

Metacognition

Thinking about thinking Learning to Learn

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On a basic level, **metacognition** is about a pupil's ability to consider how they will undertake a task (**plan**), considering if the strategies are effective whilst working on it (**monitor**) and the overall success (**evaluate**).

Metacognition is when learners monitor and control their thought processes. They consider how they learn and are motivated to engage with/improve their learning.

This series of teacher resource cards will work alongside EEF recommendations and a link can be found below.

Example plan, monitor, evaluate

In this example we have used a year 4 reading lesson.

PLAN. The teacher asks the following questions before a year 4 reading task:

Strategy	How to use	When to use	What is it for?
Skim	Search for headings, highlighted words and summaries	Before you read a long piece of text	Helps you to focus on important information
Slow down	Stop, read and think about information	When information seems important. If you realise you don't understand it	Improves your focus on important information
Activate prior learning	Stop and think about what you already know about a topic	Before you read something or do an unfamiliar task	Makes new information easier to remember and allows you to see links between subjects. Information is less daunting if you already know something about a topic
Fit ideas together	Relate main ideas to one another. Look for themes that connect the main ideas, or a conclusion	When thinking about complex information, when deep understanding is needed	Once you know how ideas are related they are easier to remember than learning as if they are separate facts. Helps deeper understanding
Draw diagrams	Identify main themes, connect them, classify ideas, decide which information is most important and which is supporting	When there is a lot of factual information that is interrelated	Helps to identify main ideas and organise them into categories. Reduces memory load. May be easier to visualise

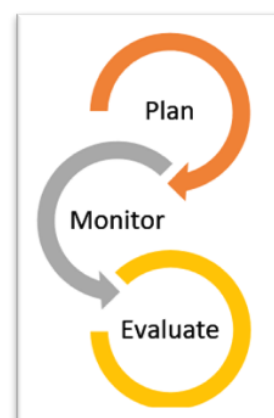
What I know
What I want to know
How will I find out

The teacher uses a strategy matrix tool with the pupils to help them to identify the strategies they might want to use (see following page for larger image).

happens during a task. Learners monitor their progress and check comprehension/production. In order to do this the learners must pause and take time to reflect on how things are going. The teacher can help by using tools like this one from the same reading class. The question prompts have changed slightly for use

MONITORING. This

What I know
What I want to know
What I have learned
What I still need to know

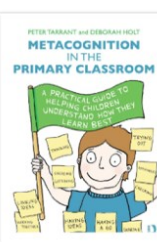


during the lesson.

EVALUATION. Learners reflect and consider how well they have accomplished

EVALUATING

What I know NOW	What I STILL need to know	How DID I find out	How WILL I do it next time



Metacognition further reading:

EEF Recommendations and research findings: <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/meta-cognition-and-self-regulation/>

'Metacognition in the Primary Classroom' by Tarrant & Holt is a recommended text and has been purchased for you to use on VLeBooks. If you do not have a log-in for this online library then please email scitt@sft.org.uk.

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This strategy evaluation matrix is a tool a teacher can use with the pupils for them to identify strategies they might want to use. The year 4 teacher in this example has listed how			

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Teachers should acquire the professional understanding and skills to develop their pupils' metacognitive knowledge

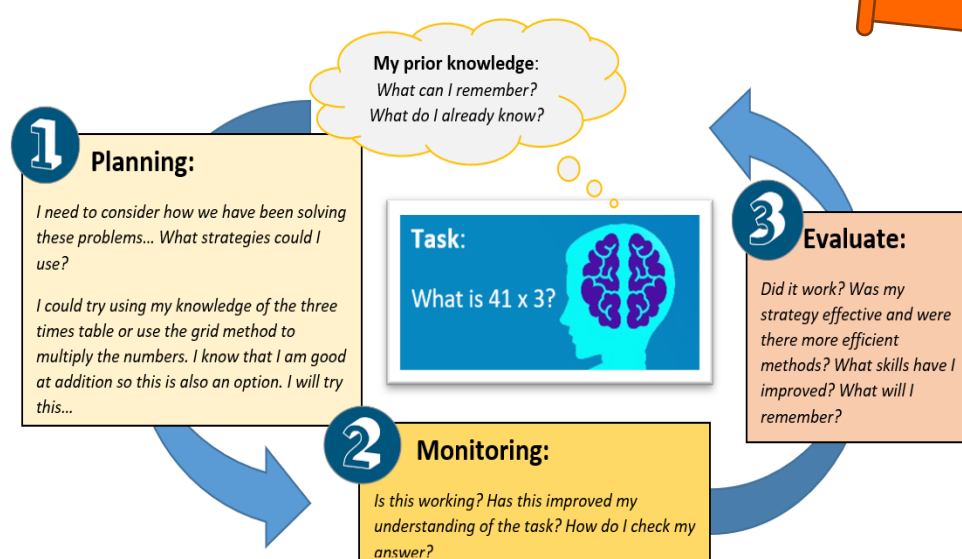
We hope to help this recommendation through SCITT/SFET training and through our collaborative learning community. **We want to hear from you** – send in great examples of the recommendations in action in your classroom and we will post examples on the SCITT website.

Keep prompting your pupils to be aware of their thinking

Combine explicit input with interactive questioning. Get pupils to think about strategies that they could use:

- *What strategies do you use when solving a problem like this?*
- *What should we pay careful attention to?*
- *Can you show me your working out*

Maths example



1

Planning

Have I done this task before? Was I successful?

What have I learned from the examples we looked at earlier?

Where do I start and what viewpoint will I use?

Do I need a particular resource to help me with this task?

1. Planning

2

Monitoring

How am I doing?

Do I need any different techniques to improve my work?

Is my work looking like the modelled version?

Am I finding this challenging?

Is there anything I need to stop and change to improve my work?

2. Monitoring

3. Evaluation

METACOGNITION

COGNITION

3

Evaluation

How did I do?

Did my strategy work?

Was it the right method to choose?

How would I do better next time?

Are there any other strategies or methods I would like to try?

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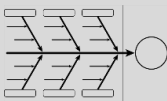




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Explicitly teach pupils metacognitive strategies, including how to plan, monitor and evaluate their learning

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EEF provide a seven-step model for **explicitly teaching metacognitive strategies**. This can be applied to **all** ages and subjects (EYFS upwards). See next page for another example.

Here is an example using History in a KS2 classroom (**NC link:** *a study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066*):

1. Activating prior knowledge	2. Explicit strategy instruction	3. Modelling of learned strategy	4. Memorisation of strategy	5. Guided practice	6. Independent practice	7. Structured reflection
<p>The teacher uses a retrieval practice quiz to revisit recent lessons on <i>The Battle of Britain</i>.</p> <p>The teacher makes notes on the whiteboard – keywords and events.</p> 	<p>The teacher explains how a fishbone diagram will help to organise ideas, consider cause and effect. This will then be used to help organise a written response.</p> 	<p>The teacher uses the notes made on the board to model one part of the fishbone diagram.</p> <p>The teacher talks through this as they model the task.</p> 	<p>The teacher tests pupils to see if they have understood and can recall how to use this strategy (and its main purpose).</p> <p>Questions... Discussion...</p> 	<p>The teacher models one further part of the fishbone diagram to the whole class and asks the pupils to volunteer their ideas</p> 	<p>Pupils complete their own fishbone diagram of <i>The Battle of Britain</i></p> 	<p>Pupils are encouraged to reflect on how useful the model was.</p> <p><i>Did it work? Was it appropriate? How successfully did they apply it? Can they see how they will use this again in the future?</i></p>

It is extremely important that the foundations of metacognition are effectively established. In EYFS and KS1 explicitly modelling **thinking out loud** is crucial to develop helpful thinking strategies upon which more complex metacognitive strategies.

Developing thinking aloud skills (metacognitive strategies) in the EYFS

1. Activating prior knowledge	2. Explicit strategy instruction	3. Modelling of learned strategy	4. Memorisation of strategy	5. Guided practice	6. Independent practice	7. Structured reflection
<p>The teacher initiates discussion in talk partners about learning.</p> <p>Why do we come to school?</p> <p>Teacher listens to discussions and brings together to delve deeper e.g.</p> <p>What do you want to learn? What is learning</p> 	<p>The teacher lays out a red circle, orange circle and green circle (in format of a traffic light)</p> <p>What does it remind you of?</p> <p>Why?</p> 	<p>The teacher sorts fruit into the circles</p> <p>The teacher thinks out loud to model</p> <p><i>I know this is an apple so I'm putting in the green circle.</i></p> <p><i>I think this is a grapefruit but I'm not sure, I might need to ask for help or check, I'm still learning what this is so I'll put it in orange</i></p> <p><i>I don't know this one. I want to learn though. I will put it in the red</i></p> 	<p>The teacher checks to see if children have understood and can recall how to use this strategy.</p> <p>As the next fruits are removed the teacher thinks aloud about the item and asks where it should go and why</p> 	<p>Guided group activity</p> <p>Using same traffic light, the teacher scaffolds children's sorting of other items (e.g. topic images, keywords, sounds, numbers)</p> <p>... and asks the children questions to support their thinking aloud</p> 	<p>Continuous provision</p> <p>The teacher provides access to similar sorting opportunities (e.g. with different fruit)</p>  	<p>Children are encouraged to reflect on how they feel when they place something in the red zone</p> <ul style="list-style-type: none">• Why?• What should we do when we feel like that?• What can we do to find out about the things in the red zone?• If we did it again would the same things be in the red zone? Why/why not? 