students are expected to contribute original research to their field of study. Learning outcomes focus heavily on the highest levels of cognitive processes, particularly creating and evaluating, and involve advanced metacognitive skills.

Bloom's Table

	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual						
Conceptual	B. A.		M. A.		Ph. D.	
Procedural						
Metacognitive						

FIND OUT MORE

Here's a YouTube video that complements this section of the Training Unit

How to canvas:
How to write measurable learning outcomes

GROUP ACTIVITY

Training Activity

📰 Objective of **Learning Outcomes Revision and Enhancement:** To practice revising learning outcomes to make them more effective and measurable.

Activity

Before and After Analysis

Materials

- Examples of poorly written learning outcomes
- Examples of revised, effective learning outcomes
- Miro board or physical whiteboard for group work
- Handouts with guidelines on writing effective learning outcomes

Learning Objectives

- Participants will be able to identify common issues in poorly written learning outcomes.
- Participants will develop skills to revise learning outcomes to be specific, measurable, attainable, relevant, and time-bound (SMART).
- Participants will learn to differentiate between vague and specific outcomes and understand the importance of clear action verbs.
- Participants will be able to critique and improve learning outcomes collaboratively.

Activity Timeline

1. Introduction (10 minutes)

- **Content:** This section introduces the session and explains common pitfalls in writing learning outcomes, such as vagueness, lack of measurability, and overcomplexity.
- **Goal:** Set the stage for why revising learning outcomes is crucial for effective teaching and learning.

2. Review of Poorly Written Learning Outcomes (10 minutes)

- **Activity:** Participants review provided examples of poorly written learning outcomes.
- **Task:** Identify and discuss issues such as vague language, lack of specific action verbs, or outcomes that are not measurable.
- **Example of Poor Outcome:** "Students will understand economics."
- **Discussion:** Why is this problematic (too vague, no clear way to measure 'understanding')?

3. Revision Exercise (20 minutes)

- **Activity:** In small groups, participants revise the poorly written learning outcomes.
- **Task:** Rewrite the outcomes using the SMART criteria and best practices guidelines.
- **Example of Revised Outcome:** "Students will be able to analyse the impact of fiscal policy on economic growth by using case studies."
- **Support:** Facilitators provide guidance and examples of good action verbs.

4. Comparison and Discussion (15 minutes)

- **Activity:** Groups present their revised learning outcomes.
- **Task:** Compare the original and revised versions, highlighting improvements and discussing why the revisions are more effective.
- **Example of appropriately written outcome:** "Students will list and describe the stages of mitosis with 90% accuracy."
- **An example of an inadequately written outcome:** "Students will know about cell division."

5. Reflection and Best Practices Recap (10 minutes)

- **Discussion:** Reflect on the exercise, discussing what was learned and how it can be applied to their own courses or programs.
- **Recap:** Review the guidelines for writing effective learning outcomes, emphasising the importance of clarity, specificity, and measurability.

6. Q&A and Wrap-up (5 minutes)

- **Activity:** Open the floor for questions and additional tips.
- **Goal:** To ensure that all participants clearly understand how to apply what they've learned to real-world scenarios.

Good Examples of Learning Outcomes

Cognitive Domain (Knowledge-Based)

Original Outcome: "Students will understand the principles of genetics."
- **Good Example:** "Students will be able to explain the fundamental principles of genetics, including Mendelian inheritance, genetic variation, and DNA replication."
- *Explanation:* This outcome is specific, uses an action verb ("explain"), and covers key measurable concepts through tests or assessments.

Affective Domain (Values and Attitudes)

Original Outcome: "Students will appreciate diverse cultures."

- **Good Example:** "Students will demonstrate respect for diverse cultures by engaging in cross-cultural dialogue and reflecting on their own biases."
- **Explanation:** This outcome specifies the behaviour expected ("demonstrate respect") and provides a context ("engaging in cross-cultural dialogue"), making it observable and assessable.

Psychomotor Domain (Skills-Based)

Original Outcome: "Students will improve their laboratory skills."

- **Good Example:** "Students will be able to perform titration experiments accurately and safely, demonstrating proper lab techniques and safety protocols."
- **Explanation:** This outcome specifies the skill ("perform titration experiments") and includes criteria for success ("accurately and safely"), making it measurable and specific.

Higher-Order Thinking

Original Outcome: "Students will analyse scientific data."

- **Good Example:** "Students will analyse and interpret experimental data to identify trends and anomalies and draw evidence-based conclusions."
- **Explanation:** This outcome uses specific actions ("analyse and interpret") and includes the goal of the analysis ("identify trends, anomalies, and draw conclusions").

Practical Application

Original Outcome: "Students will learn how to write a report."

- **Good Example:** "Students will be able to write a comprehensive research report, including an introduction, methodology, results, and conclusion, following APA style guidelines."
- **Explanation:** This outcome is detailed and specific, describing the report's components and the standards to follow ("APA style guidelines").

Poorly Written Examples of Learning Outcomes

Example 1

Original Outcome: "Students will understand the history of art."
- **Explanation:** This outcome is vague and non-specific.
- **Revised (Good) Outcome:** "Students will be able to identify and describe major art movements from the Renaissance to the modern era, including key artists and their works."
- *Improvement:* The revised outcome is specific, measurable, and clearly defines the knowledge students should acquire.

Example 2

Original Outcome: "Students will know about ethical issues in medicine."
- **Explanation:** This outcome lacks specificity and measurable criteria.
- **Revised (Good) Outcome:** "Students will analyse case studies to evaluate ethical dilemmas in medical practice, considering perspectives such as patient rights, confidentiality, and informed consent."
- *Improvement:* The revised outcome includes specific actions ("analyse" and "evaluate") and contexts ("case studies" and "ethical dilemmas"), making it clear and measurable.

Example 3

Original Outcome: "Students will become proficient in using software."
- **Explanation:** This outcome is too broad and lacks specific criteria.
- **Revised (Good) Outcome:** "Students will be able to use Adobe Photoshop to edit images, including tasks such as cropping, layering, and colour correction."
- *Improvement:* The revised outcome specifies the software (Adobe Photoshop) and details specific skills (cropping, layering, colour correction) that can be assessed.

Example 4

Original Outcome: "Students will gain communication skills."
- **Explanation:** This outcome is too vague and general.
- **Revised (Good) Outcome:** "Students will demonstrate effective communication skills by delivering a 10-minute oral presentation, including clear articulation of ideas, proper pacing, and use of visual aids."
- *Improvement:* The revised outcome specifies the type of communication (oral presentation) and includes evaluation criteria (articulation, pacing, visual aids).

Example 5

Original Outcome: "Students will learn about environmental science."
- **Explanation:** This outcome is broad and lacks clear direction.
- **Revised (Good) Outcome:** "Students will be able to assess the impact of human activities on ecosystems by analysing pollution, deforestation, and climate change data."
- *Improvement:* The revised outcome specifies the content area ("human activities on ecosystems") and the method of assessment ("analysing data"), making it actionable and measur-

Benefits of Integrating Learning Outcomes

For Students

- **Clear Expectations and Goals:** Integrating learning outcomes provides students with a clear understanding of what they are expected to learn and achieve. This clarity helps students focus their efforts and measure their progress throughout their educational journey.

- **Enhanced Employability:** Learning outcomes articulate the specific skills and competencies students will acquire, making it easier for employers to recognise their qualifications. This alignment between education and industry needs enhances students' employability.

For Educators

- **Curriculum Alignment and Improvement:** Learning outcomes ensure that the curriculum is aligned with the desired educational goals. This alignment helps educators design and organise content, activities, and assessments that support students in achieving these outcomes.

- **Better Assessment Strategies:** With clear learning outcomes, educators can develop more effective assessment strategies that directly measure whether students have achieved the intended outcomes. This leads to more accurate and meaningful evaluations of student performance.

For Employers

- **Easier Identification of Relevant Skills and Competencies:** When these are clearly outlined in learning outcomes, employers can easily identify job candidates' skills and competencies. This helps in matching candidates with the right job roles and responsibilities.

- **Improved Recruitment and Training Processes:** Clearly defined learning outcomes streamline the recruitment process by making it easier to assess candidate qualifications. Additionally, they inform training programs by highlighting the skills and knowledge areas that need further development.

For Educational Institutions

- **Increased Transparency and Accountability:** Integrating learning outcomes into qualifications databases enhances transparency, as stakeholders can clearly see what is expected of students and how well they meet those expectations. This transparency fosters accountability within the institution.

- **Enhanced Reputation and Compliance with Accreditation Standards:** Institutions that effectively integrate and communicate learning outcomes demonstrate a commitment to quality education. This can enhance their reputation and help ensure compliance with accreditation standards, attracting more students and funding opportunities.

Steps for Integrating Learning Outcomes Within the Context of QCP

Integrating learning outcomes into qualification databases requires a systematic approach to ensure the data is clear, comprehensive, and valuable to diverse stakeholders, including students, educators, employers, and policymakers. For a continental qualifications database like the QCP to maximise its utility, it is essential that learning outcomes are thoroughly integrated and widely adopted.

The following general guide outlines how to integrate learning outcomes effectively into qualification databases, whether on a large (e.g., national) or small scale (e.g., at education providers). It is designed to assist national qualification database operators in guiding educational institutions in establishing databases that correctly incorporate learning outcomes. It can also be used by national providers that aim to establish a national qualifications database.

1. Standardisation of Learning Outcomes

Learning outcomes must be standardised for consistency and clarity across different courses and programs. This involves a systematic approach to defining and documenting these outcomes.

Developing a Framework

- **Consistency:** Write learning outcomes using a standardised format, incorporating clear, measurable action verbs to ensure they are easily understandable and assessable.
- **Alignment:** Align learning outcomes with recognised frameworks, such as Bloom's

Taxonomy, covering various cognitive levels to provide a comprehensive educational experience.

Data Collection and Standardisation

- **Identifying and Gathering Learning Outcomes:** Collect all existing learning outcomes from courses, programs, and qualifications. This may involve reviewing syllabi, curriculum documents, and accreditation reports to ensure comprehensive coverage.
- **Ensuring Consistency and Compatibility:** Standardise the data to ensure it is consistent and comparable across different programs after collection. This includes creating a common framework or format for writing learning outcomes ensuring they are clear, measurable, and aligned with institutional or industry standards.

Database Design and Modification

- **Incorporating Learning Outcomes:** Modify existing qualification databases to include specific fields for learning outcomes. This may require collaboration with IT specialists to redesign the database schema, ensuring the system is user-friendly and facilitates easy data entry and retrieval.

2. Designing the Database Structure

A well-structured database is crucial for managing learning outcomes effectively.

Defining Key Fields

- **Course/Programme Information:** Include fields for course/programme title, code, description, and credits.
- **Learning Outcomes:** Create dedicated fields for listing learning outcomes associated with each course or program.
- **Mapping to Competencies:** Include fields to map learning outcomes to specific competencies or skills.
- **Assessment Methods:** Describe how each learning outcome will be assessed.
- Level of Education: Indicate the educational level (undergraduate, graduate, doctoral).

Implementation and Integration

- **Seamless Integration Techniques:** To streamline the process, input the standardised learning outcomes into the database using techniques such as batch processing or automated data entry tools.
- **Pilot Testing and Feedback Collection:** Conduct pilot testing with a sample of programs or courses to identify any issues and gather feedback, ensuring the system functions smoothly before full-scale implementation.

3. Inputting Data into the Database

Accurate data entry is essential for maintaining the integrity of the database.

Data Collection and Curation

- **Gather Learning Outcomes:** Collect learning outcomes from course syllabi, curriculum documents, and program descriptions.
- **Data Entry:** Input the learning outcomes into the database, ensuring consistency and accuracy.

- **Verification:** Have subject matter experts review the entries to confirm their accuracy and relevance.

4. Ensuring Accessibility and Usability

To maximise the utility of the database, it must be accessible and user-friendly.

User-Friendly Interface

- **Search Functionality:** Implement robust search and filter options to help users find courses/programs based on specific learning outcomes.
- **Clear Presentation:** Display learning outcomes in an organised and easily navigable manner.

Metadata and Tags

- **Keywords and Tags:** Use relevant keywords and tags to improve the searchability of learning outcomes.
- **Taxonomy:** Organize learning outcomes according to a taxonomy that reflects the curriculum's structure.

5. Continuous Update and Maintenance

Regular updates are necessary to keep the database current and relevant.

Regular Reviews

- **Periodic Updates:** Schedule regular reviews and updates of learning outcomes to ensure they align with current educational standards and industry requirements.
- **Feedback Mechanism:** Implement a feedback system allowing users to suggest corrections or updates.

6. Integration with Other Systems

Ensuring the database's compatibility with other systems is crucial for seamless data exchange.

Interoperability

- **Standards Compliance:** Ensure the database complies with interoperability standards to facilitate integration with other educational platforms, such as Learning Management Systems (LMS) and credentialing services.
- **APIs:** Develop APIs to enable other systems to access and utilise the learning outcomes data.

7. Stakeholder Engagement

Engaging stakeholders is vital for the database's successful implementation and ongoing use.

Training and Support

- **Educator Training:** Provide training sessions for educators on writing effective learning outcomes and using the database efficiently.
- **User Support:** Offer ongoing support to help users navigate and utilise the database effectively.

Enhancing Learning Outcomes: Challenges and Practical Solutions for Qualification Databases

Implementing learning outcomes into qualification databases can greatly enhance the quality and coherence of educational qualifications. Recognising and addressing the challenges involved is crucial for a successful integration process. This section is designed as a set of comprehensive guidelines for ministries, educational agencies, and institutions to support the accurate and effective implementation of learning outcomes. The subsequent content outlines key challenges and their solutions, providing actionable strategies to streamline the integration process.

Furthermore, the accompanying training activity offers a hands-on approach to reinforce these guidelines, ensuring that stakeholders understand the theoretical aspects and gain practical experience in overcoming common obstacles. These resources are essential tools for achieving a robust and well-integrated qualification database system.

Common Challenges

1. Data Inconsistency and Quality:

- **Issue:** Variability in how learning outcomes are written and documented across different courses and programs can lead to inconsistencies and difficulties in standardising the data.
- **Impact:** Inconsistent data can undermine the reliability and comparability of qualifications, making it challenging to maintain a cohesive database.

2. Resistance to Change:

- **Issue:** Faculty and staff may resist integrating learning outcomes into qualifications databases due to a lack of understanding, perceived additional workload, or reluctance to alter established practices.
- **Impact:** Resistance can slow down or impede the implementation process, reducing the effectiveness of the integration effort.

3. Technical and Resource Limitations:

- **Issue:** Limited technical infrastructure, insufficient funding, and lack of skilled personnel can pose significant barriers to integration.
- **Impact:** These limitations can lead to delays, increased costs, and potential failures in effectively integrating learning outcomes.

Common Solutions

1. Standardisation and Consistency

Challenge: Ensuring that learning outcomes are written in a consistent and standardised format across different courses and programs.

Solution:

- **Develop Guidelines:** Create detailed guidelines and templates for writing learning outcomes, including standardised language and action verbs.
- **Training:** Provide training sessions for faculty and staff on consistently writing and format learning outcomes.

- **Review Process:** Implement a review process where learning outcomes are checked by a committee to ensure consistency and adherence to guidelines.

2. Data Entry and Management

Challenge: Efficiently collecting, entering, and managing a large volume of learning outcomes data.

Solution:

- **Automated Tools:** Automated tools and software are used to assist with data collection and entry. Consider using optical character recognition (OCR) to scan existing documents.
- **Centralised Database:** Develop a centralised database system where learning outcomes can be entered and managed efficiently.
- **Data Integrity Checks:** Implement data validation and integrity checks to ensure the accuracy and completeness of entries.

3. Alignment with Curriculum

Challenge: Aligning learning outcomes with the curriculum and ensuring they reflect the intended educational goals.

Solution:

- **Curriculum Mapping:** Conduct curriculum mapping exercises to ensure learning outcomes align with course content and programme objectives.
- **Stakeholder Involvement:** Faculty, curriculum designers, and industry experts should be involved in developing and reviewing learning outcomes to ensure relevance and alignment.

4. Technical Integration

Challenge: Integrating the qualification database with other educational systems and platforms.

Solution:

- **APIs and Standards:** Develop and use APIs to facilitate integration with Learning Management Systems (LMS), Student Information Systems (SIS), and other platforms.
- **Interoperability Standards:** Ensure the database complies with interoperability standards such as the QCP data fields (more in Training Unit T3 - Mapping and Standardising qualifications data) for seamless data exchange.

5. User Accessibility and Engagement

Challenge: Ensuring that the database is user-friendly and that users are engaged and fully use the system.

Solution:

- **Intuitive Interface:** Design a user-friendly interface with easy navigation, search, and filtering options.
- **User Training and Support:** Provide user training and ongoing support, including tutorials, FAQs, and helpdesks.
- **Feedback Mechanism:** Implement a feedback mechanism to gather user input and continuously improve the system.

6. Keeping Data Current and Relevant

Challenge: Maintaining up-to-date and relevant learning outcomes in the database.

Solution:

- **Regular Reviews:** Schedule regular reviews and updates of learning outcomes to ensure they remain current and relevant.
- **Faculty Involvement:** Engage faculty in ongoing updates and revisions of learning outcomes based on new field developments and stakeholder feedback.
- **Version Control:** Implement version control to track changes and update learning outcomes over time.

7. Ensuring Quality and Effectiveness

Challenge: Ensuring that learning outcomes effectively improve educational quality and meet stakeholder needs.

Solution:

- **Quality Assurance Processes:** Integrate learning outcomes into existing quality assurance processes, including regular assessments and audits.

- **Assessment Alignment:** Ensure that assessments are aligned with learning outcomes to accurately measure student achievement and inform improvements.
- **Continuous Improvement:** Use data and feedback from assessments to continuously improve learning outcomes and their implementation.

8. Scalability

Challenge: Scaling the implementation process across multiple departments and programs.

Solution:

- **Pilot Programs:** Start with pilot programs to test the process and make necessary adjustments before scaling up.
- **Cross-Department Collaboration:** Foster collaboration across departments to share best practices and resources.

- **Phased Implementation:** Implement the process in phases, allowing time for adjustments and improvements at each stage.

9. Security and Privacy

Challenge: Protecting the security and privacy of data within the qualification database.

Solution:

- **Data Encryption:** Data encryption is used to protect sensitive information.
- **Access Controls:** Implement robust access controls to ensure that only authorised users can access or modify the data.
- **Compliance:** Ensure compliance with relevant data protection regulations, such as GDPR or FERPA, the African Union Data Policy Framework and corresponding national regulations.

Training Activity

Objective of **Implementing Learning Outcomes into Qualification Databases:** To identify and address common challenges in integrating learning outcomes into qualification databases and to develop practical solutions.

Activity
Challenges and Solutions Workshop

Materials
- Digital tools for mind mapping (Miro board, MindMeister, etc.)
- Handouts with examples of learning outcomes and database entry formats
- Templates for one-page guideline creation
- Markers, sticky notes, and large paper sheets (if physical setup is possible)

Learning Objectives
- Participants will be able to identify key challenges in integrating learning outcomes into qualification databases.
- Participants will collaboratively develop and document practical solutions to these challenges.
- Participants will create a concise, actionable one-page guideline for best practices in the integration process.

Activity Timeline

1. Introduction and Overview (10 minutes)

- **Content:** Brief overview of the importance of integrating learning outcomes into qualification databases and the common challenges encountered in this process.
- **Objective:** Set the context and explain the purpose of the workshop.

2. Identification of Challenges (20 minutes)

- **Activity:** Mind Mapping Exercise
- **Task:** In small groups, participants brainstorm and create a mind map of potential challenges faced when integrating learning outcomes into qualification databases.
- **Guiding Questions:** What are the common technical issues?; How do variations in terminology and standards impact integration?; What are the organisational and administrative challenges?
- **Output:** A comprehensive mind map highlighting various categories of challenges.

3. Group Discussion and Sharing (15 minutes)

- **Activity:** Group Presentation
- **Task:** Each group presents their mind map to the larger group.
- **Discussion Points:** Highlight common themes across groups; Discuss unique challenges identified by each group.

4. Developing Solutions (30 minutes)

- **Activity:** Solution Brainstorming and Development
- **Task:** Groups return to their original teams to brainstorm and document potential solutions for the identified challenges.
- **Guidelines:** Focus on practical, implementable solutions; Consider technological, procedural, and policy-related solutions.
- **Examples of Solutions:** Standardising terminology and formats for learning outcomes; Developing a user-friendly interface for database entry; Training staff on the importance and methodology of accurate data entry.

5. Creating a One-Page Guideline (20 minutes)

- **Activity:** Synthesis and Documentation
- **Task:** Each group creates a one-page guideline summarising the challenges and solutions discussed, providing a practical reference for others.
- **Content to Include:** Key challenges identified; Proposed solutions; Best practices for implementation
- **Template:** Provide a template or structure for the guideline to ensure consistency across groups.

6. Presentation of Guidelines (10 minutes)

- **Activity:** Final Presentation
- **Task:** Groups present their one-page guidelines to the class, highlighting key points and recommendations.
- **Objective:** Share insights and consolidate learning.

7. Reflection and Q&A (5 minutes)

- **Activity:** Open Discussion
- **Task:** Reflect on the challenges and solutions identified and discuss how they can be implemented in real-world contexts.
- **Q&A:** Address any questions or concerns from participants.

Example Challenges and Solutions

Challenge: Inconsistent Terminology
Solution: Develop a standardised glossary of terms and definitions used in learning outcomes and ensure it is accessible to all stakeholders.

Challenge: Lack of Staff Training
Solution: Implement training programs for staff responsible for entering and managing data in qualification databases, focusing on the importance of accuracy and consistency.

Challenge: Data Integration Issues
Solution: Use data integration tools to automate the transfer of learning outcomes into databases, ensuring data consistency and reducing manual entry errors.

Challenge: Diverse Educational Standards
Solution: Create a framework for aligning learning outcomes across different educational standards and systems, promoting compatibility and understanding.

Challenge: Limited Access to Updated Information
Solution: Establish a protocol for regularly updating learning outcomes and database entries and provide all users easy access to the latest information.

This activity will equip participants with the skills and knowledge needed to effectively integrate learning outcomes into qualification databases. By identifying challenges and brainstorming solutions, participants will be better prepared to handle the complexities of this task in their professional roles.

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