

# EMBEDDING FORMATIVE ASSESSMENT:

*Practical Techniques for F–12 Classrooms*

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# Introduction

**W**e wrote this handbook to support individual teachers who want to improve their classroom practice by using formative assessment techniques. Previously we had designed a pack for schools to support their teachers by introducing formative assessment through *teacher learning communities* (two years of monthly meetings), but we realised that there must be many teachers who would like to develop their practice on their own or with a small group of colleagues. This book is for you.

*Embedded Formative Assessment*, published in Australia by Hawker Brownlow Education, summarises several strands of research evidence that show classroom formative assessment is a powerful lever for changing practice. Indeed, as far as we know right now, there is nothing else that has a greater effect. Although *Embedded Formative Assessment* contains a number of practical classroom-tested techniques for implementing formative assessment, much of the book deals with an analysis of research studies on feedback and other aspects of formative assessment, in particular exploring what the research does – and, just as importantly, does not – show. In other words, *Embedded Formative Assessment* is concerned with making the case for formative assessment – both in terms of the “why” and the “what” – as well as providing suggestions for how to get started.

This book is more focused on the practicalities of implementing, and sustaining, the development of formative assessment in classrooms. You may have read *Embedded Formative Assessment* and would like a few more ideas about practical techniques that you can use in your classroom to develop your practice of formative assessment. On the other hand, you may not have read *Embedded Formative Assessment* but are convinced by the research on formative assessment, and just want to “cut to the chase”. If you need a review of formative assessment, there is a summary in this book.

Another difference is that in *Embedded Formative Assessment* the practical techniques are presented in a list at the end of each chapter, with no attempt to relate the techniques to each other. Here, we try to group similar techniques together, drawing out their similarities, which should make it easier for you to see how to modify and adapt them for your classroom.

## Accountability

All teachers need to improve their practice; not because they are not good enough, but because they can be better. For that reason, we think it is entirely appropriate to hold teachers accountable for making improvements in their practice. We also believe that in developing their practice, teachers should develop those aspects of their practice that are likely to be of most benefit to their students; in other words, they should be accountable to the evidence about what is likely to benefit students. This is not meant to imply a slavish following of the latest research findings, but that teachers need to be literally accountable – they should accept that they should expect, and be able, to render an account of why they chose to develop one aspect of their practice rather than another.

In our work with teachers, we find it helpful to engage them in detailed planning of what changes they plan to make in their teaching. This process could be called *action planning*, but it is important to note that in our experience, this is best done with a highly structured approach – very different from the tokenistic action planning that occurs at the end of many teacher professional development events.

Of course, there are many different protocols that you could adopt for action planning, but our experience of working with teachers developing their practice of formative assessment suggests that the following features are particularly important:

1. *The action plan should identify a small number of changes that you will make in your teaching.* When teachers try to change more than two or three things in their practice at the same time, the result is often that their classroom routines deteriorate significantly, and they then fall back on those routines with which they feel comfortable or safe. Like the story of the tortoise and the hare, teachers who try to change too many things at the same time end up making less progress than those who make small, gradual, manageable changes.
2. *The plan should be written down.* Writing the plan down makes it more likely that you will think the plan through while writing it down, makes the ideas more concrete, and also creates a record, which means that you are less likely to forget what you planned to do.
3. *The plan should focus on the five key strategies of formative assessment.* As noted earlier, you should prioritise changes that are likely to benefit students, and although there are other changes that might benefit students, the robustness and coherence of the research on the effects of formative assessment suggest that this should be the starting point for all teachers.
4. *The plan should identify what you hope to reduce or give up doing to make time for the changes.* Most teachers are working as hard as they can, so if they treat these changes as an addition to their load, the changes are unlikely ever to be implemented. To make time for these changes, the action

## Chapter 4

# STRATEGY 2: ENGINEERING EFFECTIVE DISCUSSION, TASKS AND ACTIVITIES THAT ELICIT EVIDENCE OF LEARNING

## OVERVIEW

Questioning, together with a range of related techniques for eliciting evidence about student achievement, is a staple in classrooms all over the world. But in most classrooms, the greater part of the “intellectual heavy lifting” is done by the teacher, with students delegated to a supporting role, or even, in many cases, “absent without leave”. This chapter looks at ways that you can generate evidence about what your students can and cannot do and provides a range of classroom techniques to improve questioning, including how to create and capitalise upon more “teachable moments”, and the defining characteristics of effective diagnostic questions. The chapter also explores ways of eliciting evidence that do not involve questions – for example, by making statements or engaging students in tasks that are likely to reveal important aspects of their developing capability.

## WHY USE THIS STRATEGY

To teach well, we have to find out what students already know. But students do not always learn what we teach. That’s why finding out what students *do* know is essential to good teaching.

## GETTING TO UNDERSTAND THE STRATEGY

Finding out what learners know is difficult for two main reasons. First, in many subjects, the evidence has to be sought. We can’t peer into a student’s brain and see why he or she is having difficulties understanding texts, for example. We have to go looking for the information. Even in so-called practical subjects, working out what is going wrong requires expertise. If a right-handed child is throwing a ball with her right foot half a metre in front of her left foot, it might look ungainly, but unless you know that, for a

research, but, in the case of feedback, we think that understanding a little of the research is very helpful to giving good feedback. We also explore a number of practical techniques that you can use to improve your classroom practice, but we also see why with feedback, as with so much else in teaching, there aren't really any "hard and fast" rules.

## TECHNIQUES

### Focus on the Reaction of the Students, Not the Feedback

In 1996, two psychologists at Rutgers, the State University of New Jersey, published the results of a rather remarkable venture. They had tracked down a copy of every study they could find on the effects of feedback (Kluger & DeNisi, 1996). They defined feedback interventions as "actions taken by (an) external agent(s) to provide information regarding some aspect(s) of one's task performance" (p. 255). In other words, they included information that provided details of how well one was doing (e.g. "Your typing speed is 65 words per minute") as well as information that suggested ways in which performance could be improved (e.g. "Use your thumb only for hitting the space bar").

By going all the way back to 1905 (!) they identified 2500 journal articles and 500 technical reports that were relevant. However, some of the studies were not well designed. For example, in some, the experimenters participated as subjects, while in others, they found that the reports of the experiments were not presented in sufficient detail to make an estimate of how much the feedback improved achievement. In some of the studies, feedback was combined with another intervention, such as target setting, so even where there was an impact on achievement, it was impossible to be sure whether it was the feedback or the target setting that was the cause of the improvement. Because errors of sampling are a significant problem with small data sets, they decided to exclude studies with fewer than ten participants (most statisticians would recommend a minimum of thirty). Finally, they also excluded studies that lacked a control group, since without a control group, it would be impossible to be sure whether any improvement was caused by the feedback, or would have happened anyway – for example, through maturation.

These criteria for exclusion seem sensible, and yet Kluger and DeNisi found that only 131 (i.e. fewer than 5 per cent) of the original studies remained, which reported a total of 607 results about the impact of feedback on performance.

In order to compare the results of the different experiments, Kluger and DeNisi converted the result of each experiment into what is called a *standardised effect size*. You can find the details of how this is calculated in the appendix, but, to give some idea of what this means, an effect size of 1 would mean that giving someone feedback would take someone who was average just into the top one-sixth of the population, and an effect size of 2 would take an average person up into the top 2 per cent of the population. Similarly, an effect size of -1 would take an average person down to the bottom sixth of the pop-

## REPRODUCIBLE

## PEER OBSERVATION SHEET

<b>Class to be observed:</b>
<b>Peer's name:</b>
<b>Technique to be observed:</b>
<b>What I want my peer to comment on:</b>
<b>Peer's comments:</b>
<b>Reflections after reading peer's comments and/or talking through the observation:</b>
<b>What I will do next:</b>

## REPRODUCIBLE

**EXAMPLE LETTER FROM CLASS TEACHER  
TO PARENTS**

Dear Parent,

NO HANDS UP – EXCEPT TO ASK A QUESTION!

I am going to try to make some improvements to the teaching and learning in my classroom.

Research shows that many students say very little in classrooms, while others are desperate to answer the teacher's questions. And importantly, students learn more when the teacher chooses students randomly to answer questions.

I have explained this to the class, and told them that I am going to try to choose them at random, so that all of them must think about the answers – not just a few. It will be difficult for me to change my style of questioning, and I realise that my students may not be keen on the change at the start, but I would like you to give me a month to show that I can get all students in the class more engaged.

The school leaders know that we are always trying to improve as teachers and are encouraging us to try out techniques that are now being used successfully in many schools.

Please contact me if you have a pressing question about this.

Yours sincerely,