



WHAT DOES METACOGNITION LOOK LIKE IN THE CLASSROOM?

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The latest guidance report from the EEF on [metacognition and self-regulated learning](#) offers seven recommendations and a wealth of evidence that teachers can use to support the development of these strategies in their pupils.

According to one of the author's of the report, Alex Quigley, 'the **'metacognition and self-regulation'** strand of the EEF-Sutton Trust Teaching and Learning Toolkit has been accessed over 120,000 times. Clearly, there is a hunger to know more about metacognition than the well-used but obviously limited definition of it as *'thinking about thinking'*.'

Education Endowment Foundation

METACOGNITION AND SELF-REGULATED LEARNING
Summary of recommendations

- 1** Teachers should acquire the professional understanding and skills to develop their pupils' metacognitive knowledge.
 - Self-regulated learners are aware of their strengths and weaknesses, and can motivate themselves to engage in, and improve, their learning.
 - Developing pupils' metacognitive knowledge of how they learn—their knowledge of **themselves as learners**—of strategies, and of **tasks**—is an effective way of improving pupil outcomes.
 - Teachers should support pupils to **plan, monitor** and **evaluate** their learning.
- 2** Explicitly teach pupils metacognitive strategies, including how to plan, monitor, and evaluate their learning knowledge.
 - Explicit instruction in cognitive and metacognitive strategies can improve pupils' learning.
 - While concepts like 'plan, monitor, evaluate' can be introduced generally, the strategies are mostly applied in relation to specific content and tasks, and are therefore best taught this way.
 - A series of steps—beginning with **activating prior knowledge** and leading to **independent practice** before moving to **structured reflection**—can be applied to different subjects, ages, and contents.
- 3** Model your own thinking to help pupils develop their metacognitive and cognitive skills.
 - Modelling by the teacher is a cornerstone of effective teaching, revealing the thought processes of an expert learner helps to develop pupils' metacognitive skills.
 - Teachers should verbalise their metacognitive thinking ('What do I know about problems like this? What ways of solving them have I used before?') as they approach and work through a task.
 - Scaffolded tasks, like worked examples, allow pupils to develop their metacognitive and cognitive skills without placing too many demands on their mental resources.
- 4** Set an appropriate level of challenge to develop pupils' self-regulation and metacognition.
 - Challenge is crucial to allow pupils to develop and progress their knowledge of tasks, strategies, and of themselves as learners.
 - However, challenge needs to be at an appropriate level.
 - Pupils must have the motivation to accept the challenge.
 - Tasks should not overload pupils' cognitive processes, particularly when they are expected to apply new strategies.
- 5** Promote and develop metacognitive talk in the classroom.
 - As well as explicit instruction and modelling, classroom dialogue can be used to develop metacognitive skills.
 - Pupil-to-pupil and pupil-teacher talk can help to build knowledge and understanding of cognitive and metacognitive strategies.
 - However, dialogue needs to be purposeful, with teachers guiding and supporting the conversation to ensure it is challenging and builds on prior subject knowledge.
- 6** Explicitly teach pupils how to organise and manage their learning independently.
 - Teachers should explicitly support pupils to develop independent learning skills.
 - Clearly designed **guided practice**, with support gradually withdrawn as the pupil becomes proficient, can allow pupils to develop skills and strategies before applying them in **independent practice**.
 - Pupils will need timely, effective feedback and strategies to be able to judge accurately how effectively they are learning.
 - Teachers should also support pupils' motivation to undertake the learning tasks.
- 7** Schools should support teachers to develop knowledge of these approaches and expect them to be applied appropriately.
 - Develop teachers' knowledge and understanding through high quality professional development and resources.
 - Senior leaders should provide teachers with time and support to make sure approaches are implemented consistently.
 - Teachers can use tools such as 'track' and observation to assess learning skills.
 - Metacognition shouldn't be an 'extra' task for teachers to do but should be built into their teaching activities.

But what is metacognition?

The psychologist Robert Bjork defined metacognition as the subjective awareness of one's own knowledge. See [Bjork on cognition in education](#) for more details.

According to the guidance, the term metacognition can be distilled into a process for self-regulatory behaviour:

*“It is about **planning** how to undertake a task, then cognitively undertaking that activity, while **monitoring** the strategy to check progress, then **evaluating** the overall success.”*

What does this look like in the classroom?

The most successful EEF trial to date, in terms of outcomes for disadvantaged pupils, was the [IPEEL Project](#). Using IPEEL Pupils are taught to effectively plan, monitor, evaluate and re-draft their writing and, crucially, to do this with growing levels of independence.

The evidence for IPEEL came from positive results across a large number of trials in North America. There is over a quarter of century of evidence to inform practice and IPEEL is an Anglicised version of this.

A traditional model for evaluating a piece of writing might rely heavily on a teacher's monitoring and evaluation of each pupil's work. However, the IPEEL project uses self-regulatory strategies to ensure that the onus is on the pupils to evaluate, target set and then re-draft their work. But how does this work?

- Pupils begin the process with a baseline of their writing through a 'cold task';
- Guided by the teacher pupils are exposed to a range of models – crucially this is not just a 'what a good one looks like' – pupils are given models which increase in quality and they evaluate the differences between these texts to gain a sense of what quality looks like in a given text;
- Pupils then compile an increasingly complex set of success criteria using these models;
- The success criteria are applied to their writing and pupils produce an evaluation of their work which gives the pupil a set of individual targets to work on; pupils also help 'quality assure' through peer assessment;

- Pupils improve their work according to their targets and then set themselves new targets based on their own (guided) self-evaluation.

How can teachers promote this self-regulatory process?

A pupil's ability to successfully and accurately evaluate their own work is a complex thing. Teachers should model their own thinking, often verbally, modelling the evaluation process as well as reducing cognitive overload so pupils can manage this process. Obviously, this complex procedure takes time and is incremental. But when it begins to work well a shift begins in ownership and pupils becomes far more central as the drivers for learning.

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