

ROM Anthology Tasters

Thinking skills

How can you accelerate your pupils' learning?

Research evidence

The past twenty years have seen a good deal of research into how pupil learning can be accelerated. The range of approaches that has been developed is commonly called 'thinking skills'. Techniques for developing thinking skills include:

- preparing pupils for the task – ensuring they understand the initial problem
- the setting of a challenge that contains surprises or ideas in tension (cognitive conflict)
- collaborative work with other pupils to solve the challenge (social construction of knowledge)
- shared thinking aloud about their own thinking processes (metacognition) and,
- using skills and insights newly acquired in one context to consider a problem in another (bridging).

Pupils who use thinking skills approaches benefit from improved reasoning and problem-solving skills, for example they are better able to identify and use the correct methods for organising information and recognising more than one way to tackle and solve a problem.

Your evidence

You might like to ask a colleague to observe a lesson and discuss with you how far you promote thinking skills approaches. For example, do you:

- encourage pupils to work in groups for solving problems or unravelling surprising data?
- set pupils tasks which challenge their existing ideas and beliefs and which they can approach from a range of angles?
- encourage metacognitive discussion and reflection between pupils?
- offer a sequence of activities that enable pupils to apply skills and insights learned in one activity to the next?

Next steps

Now that you have an idea of how far you make use of thinking skills approaches, how could you use the information to help you further develop these approaches? Have you considered giving pupils regular problem solving tasks which require them to reflect on their thinking? Could you involve your pupils more actively in talking to each other to unpack their thinking about one topic and explore how it connects to another?

Find out more

RoM Anthology section 2, page 8, How do thinking skills approaches help students to reach higher standards?

RoM 3 Improving learning through cognitive intervention:

www.gtce.org.uk/research/romtopics/rom_teachingandlearning/case_jun01

What can you learn from giving your pupils thinking skills or challenging tasks?

Research evidence

When you use thinking skills approaches, you need to set pupils a cognitive challenge: a challenge that makes them think. This can be a challenge to their usual way of thinking or perception of the world. It may introduce new information that does not fit with previous experience. The uncertainty arouses curiosity and extends thinking. The tasks you set should be interesting and challenging, but achievable with the help of others.

Your evidence

Setting up a cognitive challenge can give you the opportunity to discover the thought processes and the reasoning strategies your pupils are using. One way in which you could challenge pupils' knowledge is by asking them to identify an odd one out, for example, take three:

- numbers
- artists
- philosophers
- chemicals, or
- historical figures

and ask pupils to work out the similarities and differences. The cognitive challenge in this case comes from exploring which variable is the key factor to consider. You could observe a small group of pupils closely as they deal with the task and record their interactions as they articulate and discuss their ideas.

Next steps

You may find it helpful to brainstorm with a colleague different topics or issues the offer cognitive challenge and which would be appropriate to use with your pupils. This is a good way of expanding both your own and your pupils' opportunities for deeper thinking or reasoning.

Find out more

RoM Anthology section 2, page 9, How can you provoke your students to think? (Setting up a cognitive challenge).

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