

The Great Teaching Toolkit, Evidence Review, June 2020**Evidence Based Education**

The following extract is from section 4 of the Great Teaching Toolkit Evidence Review. Section 4 relates to ‘activating hard thinking’ and covers the research related to how teachers do this in their classroom. You can access the full review [here](#).

Our third element is questioning. Pretty much every model of teaching includes this in some form. For example, Rosenshine enjoins us to ‘ask a large number of questions and check the responses of all students’ (2010, p. 12). But questioning is already one of the commonest things teachers do, and the key to quality is not the number of questions but the type and how they are used.

For Hattie (2012) it is about the balance between deep and surface level thinking that teachers promote. When Smith et al. (2008) searched for the strongest differentiators between ‘expert’ and ‘experienced’ teachers they found a focus on promoting deep learning to be one of five distinguishing characteristics (along with: presenting content effectively; creating a learning climate; monitoring and giving feedback; believing that all students can succeed). Hattie (2012) defines this deeper understanding as ‘more integrated, more coherent and at a higher level of abstraction’. The key point is that just asking a lot of questions is not a marker of quality; it’s about the types of questions, the time allowed for, and depth of, student thinking they provoke or elicit, and how teachers interact with the responses.

This raises an important distinction between different reasons teachers do questioning. Understanding and promoting great teaching requires us to attend to teachers’ purposes as well as their practices: not just what they do, but why they do it; what problems they are trying to solve (Kennedy, 2016). Teachers use questioning for two main – and quite distinct – purposes: to promote students’ thinking, and to assess it.

In the former purpose, questioning is a tool to promote deep and connected thinking. Great teachers use questioning as part of a dialogue in which students are engaged and stretched. They prompt students to give explanations and justifications for their answers, or just to improve an initial response, to describe their thinking processes, to elaborate on their answers, exploring implications, ‘what-if’s and connections with other ideas and knowledge (Dunlosky et al., 2013; Praetorius et al., 2018). Although we have used the word ‘questioning’ here, the range of activities teachers use to promote oracy and dialogue are much wider. They may also encourage students to ask their own questions. Shimamura (2018) encourages learners to apply the ‘three Cs’ (categorise, compare and contrast) and ‘elaborative interrogation’ (asking, and answering, ‘why’ and ‘how’ questions) to help them learn new ideas. Great questioning promotes deep student thinking, helping them to connect and elaborate ideas.

In questioning designed for the latter purpose, the focus is on eliciting and checking student thinking, knowledge and understanding: in other words, assessment. Asking questions, or providing prompts, that provide clear insight into whether students have grasped the required knowledge and understanding is hard; it is in the nature of assessment (and indeed all human communication) that student responses are always equivocal, and interpretations should be probabilistic rather than certain. Questioning that is interactive may go some way to overcome this if follow-ups and prompts are used skilfully to clarify. Great teachers also have strategies for checking the responses of all students. Asking meaningful and appropriate questions that target essential learning, collecting and interpreting a response from every student, and responding to the results, all in real time in the flow of a lesson, is hard to do well, but great teachers do it and it is probably a skill that can be learnt.

Whether questions are asked interactively or as part of a fixed assessment process, starting with great questions that provide maximum information is key. When used for the purpose of assessment, questions should be seen as tools to elicit insights into students' thinking. Questions provide information if they discriminate between those who know and those who don't yet. Whether an assessment is a single question or a formal examination, great teachers understand the amount of information it provides, how much weight it carries and what inferences and decisions it can support. They understand that what has been learnt is not the same as what has been taught (Nuthall, 2007) and that assessment is the only tool we have to make the former visible, albeit 'through a glass, darkly'. Crucially, they plan and adapt their teaching to respond to what assessment tells them.