

## Meta-cognition and self-regulation

High impact for very low cost, based on extensive evidence.



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Meta-cognition and self-regulation approaches (sometimes known as 'learning to learn' approaches) aim to help learners think about their own learning more explicitly. This is usually by teaching pupils specific strategies to set goals, and monitor and evaluate their own academic development. Self-regulation means managing one's own motivation towards learning. The intention is often to give pupils a repertoire of strategies to choose from during learning activities.

### How effective is it?

Meta-cognition and self-regulation approaches have consistently high levels of impact, with pupils making an average of eight months' additional progress. The evidence indicates that teaching these strategies can be particularly effective for low achieving and older pupils.

These strategies are usually more effective when taught in collaborative groups so learners can support each other and make their thinking explicit through discussion.

The potential impact of these approaches is very high, but can be difficult to achieve as they require pupils to take greater responsibility for their learning and develop their understanding of what is required to succeed. There is no simple method or trick for this. It is possible to support pupils' work too much, so that they do not learn to monitor and manage their own learning but come to rely on the prompts and support from the teacher. "Scaffolding" provides a useful metaphor: a teacher would provide support when first introducing a pupil to a concept, then reduce the support to ensure that the pupil continues to manage their learning autonomously.

### How secure is the evidence?

A number of systematic reviews and meta-analyses have consistently found similar levels of impact for strategies related to meta-cognition and self-regulation. Most studies have looked at the impact on English or mathematics, though there is some evidence from other subject areas like science, suggesting that the approach is likely to be widely applicable.

In the UK, four recent studies indicate that programmes that seek to improve learning to learn skills can effectively improve academic outcomes. A 2014 study, *Improving Writing Quality*, used a structured programme of writing development based on a self-regulation strategy. The evaluation found gains, on average, of an additional nine months' progress, suggesting that the high average impact of self-regulation strategies can be achieved in English schools. In 2015, evaluations of an intervention based on "Growth Mindsets" research, *Philosophy for Children*, and a programme called *Thinking, Doing, Talking Science* found gains of between two and five additional months' progress. In three projects there were indications that the programmes were particularly beneficial for pupils from low income families.

### What are the costs?

Overall, costs are estimated as very low. Many studies report the benefits of professional development or an inquiry approach for teachers, where they actively evaluate strategies as they learn to use them. Most projects are estimated as costing under £80 per pupil.

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## What should I consider?

Before you implement this strategy in your learning environment, consider the following:

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1. Teaching approaches which encourage learners to plan, monitor and evaluate their learning have very high potential, but require careful implementation.
2. Have you taught pupils explicit strategies on how to plan, monitor and evaluate specific aspects of their learning? Have you given them opportunities to use them with support and then independently?
3. Teaching how to plan: Have you asked pupils to identify the different ways that they could plan (general strategies) and then how best to approach a particular task (specific technique)?
4. Teaching how to monitor: Have you asked pupils to consider where the task might go wrong? Have you asked the pupils to identify the key steps for keeping the task on track?
5. Teaching how to evaluate: Have you asked pupils to consider how they would improve their approach to the task if they completed it again?