

UNIT 3: Relevant Topic Selection



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1. Aim and Objectives

In this unit, you will explore how appropriate topics that arise in everyday situations and simple problem-solving tasks can become powerful opportunities to embed computational thinking in a natural and engaging way.

O B J E C T I V E S

By the end of this stage, adult educators will be able to:

- Identify training topics that address adult learners' needs, interests, and real-life situations;
- Involve adult learners in selecting topics to strengthen motivation and ownership of learning;
- Select and justify appropriate topics for different adult learning contexts, considering their relevance, accessibility, and potential for applying computational thinking (CT);
- Translate a selected topic into a practical task that demonstrates relevant CT principles.



2. Outcomes

After implementing this stage, the following outcomes are expected:

- Training topics are aligned with adult learners' needs, interests and real-life situations;
- Learners contribute to topic selection, supporting their engagement and ownership of learning;
- Selected topics are justified in terms of their relevance, accessibility and potential for applying computational thinking (CT);
- Practical tasks connect selected topics with relevant CT principles through familiar, everyday examples;
- Topic choices accommodate diverse learning needs, supporting the inclusion of older adults and vulnerable learners.



3. Main CT Principles Applied

All four CT principles are applied in this unit

- Decomposition
- Abstraction
- Pattern Recognition
- Algorithmic thinking



4. Link with WP2 Modules

This unit links to WP2 Module 3, "Integrating Computational Thinking in adult education". Its emphasis on practical, accessible learning supports the selection of relevant everyday topics. Module 4, "Teaching strategies", adds a focus on developing soft skills through CT.





5. Challenges

One common challenge is turning everyday situations into learning moments for computational thinking. Not every topic fits naturally, but here's the trick: look at familiar situations with fresh eyes and ask, "Where's the problem to solve here?" Sometimes, all it takes is a new perspective.

Another key challenge is finding the right balance between simplicity and depth. Topics should feel close to learners' lives, yet still build strong thinking skills. The solution? Start simple, then go deeper step by step.

And what about moving away from abstract theory? It can be tempting to explain first and practise later. But here's a fun fact: learning sticks better when it starts from real life.



6. Justification

The topics that are chosen should naturally promote the analysis of real-world problems, structured reflection, active learner participation, and transferable learning.

Adult learners learn better when topics are relevant and presented through concrete examples and familiar language. They bring diverse life experiences that can enrich the learning process.





7.1 Activity: Everyday Stories

Objective: Identify topics in everyday stories, assess their suitability, and justify one choice before designing a CT task.

Time: 25–30 minutes.

Work in pairs or small groups.

1. Identify possible topics

Use a story shared by learners about shopping, travel or family commitments. Identify the difficulty and suggest two or three topics.

Example: shopping within a budget, comparing products or planning a route.

2. Assess each topic

Relevance: meets a learner need?

Value: useful in daily life?

CT: which principle fits?

Access: experience and support?

Scope: time and resources?

Involvement: learner input?

3. Select and apply

Agree on one topic with learners. Explain why it is more suitable than the alternatives and note any adaptations.

Outline a task using relevant CT principles.

Output: chosen topic, reasons, CT principles and a brief task outline.





7.2 Activity: Orchestra Conductor

This activity gives you, as a trainer, first-hand experience of why selecting appropriate topics matters when planning CT activities.

Select a short video of an orchestra conductor

Make sure the video is clear and easy to follow, as the goal is observation, not musical knowledge

Watch the video and look for patterns in:

The conductor's gestures
How musicians respond to those gestures
When the orchestra changes its behaviour

- Problem identification (coordinating many people)
- Decomposition (individual musicians and actions)
- Abstraction (focusing only on relevant signals)
- Algorithmic thinking (clear gestures and rules)





7.3 Activity: The Invisible System

This activity helps you to understand how an invisible system influences topic selection. It focuses on abstraction, pattern recognition, and systems thinking, using familiar situations with which adults interact daily.

Many everyday activities work because there is an underlying system behind them, even if we rarely think about it. This activity invites you to uncover that system.

Choose a familiar system. Select one everyday system you regularly use, such as:

- Booking a medical appointment
- Using public transport
- Borrowing a library book

Spot breakdowns and bottlenecks

Where does the system usually fail?

Where do people get confused or stuck?

CT Principles Applied

- Abstraction
(Focus on essentials)
- Pattern recognition
(Spot repetitions)
- Decomposition
(break into parts)

Algorithmic thinking
(Step-by-step solutions)



7.4 Activity: Reflective Challenges

Picture this: you're preparing your next lesson, and you want to introduce CT, but you catch yourself thinking,

“This topic is too practical... there's no room for CT here.”

Now pause for a moment and look at your own daily routine as a teacher. How do you plan a workshop session? How do you organise materials, time, instructions, and assessment? That's your real-life scenario.

Here's the challenge for you:

Where's the problem to solve in your own teaching practice?

Maybe learners often misunderstand instructions. Maybe activities take longer than planned. Maybe assessment feels messy or repetitive. Instead of seeing it as frustrating, try to see it as a CT opportunity.

Break down one of these situations step by step. What happens first? What decisions do you make? What patterns repeat every week? Then ask yourself:

“How could I redesign this process to make it clearer, faster, or more effective?”

By doing this, you're already practising problem decomposition, pattern recognition, and structured decision-making using nothing more than your everyday teaching reality.

And here's the key insight: if you can find CT in your own practice, you'll naturally know how to help your learners find it in theirs. Sometimes, computational thinking starts not in the lesson plan, but in the teacher's mindset.



8. Additional Resources

Teacher Education for Computational Thinking



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- District/Organization & State
- Something you are hoping to learn about today?

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9. What is the value of this stage?

The value of this stage lies in helping adult trainers select and frame topics that connect CT with learners' needs, interests and everyday experiences. Relevant topic selection provides the foundation for meaningful, accessible, and practical learning.

By using familiar situations, trainers can help adult learners recognise that they already apply elements of CT when organising tasks, comparing options, identifying patterns, making decisions, and solving everyday problems.



Selecting relevant topics can also strengthen participation and confidence by reducing the distance between abstract concepts and real-life application.



By selecting topics that reflect what learners know, experience, and care about, trainers can create inclusive learning experiences that encourage curiosity, support motivation, and promote the practical application of CT in everyday life.

End of the Unit