

A framework for professional learning

This review set out to address three apparently simple questions:

- *What makes 'great teaching'?*
- *What kinds of frameworks or tools could help us to capture it?*
- *How could this promote better learning?*

Question 1: “What makes great teaching?”

Great teaching is defined as that which leads to improved student progress

We define effective teaching as that which leads to improved student achievement using outcomes that matter to their future success. Defining effective teaching is not easy. The research keeps coming back to this critical point: student progress is the yardstick by which teacher quality should be assessed. Ultimately, for a judgement about whether teaching is effective, to be seen as trustworthy, it must be checked against the progress being made by students.

The six components of great teaching

Schools currently use a number of frameworks that describe the core elements of effective teaching. The problem is that these attributes are so broadly defined that they can be open to wide and different interpretation whether high quality teaching has been observed in the classroom. It is important to understand these limitations when making assessments about teaching quality.

Below we list the six common components suggested by research that teachers should consider when assessing teaching quality. We list these approaches, skills and knowledge in order of how strong the evidence is in showing that focusing on them can improve student outcomes. This should be seen as offering a 'starter kit' for thinking about effective pedagogy. Good quality teaching will likely involve a combination of these attributes manifested at different times; the very best teachers are those that demonstrate all of these features.

1. (Pedagogical) content knowledge (Strong evidence of impact on student outcomes)

The most effective teachers have deep knowledge of the subjects they teach, and when teachers' knowledge falls below a certain level it is a significant impediment to students' learning. As well as a strong understanding of the material being taught, teachers must also understand the ways students think about the content, be able to evaluate the thinking behind students' own methods, and identify students' common misconceptions.

2. Quality of instruction (Strong evidence of impact on student outcomes)

Includes elements such as effective questioning and use of assessment by teachers. Specific practices, like reviewing previous learning, providing model responses for students, giving adequate time for practice to embed skills securely

and progressively introducing new learning (scaffolding) are also elements of high quality instruction.

3. Classroom climate (Moderate evidence of impact on student outcomes)

Covers quality of interactions between teachers and students, and teacher expectations: the need to create a classroom that is constantly demanding more, but still recognising students' self-worth. It also involves attributing student success to effort rather than ability and valuing resilience to failure (grit).

4. Classroom management (Moderate evidence of impact on student outcomes)

A teacher's abilities to make efficient use of lesson time, to coordinate classroom resources and space, and to manage students' behaviour with clear rules that are consistently enforced, are all relevant to maximising the learning that can take place. These environmental factors are necessary for good learning rather than its direct components.

5. Teacher beliefs (Some evidence of impact on student outcomes)

Why teachers adopt particular practices, the purposes they aim to achieve, their theories about what learning is and how it happens and their conceptual models of the nature and role of teaching in the learning process all seem to be important.

6. Professional behaviours (Some evidence of impact on student outcomes)

Behaviours exhibited by teachers such as reflecting on and developing professional practice, participation in professional development, supporting colleagues, and liaising and communicating with parents.

Question 2: "What kinds of frameworks or tools could help us to capture great teaching?"

Assessing teacher quality through multiple measures

A formative teacher evaluation system – based on continuous assessment and feedback rather than a high-stakes test - must incorporate a range of measures, from different sources, using a variety of methods. A key to suitably cautious and critical use of the different methods is to triangulate them against each other. A single source of evidence may suggest the way forward, but when it is confirmed by another independent source it starts to become a credible guide.

Currently available measures can give useful information, but there is a lot of noise around a weak signal, so we must be careful not to over-interpret. If we were to use the best classroom observation ratings, for example, to identify teachers as 'above' or 'below' average and compare this to their impact on student learning we would get it right about 60% of the time, compared with the 50% we would get by just tossing a coin. Therefore, these judgements need to be used with considerable caution.

Six approaches to teacher assessment

For this review we focused on three approaches to assessing teachers that demonstrate moderate validity in signalling effectiveness:

1. classroom observations by peers, principals or external evaluators
2. 'value-added' models (assessing gains in student achievement)
3. student ratings

Three other approaches had limited evidence:

4. principal (or headteacher) judgement
5. teacher self-reports
6. analysis of classroom artefacts and teacher portfolios

Classroom observations

Successful teacher observations are primarily used as a formative process – framed as a development tool creating reflective and self-directed teacher learners as opposed to a high stakes evaluation or appraisal. However, while observation is effective when undertaken as a collaborative and collegial exercise among peers, the literature also emphasises the need for challenge in the process – involving, to some extent, principals or external experts.

Levels of reliability that are acceptable for low-stakes purposes can be achieved by the use of high-quality observation protocols. These include using observers who have been specifically trained – with ongoing quality assurance, and pooling the results of observations by multiple observers of multiple lessons.

Measuring student gains

Value-added models are highly dependent on the availability of good outcome measures. Their results can be quite sensitive to some essentially arbitrary choices about which variables to include and what assumptions underpin the models. Estimates of effectiveness for individual teachers are only moderately stable from year to year and class to class. However, it does seem that at least part of what is captured by value-added estimates reflects the genuine impact of a teacher on students' learning.

Student ratings

Collecting student ratings should be a cheap and easy source of good feedback about teaching behaviours from a range of observers who can draw on experience of many lessons. There is evidence of the validity of these measures from use both in schools and, more widely, in higher education.

Question 3: “How could this promote better learning?”

A review by Timperley et al. details a teacher 'knowledge-building cycle' - a feedback loop for teachers – that is associated with improved student outcomes. Their synthesis 'assumes that what goes on in the black box of teacher learning is

fundamentally similar to student learning'. And their findings suggest that teacher learning can have a sizeable impact on student outcomes.

The observation/feedback routine should be structured explicitly as a continuous professional learning opportunity that enables them to work on improving student outcomes.

The literature provides a challenge to the much quoted claim that teachers typically improve over their first 3-5 years and then plateau. Teachers working in schools with more supportive professional environments continued to improve significantly after three years, while teachers in the least supportive schools actually declined in their effectiveness. Another study found that feedback from classroom observation led to a gain in students' math test scores in the years following the intervention, equivalent to an effect size of 0.11.

Six principles of teacher feedback

Sustained professional learning is most likely to result when:

1. the focus is kept clearly on improving student outcomes;
2. feedback is related to clear, specific and challenging goals for the recipient;
3. attention is on the learning rather than to the person or to comparisons with others;
4. teachers are encouraged to be continual independent learners;
5. feedback is mediated by a mentor in an environment of trust and support;
6. an environment of professional learning and support is promoted by the school's leadership.