LESSON 76

Testing and Evaluation

40 minutes | Software Engineering and Testing | Outcome 2.19 | Outcome 2.21 | Outcome 2.22 | Outcome 1.23 | Outcome 1.19 | Outcome 1.20

WHAT THIS LESSON DOES

In this lesson, you'll explore how to evaluate software solutions for short-term and long-term outcomes. Follow step-by-step guidance to learn testing methods, engage in group reflections, and prepare presentations to communicate design processes effectively.

CURRICULUM OUTCOMES

Outcome	What the specification asks for
2.19	test solutions and decisions to determine their short-term and long-term outcomes
2.21	critically reflect on and identify limitations in completed code and suggest possible improvements
2.22	explain the different stages in software testing
1.23	reflect and communicate on the design and development process
1.19	identify features of both staged and iterative design and development processes
1.20	collaborate and assign roles and responsibilities within a team to tackle a computing task

WHAT STUDENTS SHOULD BE ABLE TO DO

- Grasp the importance of evaluating software solutions for both short-term and long-term outcomes.
- Develop skills in testing and assessing software effectiveness using defined criteria and methods.
- Enhance collaborative skills through group reflections on project successes and challenges.
- Acquire the ability to communicate design processes effectively via presentations.
- Apply evaluation and reflection concepts to practical software development scenarios.

BEFORE THE LESSON

- This is a discussion and reflection lesson, no environment or code is needed. Have somewhere for students to write, a notebook or a shared document, ready for the closing task.
- Decide in advance whether students reflect individually or in small groups, so the reflection and presentation steps flow without regrouping mid-lesson.

Testing and Evaluation

HOW THE LESSON RUNS

- Introduction
- Short-Term Outcomes
- Long-Term Outcomes
- Testing Solutions for Outcomes
- Group Reflections
- Preparing Presentations
- Reflection Activity
- Wrap Up

TEACHING MOVES

- 2. Short-Term Outcomes. Anchor each aspect to a concrete measure the students can name for their own project: seconds to load, clicks to a task, errors during registration. Vague goals cannot be tested.
- 3. Long-Term Outcomes. Contrast directly with the previous step. Ask what breaks if usage grows tenfold, or who maintains this in two years. Long-term is about change over time, not the launch.
- 4. Testing Solutions for Outcomes. Stress that a criterion must be measurable before it is testable. Have students turn one loose goal like easy to use into something you could actually check.
- 5. Group Reflections. Model one honest what did not work example first so students see admitting a failure is the point, not a mark against them. Keep the prompts on display.
- 6. Preparing Presentations. Point out that this is exactly the evaluation and design-process account the Coursework Project asks for. Insist on evidence: a chart or a test result, not just claims.
- 7. Reflection Activity. Hold students to naming a test method, not just an outcome. For each short-term and long-term outcome they list, they must say how they would actually check it.

WHAT TO WATCH FOR

- Students treat evaluation as a yes or no verdict: the app works, so it passed. Push for criteria against measured results. Ask what number or observation would prove it, and what would count as failing, so evaluation becomes evidence rather than opinion.
- Confusing testing with debugging or coding, expecting to write code in this lesson. Clarify that testing here is planning and judging against criteria. The code already exists; the skill is deciding what success looks like and checking it.

DIFFERENTIATION

- Emerging: Give a filled example for the task-tracker: one short-term outcome and one long-term outcome fully worked, so they extend a pattern rather than start blank.
- Developing: Have them explain the difference between a short-term and a long-term outcome for their own project back to you before they write the reflection.