

UNIT 9. Assessment and Self-Evaluation Tools



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1. Aim and Objectives

This unit aims to present practical and effective assessment tools that help trainers and adult learners measure progress in CT.

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- By the end of this unit, adult trainers will be able to:
 - 1. Identify the purpose and role of assessment in CT learning.
 - 2. Present diagnostic, formative, summative and self-evaluation tools.
 - 3. Present digital platforms (MagicSchool, Socrative, Moodle Quizzes, Google Forms) for CT assessment.
 - 4. Apply rubrics, checklists, and reflection sheets to evaluate CT competences.
 - 5. Interpret assessment results to support learner progress.



2. Outcomes

Upon completing this unit, adult educators will be able to:

1. Demonstrate an understanding of the role of assessment in CT, including familiarity with practical assessment tools and digital platforms for the assessment of CT competences;
2. Choose appropriate tools and platforms for the assessment of adult learning outcomes;
3. Interpret and analyse assessment results.



3. Main CT Principles Applied

All four CT principles are applied in this unit.

- Decomposition
- Abstraction
- Pattern Recognition
- Algorithmic thinking



4. Link to WP2 Modules

WP2 M4 presents “Assessment of Soft Skills Development in CT Activities”. This module presents approaches such as observation, self-assessment, and peer feedback, and provides examples of rubrics and checklists to measure progress without formal testing.

WP2 M3, in the topic “Designing Lesson Plans and Activities”, presents assessment techniques such as peer and formative assessment.





5.1 Challenges

The greatest challenge is to assess not only what adult learners know but also how they think, solve problems, create algorithms, and identify patterns.

Assessment must cover:	Effective assessment:	Evaluation tools must be:
<ul style="list-style-type: none"> • Process • Reasoning • Strategies • Reflection • Creativity 	<ul style="list-style-type: none"> • Guides instruction • Motivates learners • Identifies knowledge gaps • Fosters metacognition and self-regulation • Encourages continuous improvement 	<ul style="list-style-type: none"> • Accessible • Simple to use • Meaningful • Supportive





5.2 Challenges

Assessment materials that match adult learners' needs

It may be challenging for adult trainers to prepare assessment tasks that are practical, realistic and age-appropriate, while still measuring key competences and learning outcomes.

Suitable digital tools for assessment and self-evaluation

Adult trainers struggle to choose tools that are easy for learners, especially older adults, to access and use while also supporting quizzes, surveys, self-assessment and feedback collection.

Continuous formative assessment

Adult trainers need to plan activities where they can observe progress during learning, not only at the end, and adjust support based on learner performance.

Clear assessment criteria

It can be challenging to define simple and understandable criteria so adult learners clearly know what is expected and how their work will be evaluated.

Summative assessment with limited time

It may be difficult for adult trainers to combine performance-based assessment with summative assessment and meaningful reflection within a limited training schedule.





6. Justification

Why does CT require unique assessment approaches?

CT assessment tracks reasoning and problem-solving processes, as well as answers, throughout learning.



<https://www.evelynlearning.com/top-7-assessment-tools-for-teachers/>

Why do adult learners need transparent and supportive assessment?

Adults may experience:

- Anxiety related to technology
 - Low confidence in mathematics or logic
 - Fear of making mistakes
- A strong need for clarity and relevance

Assessment tools must:

- Build confidence
- Support autonomy
- Encourage reflection rather than judgement
- Provide constructive feedback



7. Types of Assessment

Types of Assessment	Usage	Examples
Diagnostic Assessment	Used at the beginning of a module to measure: <ul style="list-style-type: none"> • prior knowledge • misconceptions • initial CT level 	<ul style="list-style-type: none"> • Socratic entry quiz • Google Forms CT baseline test • Sorting tasks ("Arrange the steps of an algorithm in the correct order") • Pattern recognition puzzles
Formative Assessment (Ongoing Assessment)	<ul style="list-style-type: none"> • Regular • Low-pressure • Highly specific 	<ul style="list-style-type: none"> • Exit tickets ("What was most difficult today?") • Think-aloud protocols • Observation checklists • Peer review • Self-evaluation sheets • Short quizzes (ungraded)
Performance-Based Assessment	Learners demonstrate skills through actions.	<ul style="list-style-type: none"> • Creating a flowchart • Solving a logic problem • Modelling a process
Summative Assessment (Final Evaluation)	Used at the end of a topic or module to measure achieved learning outcomes.	<ul style="list-style-type: none"> • Structured test (multiple-choice, open-ended questions) • Practical task: "Create an algorithm to solve..." • Portfolio of work



8. Platforms for Assessment

MAGiCSCHOOL

Assists in designing high-quality assessment tasks aligned with higher-order cognitive skills.



Enables the real-time collection of student responses through quizzes and open-ended questions.



Quizzes provide a flexible and robust assessment environment capable of supporting complex and multi-step problem-solving tasks.



Creates quizzes and surveys. Matching and ordering tasks use a multiple-choice grid.

Comparison of Different Assessment Platforms

Question Type	MagicSchool	Socrative	Moodle Quizzes	Google Forms
Multiple Choice	Yes	Yes	Yes	Yes
Dichotomous	Yes	Yes	Yes	Yes
Matching	Yes (AI-generated)	No	Yes	Via a grid
Ordering	Yes (AI-supported)	No	Yes	Via a grid



9.1 Activities and Resources: Diagnostic Assessment

CT Diagnostic Assessment with Digital Tools

Goal: To identify learners' initial CT knowledge before training.

Outcome: Learners understand their starting point, and trainers can adapt upcoming lessons.

Procedure:

- The trainer creates a 10–15-item diagnostic quiz.
- Learners complete the quiz individually or after discussion in a group.
- The trainer identifies which CT concepts are clear and which require more instruction.

Focus of the Quiz

To identify, analyse and respond to disinformation using CT principles.

Estimated time: 25–30 min



Offline diagnostic quiz

The adult trainer can print out the quiz in different formats.

These tasks can be completed individually or in groups.

Online diagnostic quiz example

[Socrative.com](https://socrative.com)*

Code: SOC-UMDPJLRZ

*If you are using Socrative for the first time, create an account on this platform. Then you can add this quiz to your library.

Resources

[You can find an example of the diagnostic test here.](https://computationseniors.eu/)



9.2 Activities and Resources: Offline Diagnostic Test

How can trainers conduct an offline diagnostic test?

1

EXAMPLE

An Individual Task

Materials: a board on which questions will be written and sticky notes in different colours.

Procedure: Write questions on the board and ask adult learners to write the correct answers on sticky notes. Then ask learners to come to the board and place their notes next to the corresponding questions and discuss their answers.

2

EXAMPLE

An Individual Task

Materials: printed questions with answer options and pens.

Procedure: Distribute handouts containing the questions and answer options. Ask learners to select their answers and discuss their choices with the trainer and other participants.

3

EXAMPLE

Group Task

Materials: questions printed separately, with one question per page and sticky notes in different colours.

Procedure: Print each question on a separate page. Ask learners to discuss it in groups, choose an answer and write it on a sticky note beside the question.





9.3.1 Activities and Resources: Formative Assessment

AI-Supported Formative Assessment with Adaptive Feedback

Goal: To assess learners' CT knowledge during the teaching process.

Outcome: Learners recognise their progress and areas for improvement; trainers can modify particular tasks based on adaptive feedback.

How can MagicSchool* be used to apply CT principles when analysing disinformation?

1
STAGE

Suggested Prompt: "Create formative assessment questions to help adult learners practise identifying disinformation using computational thinking skills. Use real-life online scenarios and provide short feedback for each answer."

Prepare your prompt. The next page presents two alternative tools for developing the assessment.

Teacher Tools Create custom tool

1

Hi Teacher, you're magic.

Create formative assessment questions to help adult learners practice identifying disinformation using com

Related tools for "Create formative assessment questions to help adult learners practice identifying disinformation using computational thinking skills. Use real-life online scenarios and provide short feedback for each answer." (8) Clear Results

Multiple Choice Quiz / Assessment Generate a multiple choice assessment, quiz, or test based on any topic, standard(s), or criteria.	Academic Content Generate custom academic content based on the criteria of your choice.	SE Model Lesson Plan Generate a SE model lesson plan - Engage, Explore, Explain, Elaborate, Evaluate.
DOK Questions Generate questions based on topic or standard for each of the 4 Depth of Knowledge (DOK) levels.	Multi-Step Assignment Generate an assignment based on any topic, including a warmup, academic content, vocabulary, and questions.	Real World Connections Generate real world examples to increase student investment.
MagicSchool for Students Ideas Generate ideas on how to use MagicStudent tools with your students.	3 Raina Have a question or request? Ask Raina, our trusted AI chatbot for educators.	2

*If you are using MagicSchool for the first time, you will first need to create an account on this platform.



9.3.2 Activities and Resources: Formative Assessment

OPTION A

Option A: use “Real World Connections” to create scenarios, then draft questions and feedback.

Real World Connections

[Show exemplar](#)

Generate real world examples to increase student investment.

Grade level: *

Professional Staff

Topic, standard, objective (be as specific as possible): *

Disinformation explanation using Computational Thinking principles

[Add File](#)

Total word limit: 0/75,000

[Generate](#)

[Web Search](#)

OPTION B

Option B: enter the prompt in Raina. Check the generated questions and feedback and adapt them to your learners.



Hello! I'm Raina. [?](#)

Made for Schools

Hello! My name is Raina, your AI instructional coach. You can ask any questions related to best practices in teaching or your work in a school building. Feel free to ask me for ideas for your classroom, research on best practices in pedagogy, behavior management strategies, or any general advice! The more specific your questions, the better my responses will be. How can I help you today?

Propose strategies for engaging parents in math homework help

Plan a digital citizenship lesson for 8th graders

Create formative assessment questions to help adult learners practice identifying disinformation using computational thinking skills. Use real-life online scenarios and provide short feedback for each answer.



[Fastest](#)

[Web Search](#)





9.4.1 Activities and Resources: Performance-Based Assessment

Goal: To assess learners' CT knowledge and problem-solving skills through activities conducted in real-world or simulated situations.

Outcome: Learners demonstrate their ability to apply knowledge and skills through project implementation, presentations, or problem-solving activities.

How to Prepare an Information Reliability Task

Purpose

This task, "Verify Before You Share", assesses learners' ability to apply CT skills in real-life situations by verifying online information and making evidence-based decisions.

Scenario

You receive a viral online post (article, social media message, or short video) that claims to present important information (for example, related to health, politics, or finance).

Preparation

Before sharing it, you must decide whether the information is reliable.



Task for Learners

Using CT, verify the information step by step and explain how you reached your conclusion.



9.4.2 Activities and Resources: Performance-Based Assessment

Learners should apply the following CT principles:

1. Decomposition

Break the claim into clear components:

- What is being claimed?
- Who published or shared it?
- What evidence is provided?
- What is the purpose of the post?

2. Pattern Recognition

Identify observable indicators related to reliability, such as:

- presence or absence of sources;
- repeated claims found elsewhere;
- similarity to known misleading content;
- lack of verifiable data.

3. Abstraction

Focus only on essential information needed to verify the claim:

- Ignore design, formatting, or presentation style.
- Concentrate on facts, sources, and evidence.

4. Algorithmic thinking

Describe the verification process in clear steps, for example:

1. Identify the original source.
2. Check the publication date.
3. Compare with trusted sources.
4. Verify any images or videos.
5. Check information for consistency.



Continued on the next page



9.4.3 Activities and Resources: Performance-Based Assessment

Assessment Format (Trainer Selects One)

- Written report (500–700 words)
- Slide presentation (5–7 slides)
- Oral explanation (5–7 minutes)

Recommended Tools

Primary Tools

Moodle (Assignment / Workshop) – submission and rubric-based evaluation
 Google Docs or Slides – structured work and collaboration

Supporting Tools

- Fact-checking websites
- MagicSchool – support for drafting and feedback

Assessment Criteria (Rubric Overview)

CT skills:

- Decomposition
- Pattern recognition
- Abstraction
- Algorithmic thinking

Performance levels:

- Excellent
- Satisfactory
- Needs improvement

Reflection (Required)

Learners briefly answer:

- Which step in the verification process was most challenging?
- How will you use this process in real life?



9.5.1 Activities and Resources: Summative Assessment

Relationship Between Summative Assessment and CT Principles

CT Skill	Excellent	Satisfactory	Needs Improvement
Decomposition	The claim is clearly broken down into all key components (claim, source, evidence, purpose). Each part is explained accurately.	Most components are identified, but some details are unclear or incomplete.	Key components are missing or not clearly identified.
Pattern Recognition	Identifies clear indicators related to reliability (e.g. sources, repetition across platforms, consistency with trusted information).	Identifies some indicators, but analysis is limited or partially developed.	Indicators are not identified or are incorrectly interpreted.
Abstraction	Focuses only on essential facts and verification needs; irrelevant details are successfully ignored.	Mostly focuses on key information, but includes some unnecessary details.	Struggles to distinguish essential information from non-essential details.
Algorithmic thinking	The verification process is presented as a clear, logical and complete sequence of steps.	The steps are logical but incomplete or not clearly ordered.	Steps are unclear, missing, or not logically connected.



9.5.2 Activities and Resources: Summative Assessment

Summative Assessment

Goal: To measure the learning outcomes achieved at the end of a topic or module.

Outcome: Learners identify what they have learned throughout the course.

Examples:

- Final project demonstrating CT principles
- Structured test: multiple-choice and open-ended questions
- Practical task: "Create an algorithm to solve ..."
- Portfolio of work

Tool	Assessment Features	Role
Moodle	Rubrics	Primary final evaluation
Project-based (Moodle/Docs)	Projects	Authentic assessment
Google Forms	Quizzes	Flexible alternative



9.6 Additional Resources

Resources:

- [Types of assessment](#)
- [List of digital assessment tools](#)

Video links:

- [How does disinformation work?](#)
- [How to understand Misinformation, Disinformation and Malinformation?](#)
- [Disinformation: The End of Humanity?](#)

Downloadable activity templates:

- CT Diagnostic Assessment Quiz (file [CTDiagnosticAssessment.docx](#) contains quiz questions that can be transferred to different digital assessment tools)

Real-life case examples:

- [AI deepfakes of real doctors spreading health misinformation on social media](#)
- [Disclose.tv: Conspiracy Forum Turned Disinformation Factory](#)

[Examples of unplugged and digital activities](#)

[Inclusive, culturally aware content](#)





10. What is the value of this unit?

This unit presents essential types of assessment in CT:

- Diagnostic Assessment
- Formative Assessment (Ongoing)
- Performance-Based Assessment
- Summative Assessment (Final Evaluation)



This unit presents and compares different digital assessment platforms, such as:

- MagicSchool
- Socrative
- Moodle Quizzes
- Google Forms

This unit supports adult trainers by:

- Providing practical examples of online and offline tools for assessing knowledge;
- Building trainers' confidence and insight into learners' thinking.

