

Key Resource: Using questioning to promote thinking

Introduction

Good questioning is an important skill for you, the teacher, to acquire. Questioning can be used to find out what your pupils know and assess their progress, but can also be used to inspire them, help extend their thinking skills and develop enquiring minds. Questions you can ask can be divided into two broad categories:

- Lower level questions, which involve the recall of facts and knowledge previously taught, often involving closed questions (a yes or no answer).
- Higher level questions, which ask the pupil to use bits of information previously learned to form an answer or to support an answer in a logical manner. Higher level questions are often more open-ended.

There are two issues with both higher and lower level questions. These are:

- encouraging pupils to respond;
- improving the quality of their responses.

Encouraging pupils to respond

Many teachers allow just one second before answering the question themselves or asking another question. This leaves no time for pupils to think what they might say. By waiting between three and six seconds before saying anything gives pupils time to think of answers. Research indicates that this has a positive effect on pupils' achievement. By waiting after posing a question there is an increase in:

- the length of pupil responses;
- the number of pupils offering responses;
- the frequency of pupil questions;
- the number of responses from less capable pupils;
- positive interactions between pupils.

The way incorrect responses are handled will determine whether pupils continue to respond to the teacher's questions. 'That's wrong', 'You are stupid' or other humiliation or punishment often stops pupils volunteering any more answers from fear of further embarrassment or ridicule. Instead, if you can pick out parts of the answers that are correct and ask them in a supportive way to think a bit more about their answer you may encourage more active participation. This helps your pupils to learn from their mistakes in a way that negative behaviour towards them does not. The following phrase shows how you might handle an incorrect answer in a more supportive way:

'You were right about evaporation forming clouds, but I think we need to explore a bit more about what you said about rain. Can anyone else help us?'

Improving the quality of responses

Helping pupils to think more deeply and improve the quality of their answers is a crucial part of your role. To help pupils achieve more, you need to be able to:

- prompt;
- probe to seek clarification;
- build on answers by refocusing;
- sequence questions in a way that extends thinking;
- listen very carefully to pupil answers in order to ask the right question.

Prompting is about adding hints that help pupils develop and improve their answers. Begin by choosing what is right in the answer and offering information, further questions and other clues. ('So what would happen if you added a weight to the end of your paper aeroplane?')

Probing is about trying to find out more, helping pupils clarify what they are trying to say to improve a disorganised answer or one that is partly right. ('So what more can you tell me about how this fits together?')

Refocusing is about building on correct answers to link pupils' knowledge to knowledge they have previously learned. This broadens their understanding. ('That is good. But how does it link with what we were looking at last week in our local environment topic?')

Sequencing questions means asking questions in a certain order to extend thinking. Here, your intention is to lead pupils to summarise, compare, explain or analyse. This means you must have questions ready that stretch pupils, but not so far that they lose the meaning of the questions. ('Explain how you overcame your earlier problem. What difference did that make? What do you think you need to tackle next?')

Listening enables you not just to look for the answer you are expecting, but to alert you to unusual or innovative answers that you may not have expected. Such answers could highlight misconceptions that need correcting, or they may show a new approach that you had not considered. Your response to these could be very important in maintaining motivation. ('I hadn't thought of that. Tell me more why you think that way.')

Common mistakes in questioning

It is often said that 'questions are only as good as the answers they get'. Common errors in questioning, which discourage pupils from offering answers or participating, are:

- asking too many questions at once;
- asking a question and answering it yourself;
- asking a difficult question too early;
- always asking the same type of question;
- asking a question in a threatening way;
- not using probing questions;
- not giving pupils enough time to think;
- ignoring answers;
- not correcting wrong answers;
- failing to see the implications of answers;
- failing to build on answers.

If you do any of these, think about how you might adapt your approach and find ways of doing the opposite. Watch and see the improvement in pupil performance.



TESSA (Teacher Education in Sub-Saharan Africa) aims to improve the classroom practices of primary teachers and secondary science teachers in Africa through the provision of Open Educational Resources (OERs) to support teachers in developing student-centred, participatory approaches. The TESSA OERs provide teachers with a companion to the school

textbook. They offer activities for teachers to try out in their classrooms with their students, together with case studies showing how other teachers have taught the topic, and linked resources to support teachers in developing their lesson plans and subject knowledge.

TESSA OERs have been collaboratively written by African and international authors to address the curriculum and contexts. They are available for online and print use (<http://www.tessafrica.net>). The Primary OERs are available in several versions and languages (English, French, Arabic and Swahili). Initially, the OER were produced in English and made relevant across Africa. These OER have been versioned by TESSA partners for Ghana, Nigeria, Zambia, Rwanda, Uganda, Kenya, Tanzania and South Africa, and translated by partners in Sudan (Arabic), Togo (French) and Tanzania (Swahili) Secondary Science OER are available in English and have been versioned for Zambia, Kenya, Uganda and Tanzania. We welcome feedback from those who read and make use of these resources. The Creative Commons License enables users to adapt and localise the OERs further to meet local needs and contexts.

TESSA is led by The Open University, UK, and currently funded by charitable grants from The Allan and Nesta Ferguson Foundation, The William and Flora Hewlett Foundation and Open University Alumni. A complete list of funders is available on the TESSA website (<http://www.tessafrica.net>).

As well as the main body of pedagogic resources to support teaching in particular subject areas, there are a selection of additional resources including audio, key resources which describe specific practices, handbooks and toolkits.



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TESSA_EnPA_KR_all May 2016



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