

## Tools, strategies and skills

**T**he words we use to describe the teaching of thinking have always been controversial. In the last issue of the magazine, the concept of *thinking skills* came under scrutiny in a debate between Steve Johnson and Vivienne Baumfield. Johnson argued that good thinking is not a skill and should not be taught as if it was. For him, specialist knowledge inevitably leads to good thinking in any field limited to the specialism. Talk of general skills is not appropriate. What do you think? Is it useful to talk of thinking *tools*, *strategies* and *skills*?

Here is a scenario to which you can apply your own terminology. Imagine a family interaction between a mother and her young son who cannot find his teddy-bear. The mother asks some questions: 'Did you leave him in your bedroom? Did you take him into the garden? Did you give him some food in the kitchen?' The child replies: 'not in garden ... I gave teddy some food ... in the kitchen' Here, the mother has a way of using questions to organise the retrieval of bits of information from the child's memory in order to narrow the search. The child does not know how to organise the information, but he *does* have the information needed to find the teddy-bear. Through collaboration, they produce a satisfactory solution. In my story, you'll be relieved to know that they found the teddy-bear in the kitchen. As the child grows older, he will learn to use the same kind of questions for to look for lost items.

What should we call the mother's helpful actions? Has she demonstrated a *strategy*? Has she provided her son with a *tool* for finding things? And, once the son has learned to use questions in the same way, could we say he is *skilled* or even that he has learned a *thinking skill*? If you don't think these words are appropriate, what words would you use to describe the learning that has taken place? Could this story enlighten us about learning in schools? We could certainly highlight some useful principles:

- The possession of relevant information is, on its own, not enough for good thinking.
- Children need help to think and act effectively.
- When children collaborate in thinking with others who think well, they will learn to think well for themselves.

Do these principle support an argument that says subject knowledge, like information, is not sufficient for effective thinking – including thinking in school subjects? That depends on how you define knowledge, for knowledge is not the same as information. A broad definition of subject knowledge would include *competence* in the ways of thinking required by the subject. Each of these kinds of thinking will have some features that are particular to the subject in question. So in science, for example, the process of considering alternative theories while searching for the truth is very different from considering alternative locations for a lost teddy-bear.

However, it would not be a hard to imagine science teachers using the questioning strategy for finding lost items as an analogy for judging evidence in science, particularly if their pupils found more abstract explanations difficult to understand. What are the differences between the two kinds of thinking? In science our comparison of alternative solutions does not necessarily release information we already have; it may point us towards information we need to find out – through experiment. This kind of articulation and comparison of thinking strategies is often referred to as *bridging* and many teachers have said that their pupils find it helpful.

One further illustration of thinking-in-practice may be useful. Diana Khun, an American psychologist asked people from a mix of races, genders and occupations to consider a series of arguments. She wanted to find out if they could give reasons for their own points of view. She also asked them to predict counter-arguments and to give examples to support their own beliefs when required. She found that there was no difference in the quality of arguments between genders or races and that people argued no better about topics that related to their work. For example, prison warders argued no better about prison topics than anyone else. Khun *did* find that philosophers generally argued well about all topics. That is not to say that philosophers would make good prison warders, but that the ability to argue a case in any domain (and therefore think through issues in that domain) does not come inevitably with work experience.

---

Steve Williams