

Thinking Skill and Personal Capabilities

Making TS & PCs Explicit in Your Teaching

The Real Nature of TS & PCs

There's really no mystery to TS & PCs: they are not separate from what you might ordinarily recognise as teaching within a subject.

Teaching them involves a shift in focus. Rather than just conveying information, the teacher should also ensure that the learner develops skills in using that information towards some productive end.

Transmit and Receive

You might think of it as a transmission model of teaching: the teacher has to transmit some knowledge to the pupil, but there is the 'receive' part of the process where the learner either:

- grasps the information successfully; or
- grasps only part of it; or
- grasps none at all.

So, just as you provide learners with subject knowledge, you must also provide instruction in the methods, practices, techniques and procedures associated with that knowledge. Often the two are so intertwined that it's almost impossible to separate content from the application. Nevertheless, you need to show learners what it means to use the content with skill if they are going to move beyond a superficial grasp of the subject.

Reflective Teaching and the Infusion Approach

The main point is to always look at the content to see what will help learners to show their TS & PC in their performances. You need to:

- clarify what learners need to be able to do with the content; and
- show them what skill looks like in that context.

This is what is meant by infusing skills into content instruction: you demonstrate the method, including modelling the thinking involved in processing the issue by thinking out loud. This shows the learner what's involved in applying knowledge to achieve a particular outcome.

What and How: Content Knowledge and Procedural Knowledge

The learner should not only have the 'what' (the information that constitutes content knowledge), but also the 'how' (procedural knowledge of the ways to apply that knowledge in practice). It's like responsive teaching: do you satisfy yourself that your pupils can do what it is you want them to be able to do, and if not, how can you help them get past the barriers that are limiting their performance?

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Effective Thinking

Any learner gets better at a subject as their thinking becomes more effective. In the early stages this can often be a question of knowing enough—you need to know a certain amount about a subject before you can begin to understand it.

Quite quickly though, further thinking progress depends on the learner being able to process content in ways that are often defined by the characteristics of the subject. You don't just think 'about' the content, you think about it in order to do something with it. Again, early stages involve being told what to do with the content and how to perform the operations. The teacher shows the learner what to do, or tells them how to do it by following a series of steps.

More Sophisticated Learning

Often, progress in learning within a subject context is talked about in terms of becoming more sophisticated. 'More sophisticated' means being able to perform increasingly difficult mental moves (thinking) on a variety of topics. What makes this difficult to discern is the fact that increasingly sophisticated mental moves are invisible. However, the pupil can display them through actions such as:

- being able to manipulate the material in various ways;
- writing an essay;
- drawing a conclusion;
- weighing pros and cons; and so on.

Critical Thinking: Discrimination and Discernment

To be sophisticated, the pupil's understanding of their subject should be combined with qualities such as discrimination, discernment, accuracy and effectiveness. They are shown a method and practice until they can apply it independently.

Sophisticated performance happens when the pupil can combine content knowledge with skilled manipulation of the constituents of that knowledge. You can't get better at a subject without also getting better at thinking.

Optimising Learning

This process involves planning:

- the content, and how to instruct within it; and
- the knowledge components, and how to go about learning them.

Pupils should move from surface to deep understanding, and from reliance on the teacher to independence.

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No 'Quick Fix'

For these reasons TS & PCs shouldn't be seen as a 'bolt-on': it's a question of infusing skills into content instruction. Improvements in outcomes will be as a result of pupils making progress in the quality of their thinking. However, pupils' work will not necessarily have substantial additional evidence of TS & PCs: it's simply the case that pupils won't get better at the subject unless they are making progress in their thinking. There isn't a convenient recipe for what to do in order to move your pupils on from 'describe' to 'analyse'. That's because the details of becoming more skilful will be dictated by the topic and by the need to adapt methods to suit your own teaching style and the needs of your pupils.

Black and Wiliam made the same point in their seminal 1998 paper 'Inside the Black Box':

'There is no 'quick fix' that can be added to existing practice with promise of rapid reward. On the contrary, if the substantial rewards of which the evidence holds out promise are to be secured, this will only come about if each teacher finds his or her own ways of incorporating the lessons and ideas that are set out above into her or his own patterns of classroom work.'

'Inside the Black Box: Raising Standards Through Classroom Assessment', p.17

From Informal and Implicit to Considered and Explicit

The TS & PCs framework brings together a range of thinking skills, learning dispositions, personal skills and interpersonal skills. Many of these are already familiar to teachers. Such skills will have been developed informally wherever teaching is effective. However, what is valuable about TS & PCs is that they place a direct emphasis on instructing pupils in becoming more skilful in particular applications of knowledge and understanding. If pupils are to learn meaningfully, to think flexibly, to make reasoned judgements, to be creative, and to work both independently and collaboratively, then giving attention to developing these skills and capabilities is crucially important.

What to Teach and How to Teach it

Such significant learning outcomes can't be left to chance. Teaching must make clear what is meant by these types of thinking and learning skills, and then go on to teach them directly.

The TS & PCs framework is at the centre of the curriculum to help prompt teachers to design learning opportunities so that pupils think, interact, and manage their own learning more skilfully and in a more structured way. That means finding ways to support pupils in their grasp of subject disciplines, methods and procedures. Teachers should consider not only what to teach, but also how to teach it.

There are strategies that you can use to help pupils learn more deeply, such as Assessment for Learning and metacognition. Many of these pedagogical strategies align closely with aspects of the TS & PCs.

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Operationalising Knowledge

Operationalising knowledge means:

- how to put it into practice;
- how to connect up the different components; and
- how to use what you know to help you achieve whatever new objective comes along.

TS & PCs are about connecting up the knowing that with the knowing *how*. Part of the role and responsibility of the teacher has always been to help pupils become proficient in what they have learned. They have always carried out checks on comprehension, examples of how the subject knowledge is applied in practice, and so on. Areas such as 'study skills', 'practical applications', and diligence, repetition, practice and developing independence are all aspects of TS & PCs.