Meta-cognition and self-regulation

High impact for low cost, based on extensive evidence.

£ £ £ £ £
cost per pupil

★★★★☆
evidence rating

+8
months

What is it?

Meta-cognitive and self-regulation strategies (sometimes known as 'learning to learn' strategies) are teaching approaches which make learners think about learning more explicitly. This is usually by teaching pupils specific strategies to set goals, monitor and evaluate their own learning. Self-regulation refers to managing one's own motivation towards learning as well as the more cognitive aspects of thinking and reasoning. Overall these strategies involve being aware of one's strengths and weaknesses as a learner, such as by developing self-assessment skills, and being able to set and monitor goals. They also include having a repertoire of strategies to choose from or switch to during learning activities.

How effective is it?

Meta-cognitive and self-regulation approaches have consistently high levels of impact with meta-analyses reporting between seven and nine months additional progress on average. It is usually more effective in small groups so learners can support each other and make their thinking explicit through discussion.

Encouragingly the evidence suggests that teaching meta-cognitive and self-regulation strategies tends to be particularly effective with lower achieving pupils, as well as with older students. Most studies have looked at the impact on English or mathematics, though there is some evidence from other areas such as science, suggesting benefits are likely to be widely applicable.

The potential impact of approaches which encourage learners to plan, monitor and evaluate their learning is very high. However it can be difficult to achieve these gains as this involves pupils in taking greater responsibility for their learning and in developing their understanding of what is involved in being successful. There is no simple strategy 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. A useful metaphor is scaffolding in terms of *removing* the support and dismantling the scaffolding to check that learners are taking responsibility to manage their own learning.

How secure is the evidence?

There are a number of systematic reviews and meta-analyses of programmes and approaches which promote thinking about thinking which have consistently found similar levels of impact.

What are the costs?

Costs are relatively low, though many studies report the benefits of professional development and/or outside support, or an inquiry approach for teachers where they actively evaluate strategies as they use them. A course of sustained professional development or collaborative professional inquiry is estimated at £2-3,000 per year (including some release from classroom teaching) or about £100 per pupil.

What do I need to know?

- Teaching approaches which encourage learners to plan, monitor and evaluate their learning have very high potential, but require careful implementation.
- Teach pupils explicit strategies to plan, to monitor and to evaluate their learning, and give them opportunities to use them with support and then independently.
- When using approaches for planning, ask pupils to identify the different ways that they could plan (general strategies) and about best approach for a particular task (specific technique).
- Monitoring involves identifying the key steps they need to be aware of as they go through a task to keep it on track. (Where might this go wrong? What will be the difficult parts?)
- Evaluating can be part of the process of checking so that it feeds into the current task as it nears completion (Can you make it better? Are you sure this is right?). It can also feed forward into future tasks (What have you learned that will change what you do next time?).

For more information, videos and supporting resources relating to this approach, please visit http://educationendowmentfoundation.org.uk/toolkit/approaches/meta-cognitive-and-self-regulation-strategies