Module 3

Demonstrating Skills: Assessment Design

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DEFY GRAVITY

Topics explored in the module

1. Assessing students' learning in microcredential courses

2. Formative and summative assessment

3. Alignment of learning components

4. Authentic assessment for microcredential design

5. Collaboration for assessment

Note: Additional detailed information is available in selected slide notes.

1. Assessing Students' Learning in Microcredential Courses

Let's revisit the second backward design question noted in Module 1:

Backward Design

OUTCOMES

ASSESSMENTS
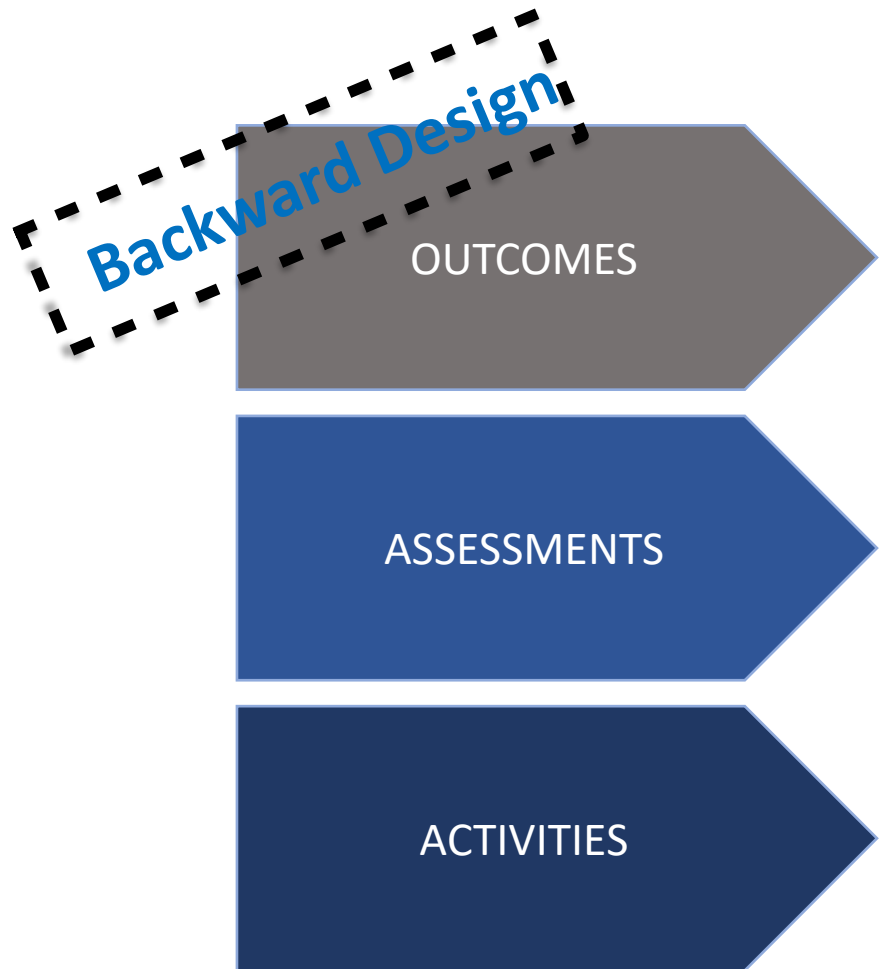
ACTIVITIES

Microcredential

Define Competencies/Outcomes:
1. What should students learn or take away from this short course?

Feedback & Assessment:
2. How will I know if students are learning what they need to know?

Teaching & Learning Activities:
3. Which learning activities will lead students to the desired outcomes?
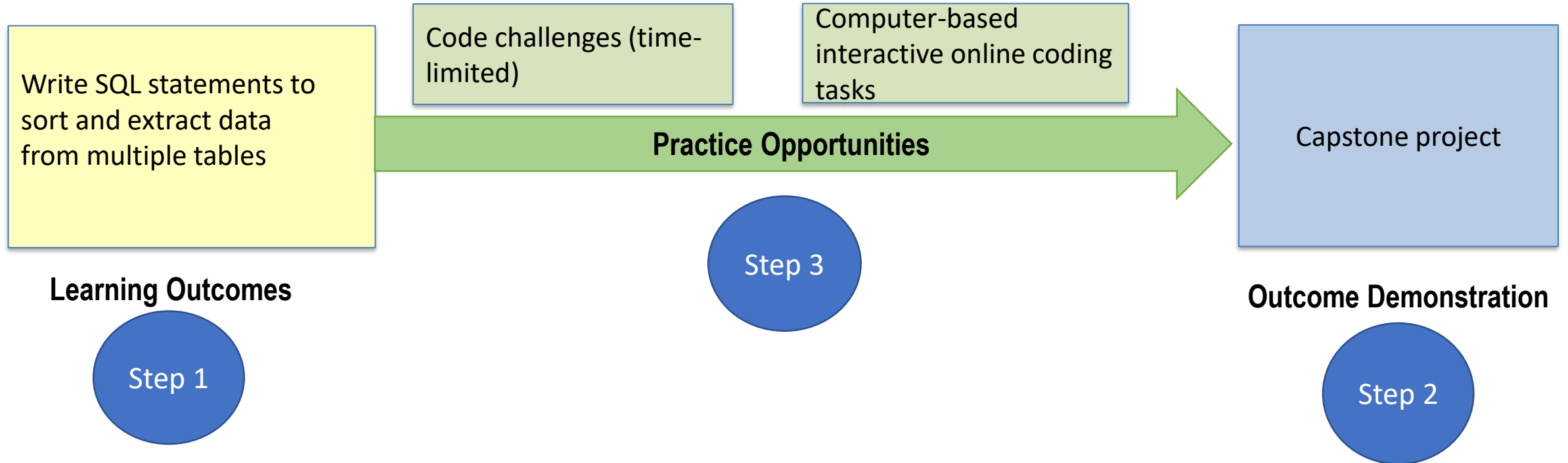
Further Unpacking the assessment process

- How do students demonstrate their learning outcomes?
- How do I know that students are learning?
- How do students know that they are learning?
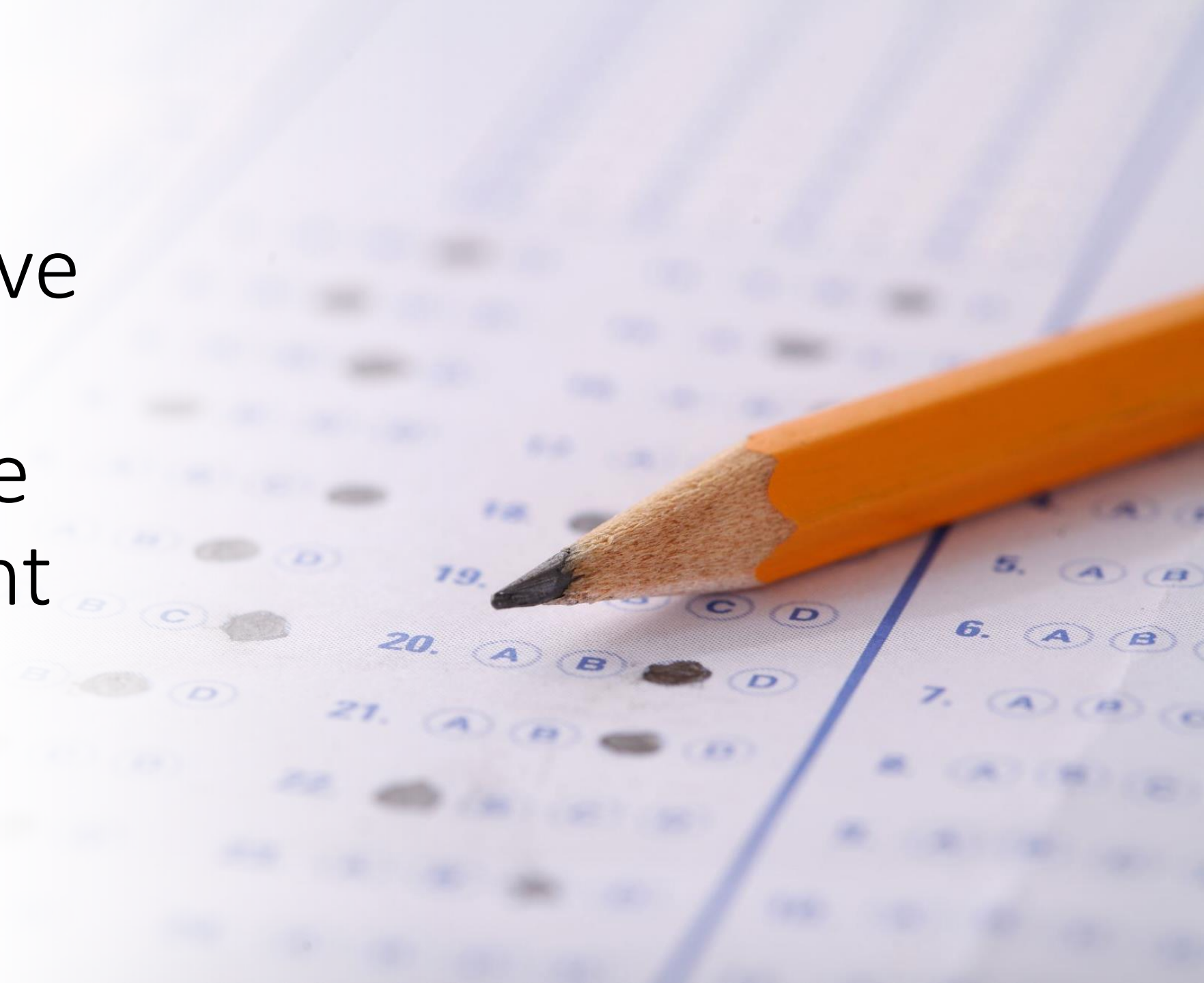
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From outcome to assessment

- Backward design is the process of designing a lesson, unit, or course by first determining the final outcomes, then planning assessment strategies, and finally determining methods of instruction and assignments. It allows instructors to plan lessons and courses focusing on student learning.

Design sequence for learning outcome-oriented assessment example

Write SQL statements to sort and extract data from multiple tables

Learning Outcomes

Step 1

Code challenges (time-limited)

Computer-based interactive online coding tasks

Practice Opportunities

Step 3

Capstone project

Outcome Demonstration

Step 2

2. Formative and Summative Assessment

Types of assessment

	Formative Assessment ☑	Summative Assessment 𝒜+
What?	Supports learning by providing students with opportunities to practice with guided feedback	Assesses learner performance to demonstrate proficiency, and assign a grade
When?	Continually, throughout course	Typically at the end of a learning unit/segment
Example	Short, auto graded quiz to check for understanding after a lecture	Midterm test worth a % of course grade

Formative assessment

- Helps guide and monitor students' learning while it is in progress
- Is generally less formal and low-stakes
- Focuses on crucial tasks or skill gaps
- Gives students opportunities to practice skills and consolidate learning

Examples: Quizzes or computer-generated feedback, practice assignments, case or scenario simulations, instructor or peer feedback, self-assessment reflections, and application to practical contexts.

Value of formative assessment

- Learners have opportunities to practice and gauge their learning and progress before completing the summative assessment.

- Automated feedback through online quizzes or direct feedback from an instructor can support and prepare for their summative assessment.

- Ungraded assessments allow learners to practice and engage with the assessment activities multiple times.

"Assessment for learning"

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Summative assessment

- The goal of summative assessment is to evaluate student learning at the end of an instructional unit.

- It is typically graded and is considered "higher stakes."

- The evaluation framework, including the rubric for grading, should reflect the stated learning outcomes.

Examples: tests, projects, skill demonstrations, presentations, portfolios

Value of summative assessment

- Allows evaluation of students after finishing one or more units/modules
- Provides summative information about a student's achievement to count towards their credential

"Assessment of learning"

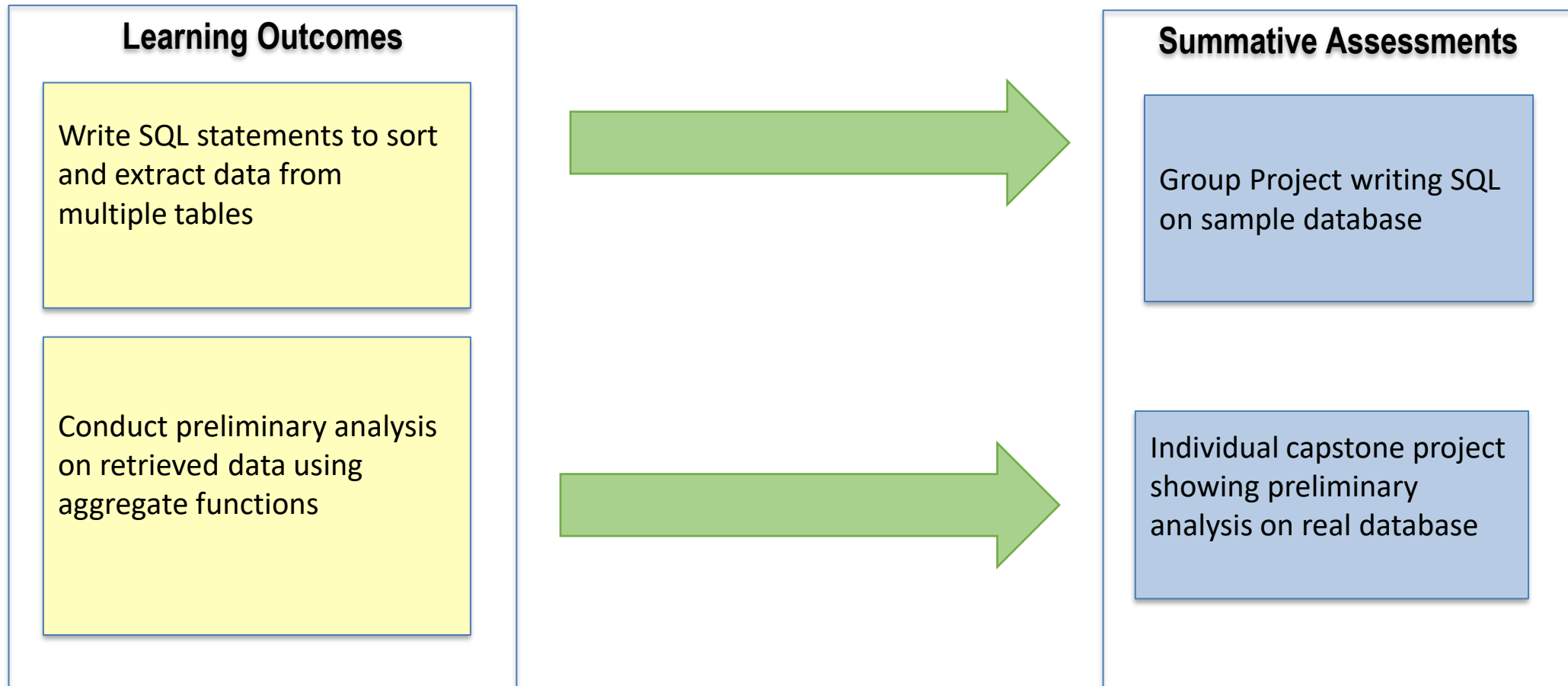# 3. Alignment of Learning Components
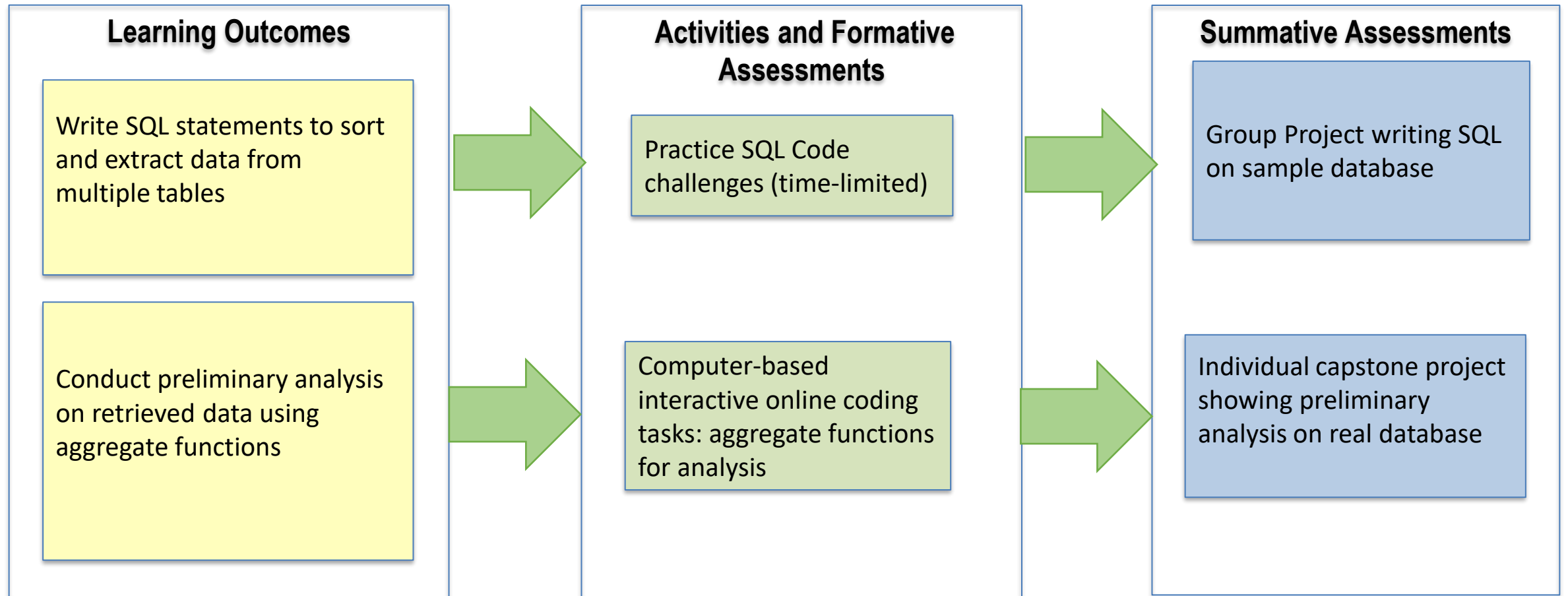
Considerations for design of assessment

When designing assessment to measure of achievement of learning outcomes:

- How do the assessments demonstrate the learning outcomes?
- Are the requirements for success specific and detailed?
- Will assessment provide evidence of the stated skill or competence in an authentic context?

Goal: Demonstrate competency through summative assessment

Learning Outcomes

Write SQL statements to sort and extract data from multiple tables

Conduct preliminary analysis on retrieved data using aggregate functions

Summative Assessments

Group Project writing SQL on sample database

Individual capstone project showing preliminary analysis on real database

Process: Build skill through practice activities and formative assessment

Learning Outcomes

Write SQL statements to sort and extract data from multiple tables

Conduct preliminary analysis on retrieved data using aggregate functions

Activities and Formative Assessments

Practice SQL Code challenges (time-limited)

Computer-based interactive online coding tasks: aggregate functions for analysis

Summative Assessments

Group Project writing SQL on sample database

Individual capstone project showing preliminary analysis on real database

4. Authentic Assessment for Microcredential Design

Demonstrating skills

As microcredentials are competency-focused, learners expect to practice and apply specific skills.

→ Assessment must measure and demonstrate that the learner has mastered the targeted skill

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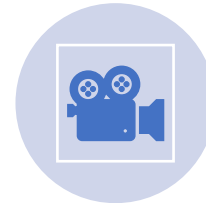# Offer authentic opportunities for practice and reflection

Project-based assessments

Problem-based assessments

Scenario-based assessments

Video demonstration presentation

Portfolio (e.g., collected evidence from formal and informal learning)

Dialogue or conversational methods (e.g., presentations, interviews, and debates/discussions)

Let's look at an example:

Healthcare for internationally educated practitioners

- A program in healthcare to help internationally trained practitioners to integrate into a Canadian context

- Authentic assessments

  - **Personal portfolio**: demonstrate connections with the concepts and theories with professional experience and identify plans to integrate into the Canadian public health system

  - **Research project design**: create a healthcare improvement research plan based on the issues and contexts relevant to students

Let's look at an example:

Leadership
And
Coaching

- Certificate in coaching for recreational sports programs for young adults
- Authentic assessments
  - Learners complete the evaluative experiential learning module
  - Practice simulation session with reflection/peer feedback
  - Video recording of experiential practice coaching for instructor feedback

Diversifying assessment activities

- Consider providing learners with multiple opportunities to complete a summative assessment until they reach a specific benchmark or percentage.

- Engage learners through flexible assessment and choice

- Foster an inclusive environment for students with different learning preferences and needs

- Empower students to take responsibility for their learning

- Consider online assessment

5. Collaboration for Assessment

Collaborative efforts to improve assessment

- As competency identification, the assessment design also benefits from collaboration from employers, students, faculty, and other stakeholders

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Contributions of employers, students, and other stakeholders

- Employers
  - Increase recognition of the value of microcredentials
  - Build partnerships for authentic assessment activities
- Students
  - Provide valuable input on needs
- Others
  - Provide supplement information on industrial or professional standards, etc.

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6. Summary

Key takeaways for assessment design

- Formative and summative assessments should be integrated into microcredential design

- Four tips for assessment activity design in microcredentials:
  - Align assessment activities with learning outcomes
  - Offer authentic opportunities for practice and reflection
  - Provide frequent formative assessment
  - Diversify assessment activities

- Successful assessment design for microcredential courses requires collaboration among employers, students, instructors, and other stakeholders

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Resources from the University of Toronto

1. Create rubrics

- Using rubrics

2. Online learning assessment

- Online assessment and accessibility resources

3. Effective feedback

- Feedback and Checks for Understanding

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External Resources

1. Rubrics for assessment

- Assessment rubrics

2. Models for assessment

- The learning transfer evaluation model
- The Miller model for assessing competence
- The Dreyfus model of skill acquisition

3. Effective feedback

- Impact of performance feedback for effective use of digital badges
- The principles of feedback

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