

Direct instruction

It's not 'back to basics'

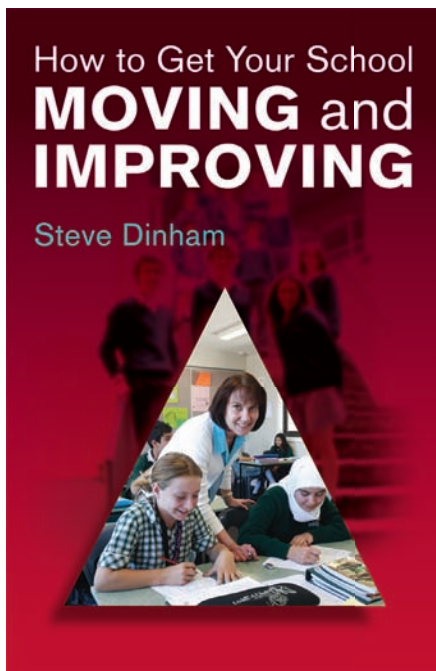


RESEARCH INDICATES THAT DIRECT INSTRUCTION HAS A LARGE EFFECT ON STUDENT LEARNING, SO IT'S TIME WE ALL UNDERSTOOD EXACTLY WHAT IT IS, AND ISN'T, SAYS **STEPHEN DINHAM**.

Chances are you, like many educators, seek to establish and measure the links between certain types of teaching practices and the effects these have on your students' achievement, however it may be defined. That's because there's an increasing focus on school, teacher and student performance and a growing amount of evidence now available, a result of standardised national and international testing. Educators today need to question established practices to find out what really works and adds value, as I've pointed out in *How to Get Your School Moving and Improving: An evidence-based approach*.

Research on the effects of various strategies and influences on student achievement, such as that by John Hattie and represented in his recent book, *Visible Learning*, has come to the attention of many educators.





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There are impediments, however, to an objective examination of our teaching practices, in the form of ideological persuasion, modelling, routine and habit. One of the most contentious findings from meta-analytic research is that so-called direct instruction has a large effect on student learning while so-called facilitatory teaching of various sorts is far less effective. Effect size refers to indices that measure the magnitude of a treatment effect, with an effect size of 0.6 or greater usually considered large. According to Hattie's latest research, direct instruction has an effect size of 0.59.

Many teachers and teacher educators hold the view that facilitatory teaching, which includes so-called discovery learning, student-centred learning, problem-based learning and constructivist teaching methods – leaving aside the fact that constructivism is a theory of learning, not teaching – is superior and preferable to direct instruction, which has connotations of traditional teacher-centred learning.

Many have bought the rhetoric that teachers need to be the 'guide by the side' rather than the 'sage on the stage.' The first time I heard this I thought it was a dangerous false dichotomy, and empirical evidence confirms my view.

The mainstreaming of meta-analytic effect size research findings brings into question the commonly held view that facilitatory teaching methods are the most effective, but, of all the findings of such research, the effectiveness of direct instruction is for some educators hardest to swallow. This, I think, is because it seems to represent a position on teaching diametrically opposed to the one they fervently hold to – and maybe also because the term 'instruction' unfortunately suggests a technical transference of knowledge rather than the teacher directing student learning.

Equally, some educators have taken the finding that direct instruction has a large effect on student learning to be a validation of didactic teaching methods, assuming that direct instruction means the teacher

ought to stand at the board and talk to transmit information to a passive class of students.

Not for the first time, we have opposing views about teaching, as equally entrenched as the political views that many of us might hold. The problem that meta-analytic effect size research about direct instruction has raised is that educators who've voted for the one pedagogic party all their lives think they're now being asked to reconsider their unquestioned allegiance and vote for the opposition. It's timely, therefore, to shed some light on just what is meant by this thing called direct instruction. Is it just 'back to basics' or is it possibly 'forward to fundamentals'?

Hattie believes that direct instruction involves seven major steps, which I'd like to quote pretty fully, from pages 205-06 of *Visible Learning*:

'1. Before the lesson is prepared, the teacher should have a clear idea what the *learning intentions* are....

'2. The teacher needs to know what *success criteria* of performance are to be expected and when and what students will be held accountable for from the lessons/activity. The students need to be informed about the standards of performance.

'3. There is a need to *build commitment and engagement* in the learning task..., a "hook" to grab the students' attention....

'4. There are guides to *how the teacher should present the lesson* – including notions such as input, modelling, and checking understanding....

'5. There is the notion of *guided practice*. This involves an opportunity for each student to demonstrate his or her grasp of new learning by working through an activity... under the teacher's direct supervision. The teacher moves around the room to determine the level of mastery and to provide feedback and individual remediation as needed.

'6. There is the *closure* part of the lesson. Closure involves those actions or statements by a teacher that are designed to bring a lesson presentation to an appropriate conclusion....

'7. There is *independent practice*. Once students have mastered the content or skill, it is time to provide for reinforcement practice. It is provided on a repeating schedule so that the learning is not forgotten.

'In a nutshell: the teacher decides the learning intentions and success criteria, makes them transparent to the students, demonstrates by modelling, evaluates if they understand what they had been told by checking for understanding, and re-telling them what they had been told by tying it all together with closure.'

Hattie's summary shouldn't be taken to suggest that every lesson has to have the same rigid structure, but that every lesson or series of lessons should have the above essential elements. Each of the seven steps requires the teacher to act in a highly informed, aware and professionally adroit manner.

My own work in the area of effective teaching, with Paul Ayres and Wayne Sawyer in 2000 and singly in 2008, has clearly demonstrated that the best teachers create and manage a learning environment that is both student centred and teacher directed. These teachers possess strong content, pedagogic and course knowledge and provide students with order, structure and purpose, along with a foundation of knowledge, skills and understandings to enable their students to apply this knowledge and skills in various ways, including the sorts of enquiry and discovery that many teachers advocate. These teachers inspire confidence in their students, who in turn have high expectations for them.

The crew members who successfully landed their US Airways passenger jet on the Hudson River in early 2009 weren't engaging in pure discovery learning. The crew on this particular day, a very experienced group led by an expert captain, was able to use their considerable knowledge and skills built up over many years to solve a particularly challenging problem.

A key aspect of direct instruction is feedback. Feedback has an even larger effect size than direct instruction in respect of

student achievement – 0.73, according to Hattie. Feedback shouldn't be confused with rewards or so-called positive reinforcement. Teacher-to-student feedback shows students what they can and can't do, how their work compares with expected standards and the work of others, and most importantly, how they can do better. It should be noted that feedback is broader than simply marks and grades from tests and assignments, and includes the whole range of indicators of progress both written and verbal. Some researchers have suggested that if you want students to really take in what you've written or said, marks and grades are actually a hindrance as these are all they focus on.

For the teacher, the main function of feedback is to inform the teacher of the individual progress of each student and to inform a judgement for the teacher of his or her effectiveness to identify what he or she needs to do to improve student achievement. In short, student-to-teacher feedback helps the teacher know how he or she is going. Student-to-teacher feedback is arguably just as important to student learning and development as teacher-to-student feedback.

Teacher-to-student – and thus student-to-teacher feedback – is so poorly done in the main that providing more effective feedback represents what is virtually a quick fix, although as I pointed out in 'Feedback on feedback,' in the May 2008 edition of this magazine, feedback is not a remedy or substitute for poor teaching. Another quick fix is to provide teachers with formative feedback on their performance, once again something that rarely happens in the day-to-day hurly-burly of schooling. This too can have a large effect on student achievement.

While some have criticised meta-analytic effect size research on various methodological grounds, this work represents a considerable and valuable distillation of empirical work with teachers, students and learning going back many decades. It's work that we need to continue, in terms of both individual studies and the associated meta-analysis. The

patterns in the existing findings clearly show the importance of quality teachers, quality teaching, professional learning and proceeding on the basis of evidence, both from within the classroom and more generally.

Some have suggested that with the sheer volume of material now available through the internet we need teachers less than before, and that content knowledge has become redundant because it's so easy to find the correct answer to any question. I've heard a principal say that students in Australia no longer need to be able to recall the date 1770 as they can easily find this and its significance from the internet. I hold quite the reverse view. With so much material available from such a wide range of sources of variable quality, we need good teachers more than ever and we need teachers who are capable of structuring, leading, monitoring and inspiring the learning and development of their students. There is also knowledge that all Australian students at any given level should be expected to know, although we can argue about what is and isn't essential.

Dr Samuel Johnson wrote that 'the chains of habit are too weak to be felt until they are too strong to be broken.' For too long our teaching practices have been constrained by ideology, false dichotomies and untested beliefs and assumptions, but we now live in an age of evidence and we need to ask some hard questions in teaching about what we do, why we do it, how we do it and what effects it has on student learning and development. **T**

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