



PedPilot – Self-regulated Learning Guide for Teachers

2024-1-HU01-KA220-SCH-000250549



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the European Union

PedPilots – Supporting Self-Regulated Learning

Unit 5.

Metacognition and learning strategies



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5. Metacognition and learning strategies

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Introduction

Learning is a complex, multi-faceted process in which individuals not only acquire knowledge but also become capable of managing their own thinking, behaviour and emotions. Effective learning is determined not only by appropriate cognitive processes, but also by the learner's self-regulation skills and emotional state. Modern pedagogy therefore places increasing emphasis on the conscious application of various learning strategies: cognitive, metacognitive, as well as motivational and affective strategies. Together, these ensure that we are able to understand, direct and sustain learning processes. Motivational and affective techniques are particularly important, as intrinsic motivation, emotional stability and a positive attitude significantly influence learning effectiveness and perseverance.

Objectives

The aim of this training material is to support teachers in understanding and applying the steps of self-regulated learning, through the interlinked stages of planning, monitoring, reflecting, evaluating and re-planning. The material offers theoretical foundations, reflective questions and practical tools to enable participants to develop self-regulated learning in their own teaching practice – both in themselves and in their pupils.

Time allocated to the teaching unit:

2 teaching hours

Learning outcomes

Teacher competences to be developed:

- Metacognitive awareness and self-reflection in teacher learning;
- Planning and structuring learning;
- Monitoring and self-assessment of the learning process;



- Motivational and affective self-regulation in teachers' professional development;
- Cooperative professional learning;
- Supporting learning (emotional and physical state, calm environment, encouraging independent learning, accepting mistakes)
- Planning pedagogical processes and self-reflection on their implementation (differentiation to promote optimal development, motivation, and extracurricular activities)
- Reflective thinking: independent reflection, analysis of learning experiences

Study material

Before tackling the tasks, let's look at what metacognition actually means.

Metacognition is the human ability to map, monitor and regulate one's own cognitive processes. Metacognition is, in essence, thinking about thinking. A group of experts recently suggested that certain aspects of metacognition may not necessarily have evolved through genetic selection, but rather through processes of cultural selection. According to the cultural origins hypothesis, the development of metacognition was greatly supported by a social environment in which people learned from one another, provided feedback, and reflected on their own thought processes. Metacognitive development is closely linked to the quality of social interactions, particularly those situations in which the learner verbalises their own thought processes. This means that metacognition is not an innate trait, but a learnable skill. This assumption is known as the cultural **origins** hypothesis.

Metacognition essentially means the conscious observation of our own thinking. It follows a theoretical framework comprising two main components:

1. **Metacognitive knowledge**, that is, becoming aware of our existing knowledge. Metacognitive knowledge is based on the learner's awareness of their own thoughts and learning strategies, which manifests itself in the form of declarative knowledge, procedural knowledge and conditional knowledge.
2. **Metacognitive regulation**, that is, the actions necessary for effective learning. Whilst metacognitive knowledge concerns ideas and facts, metacognitive regulation involves carrying out the actions necessary for effective learning in three stages: *planning, monitoring and evaluation*.

Metacognitive strategies:

Metacognitive strategies are processes that can be broken down into steps, which we can use to monitor our thinking and which help us achieve a set goal (such as understanding a text).

They help to review and direct learning, serve to plan and monitor thinking, and also check the results of the activity.

They usually precede or follow cognitive operations (e.g. asking questions).

Metacognition and learning:

It plays a key role in successful learning, which is why it is important to study and develop learners' thinking so that they can use their cognitive abilities more effectively with the help of metacognition. Studying metacognition can help teachers understand the cognitive processes that take place during learning and the differences between stronger and weaker learners.

The relationship between metacognition and self-regulated learning

Metacognition plays a key role in self-regulated learning, as it enables individuals to consciously plan, monitor and evaluate their own learning processes, rather than merely carrying out tasks, thereby taking responsibility for their own learning and being able to flexibly adapt their learning strategies. Below is a set of tasks designed to develop the above competencies.

Developing metacognition:

More detailed material on this can be found in Chapter 4.

1. Awareness – ‘How do I think?’

Aim: for the individual to recognise what they know, what they do not know, and how they learn.

2. Teaching planning – “How am I going to work?”

Aim: for the individual to think ahead, rather than simply starting work.

3. Self-assessment – “Am I making good progress?”

Aim: for the individual to monitor their progress and make adjustments as they go along.

4. Reflection – “What have I learnt about learning?”

Aim: to look back not only on the result, but also on the process.

5. Teaching thinking strategies

We do not assume that the individual “knows this already”.

6. Teacher modelling (thinking aloud)

One of the most powerful tools.

7. Creating a safe learning environment

Metacognition only develops in a safe environment.

A. Getting into the right frame of mind – How do I learn as a teacher?

Task:

Think back to a specific, recent situation in which you acquired new professional knowledge (e.g. a methodological idea, a conflict management tool, a pedagogical approach)!

Write down or reflect on the following questions:

What was the moment or situation when you felt: “I am really learning now”?_

What helped your learning process?

(e.g. personal motivation, a safe environment, practical experimentation, feedback)

What made learning difficult or slowed it down? (e.g. lack of time, resistance, tiredness, previous bad experiences)? _____

What emotions did you experience whilst learning? _____

What does this situation reveal about how you learn as a teacher

2. What does self-regulated learning mean for a teacher?

a. Presentation of a visual model

Take a look at the flowchart or the pie chart representing the three phases!





These three elements together constitute a teacher's self-regulated learning. We will now look at which of these is closest to you.

A. Reflection card/statements

Individual reflection

Please read the three statements below! Each one represents a phase of self-regulated learning.

a. Planning

“I can easily articulate what I want to focus on professionally.”

b. Monitoring

“I regularly check how I am progressing towards my professional goals.”

c. Evaluation

“I often reflect on what went well and what I'd like to change.”

Task:

1. Think through your own experiences, then select:

- the statement that best describes you at the moment;
- and the one that describes you the least!

(We are not looking for “right” or “wrong” answers, but rather an awareness of how you currently operate.)

2. Quick focus point identification – personal compass

Please tick on the worksheet:

- tick ✓ the phase you currently feel is your strongest;
- with a ! the phase you identify as an area for improvement.

This marking will not be shared; it is intended solely for your personal work.

B. Exercise – Map of my learning patterns – interactive self-discovery task

Please complete the learning map below based on your own experiences!

You will find an explanation below the table to help you.

<p>“Where I perform well” (green)</p>	<p>“Where I get stuck” (red)</p>
<p>“What motivates me” (yellow)</p>	<p>“What could help me improve” (blue)</p>

Part I – “Where I perform well” (green)

List the learning situations or methods that go well, where you feel confident!

Examples:

- I quickly grasp new methodological material;
- I learn easily from videos;
- I’m efficient when there’s a deadline.

Part II – ‘Where I get stuck’ (red)

List the areas that hinder or slow down your professional learning!





Examples:

- I procrastinate;
- I am overloaded;
- my concentration wanders when working through long texts;
- I don't have time to organise what I've learnt.

Part III – 'What motivates me' (yellow)

What motivates you to learn?

Examples:

- trying out new ideas with the children;
- observing good examples from other teachers;
- a sense of personal achievement;
- taking part in training courses.

Part IV – 'What could help with development' (blue)

Describe what tools, circumstances or support would help make learning more effective!

Examples:

- better time management;
- 10 minutes of reflection at the end of each day;
- feedback from colleagues;
- a study partner or professional mentor.

Identifying a focal point

Once the map is complete:

- look over the whole sheet;
- circle the one element you would most like to develop.

This will be your personal learning focus for the coming period.

This exercise helps you to plan a learning process realistically, breaking it down into steps. The goal does not stand alone, but is built on habits, motivation and conscious obstacle management.



B. Planning: Goal Pyramid

Task:

Please fill in the goal pyramid below, working from the bottom up or from the top down – whichever feels more natural to you!

Keep your descriptions short and to the point! We’re not looking for a perfect plan, but a working initial idea.

LEVEL 1 – THE PEAK

Formulate a single, very specific goal that

- can be achieved within 6–8 weeks,
- brings about meaningful change!

My goal:

(e.g. ‘By the end of February, I will be regularly using a new formative assessment method.’)

LEVEL 2 – MOTIVATION

Why is this important to you?

- What would you like to see done differently in your own work?
- How would this change help you?

LEVEL 3 – HABITS

What specific behaviours help you move forward?

Write down 3–4 small, regularly repeatable actions that support the achievement of your goal!

1.
2.
3.
4.

(e.g. reading once a week, trying things out, taking brief notes, etc.)



LEVEL 4 – BASIC LEVEL

Possible obstacles and solutions

What might get in the way? – What can you do about it?

Obstacle	Solution

(e.g. lack of time – weekly planning; forgetfulness – calendar reminder)

Final self-reflection

Which single element in this pyramid is most crucial to success?

A. Monitoring: “What should you do to track your progress?”

This exercise helps you to consciously and regularly track your professional development, rather than simply evaluating it after the fact. The emphasis is on brief, repeatable self-assessment that

can realistically be incorporated into your daily routine.

Instructions

Use the steps below to put together your own weekly self-assessment questionnaire!

This set of questions will serve as a regular point of reference over the coming weeks.

Step 1 – Think about what helps you keep track of your learning!

Read through the options below, then tick the ones that could realistically work for you!

- short written diary
- weekly self-assessment questions
- feedback requested from a colleague
- consciously setting milestones



(You may select more than one.)

Step 2 – Compiling your own weekly self-assessment questionnaire

Choose 4–6 questions that you would like to answer once a week!

You can use the sample questions below or come up with your own.

What have you learnt this week?

What did you try out in practice?

What went well?

What didn't work, or where did you get stuck?

What feedback did you receive (if any)?

What should your next step be?

Your own questions:

Step 3 – Deciding on the form of monitoring

Decide where and when you will use this set of questions!

Where will you keep it?

- in a notebook
- in a digital notebook
- linked to a diary
- in some other way

When do you reply to it?

- at the weekend
- on a specific day
- at a variable time



Step 4 – Commitment

In one sentence, describe what helps you to actually carry out this monitoring regularly?

Final self-reflection

Answer briefly! What do you gain by not only learning but also tracking your progress?

Professional learning environment:

This task helps you to become aware of:

- what kind of learning environment would best support your development,
- and how your current reality compares to this.

Comparing these two perspectives helps you make realistic yet forward-looking decisions.

Please complete the table below!

The ideal learning environment for you	Your current learning environment

Guiding questions:

- Where would you most like to study?
- What resources would you need?
- What timeframe would work for you?
- What kind of support would be helpful?
- What kind of feedback would be helpful?

Mapping your current learning environment

The real-life circumstances go on the right-hand side:

- Where do you actually study?
- How much peace and quiet/time/calm is there?



- What digital resources do you use?
- Do you receive feedback from your colleagues?
- What hinders you? What supports you?

Circle the one thing that you can most easily achieve in your current environment!

B. Final task

What have you learnt from this chapter? Think it through **and** answer the questions!

What was the insight, thought or experience that had the strongest impact on you?

What would you like to change in the learning process?

Supporting materials:

Self-regulated learning workbook

1. Today's starting point:

What did you learn today (or this week)?

2. Planning – Your goal for today / this week:

What is the one specific goal you are focusing on today? Why is this important to you?

3. Monitoring – How did it go?

- You tried out something from what you've learnt.
- You encountered difficulties.
- You experienced a sense of achievement.
- They asked for or received feedback.





4. Reflection

What is one sentence you would like to remember from today's lesson?

5. Assessment – Where are you now?

Which phase did you find most challenging today? Why?

6. Affective self-regulation – How did you support yourself?

- You took a break.
- You praised yourself.
- Reduced stress.

7. Professional learning environment

What helped today? What hindered progress?

8. Next steps

One small, achievable step for the coming days:



Checklist


1. What does self-regulated learning mean for a teacher?
 - a) Supervising pupils during lessons
 - b) The teacher's conscious, goal-oriented, reflective professional learning
 - c) Reducing the teacher's administrative tasks

 2. Which of the following is NOT part of the three phases of self-regulated learning?
 - a) Planning
 - b) Monitoring
 - c) Evaluation
 - d) Curriculum development

 3. Which statement is true of the 'monitoring' phase?
 - a) It only takes place at the end of the school year.
 - b) The teacher constantly monitors their own progress.
 - c) It is not linked to reflective thinking.

 4. Why is retrospective reflection useful?
 - a) It helps to identify mistakes in others' work.
 - b) It helps reduce stress and consolidate what has been learnt.
 - c) It is merely an administrative obligation.

 5. Which is an affective (emotional) self-regulation technique?
 - a) Note-taking
 - b) Breathing exercises or brief mindfulness
 - c) Changing the classroom seating arrangement

 6. Why is a well-designed learning environment important for the teacher?
 - a) It reduces learning efficiency.
 - b) It is unnecessary, as the teacher can teach anywhere.
 - c) It helps to maintain focus and regularity.
- 

7. Which of the following belongs to the planning stage?

- a) Testing what has been learnt in class
- b) Setting objectives and assessing resources
- c) Reviewing the results

8. What is the purpose of monitoring questions?

- a) Disciplining pupils
- b) Consciously tracking one's own learning progress
- c) Monitoring working hours

9. What is the most effective first step towards achieving a new professional goal?

- a) Procrastinating
- b) Identifying a small, immediately actionable step
- c) Waiting until you have more time

Answers: 1 a, 2 d, 3 b, 4 b, 5 b, 6 c, 7 b, 8 b, 9 b

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Project number: 2024-1-HU01-KA220-SCH-000250549



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