The Brighton & Hove Assessment for Learning project

Questions worth asking

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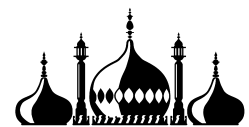
Brighton & Hove

"Assessment for learning is any assessment for which the first priority in its design and practice is to serve the purpose of promoting pupils' learning. It thus differs from assessment designed primarily to serve the purposes of accountability, or of ranking, or of certifying competence.

An assessment activity can help learning if it provides information to be used as feedback, by teachers and by their pupils, in assessing themselves and each other, to modify the teaching and learning activities in which they are engaged. Such assessment becomes "formative assessment" when the evidence is actually used to adapt the teaching work to meet learning needs."

(from *Working inside the Black Box – Assessment for learning in the classroom. Paul Black, Christine Harrison, Clare Lee, Bethan Marshall & Dylan Wiliam. 2002)*

This document (formatted for production ideally as an A5 booklet) can be downloaded from www.brighton-hove.gov.uk/ks3 – click on the 'Top Ten Essentials' button.

Introduction

Over the last year teachers in Brighton and Hove have been looking at ways to develop effective use of formative assessment as a means of improving pupils' attainment and of engaging them more actively in their learning.

Questioning is an integral part of all strands of formative assessment, or "Assessment for learning": self and peer assessment, feedback, sharing learning intentions and using summative assessment formatively. It is an area traditionally characterised by a good deal of "instinctive" practice – what teachers "just do". However, teachers working within the Assessment for learning project in Brighton and Hove have found it helpful to reflect on that practice in order to identify ways to develop questioning techniques that enhance their teaching, promote higher order thinking and thus improve learning. Extending the repertoire of questioning strategies employed has also been noted as having a marked effect on pupils' motivation to learn.

The aim of this booklet is to share some of our work on developing questioning and some of the practical ways teachers have improved their practice in this area. Much of it will not be new; it simply collects ideas for teachers to use and adapt as they see fit to match the learning needs of their pupils.

You can use the booklet in a number of ways

- Read it all - sharing the theory and the ideas

- Skim through, focusing on the bold text - the "key ideas"

- Start with the strategies - usually boxed text. Try one or two. If they are helpful - try some others, then revisit the theory later to reflect on your practice and develop it further.

In any case, we hope the booklet will stimulate you into thinking further about your - and your pupils' - use of questioning. We have tried to leave some space for you to jot down your own adaptations of strategies or ideas about when you could use particular things. It will only be successful if it is used. We look forward to hearing any feedback.

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Why is questioning so important to Assessment for learning?

Questioning is the key means by which teachers find out what pupils already know, identify gaps in knowledge and understanding and scaffold the development of their understanding to enable them to close the gap between what they currently know and the learning goals.

Questions are the most common form of interaction between pupils and teachers, yet research suggests that the majority are recall and comprehension - lower order questions which do not require pupils to actively process information. It is only in active processing that the pupil achieves deep level learning. In order to raise pupils' levels of achievement they therefore need regular practice in higher order thinking - analysing, synthesising and evaluating. Focusing on the kinds of questions we ask in classrooms and the strategies we use can help us achieve this.

Questions serve a number of essential purposes. For example they:

- Give immediate feedback on pupils' understanding, which can then be used by the teacher to modify the teaching.

- Help pupils to develop their thinking from the lower order concrete and factual recall type to the higher order analytical and evaluative which promote deeper understanding. Higher order questions help pupils explore ideas and make connections, helping pupils see the "big picture" of the learning. This in turn leads to greater motivation and improved engagement.

- Prompt pupils to inspect their existing knowledge and experience to create new understandings. Articulating understanding helps to clarify it and improves the likelihood that it will be retained.

- Focus pupils on the key issues and enable teachers and pupils to see progress over time.

- Model for pupils how experienced learners seek meaning- moving them towards greater independence.

Planning key questions and embedding them early in lesson - often in the learning objective - has been particularly effective. Recording these in medium term plans/ schemes of work has encouraged teachers to share the essence of what they want pupils to know and understand, to communicate this to pupils (sharing learning goals) and to find ways of checking these have been achieved in lessons through plenary activities.

It is this feedback which in turn enables teachers to tailor their teaching to what pupils need to know next that enables the assessment to be <u>for</u> rather than <u>of</u> learning.

Top Tips:

Planning for fewer, better questions...

Clarify your learning intentions - link your key questions to them

Plan a few key questions to use, perhaps collaboratively, or within medium term plans

Extend the key questions with subsidiary questions to ask. Consider the techniques you will employ - e.g. asking the same child follow up questions to probe understanding. Where will pupils need most "think time"?

Analyse the answers you are given and decide on "follow-up" responses

Make the questions a focus for recall

*Decide on the level and order/timing of questions. Stage them so that the level of challenge increases as the lesson proceeds. **Bloom's taxonomy**, reproduced in the chart below, can help with this.*

*Bloom suggests that pupils need to have **knowledge** before they can understand it and that they need to **understand** it before they can **apply** it in different contexts. They need to be able to handle these "lower order" skills (knowledge, comprehension, application) before they can **analyse** and **criticise**. This is necessary before they can combine different kinds of knowledge to create new understandings, (**synthesis**) after which they can then move on to **evaluate**, the "highest" order. Moving between these stages demands increasingly complex thinking by the learner.*

There may well be exceptions to this, but Bloom's is helpful when scaffolding questions. If pupils cannot answer questions of a specific type, the teacher can lower the order to take them back to what they can do, then build it up again.

Bloom's Taxonomy

	What pupils need to do	Examples of possible question structures
Knowledge	Define, recall, describe, label, identify, match, name, state	What is it called? Where does ... come from? When did it happen? Who? What types of triangle are there?
Comprehension	Translate, predict, explain, summarise, describe, compare (events and objects), classify	Why does he...? Explain what is happening in the crater... So how is Tim feeling at this point? What are the key features…?
Application	Demonstrate how, Solve, Try it in a new context, use, interpret, relate, apply ideas	What do you think will happen next? Why? So which tool would be best for this? Put the information into a graph Can you use what you now know to solve.
Analysis	Analyse, explain, infer, break down, prioritise, reason logically, reason critically, draw conclusion	What patterns can you see in the ways these verbs change? Why did the Germans invade? What assumptions are being made…? What is the function of…?
Synthesis	Design, create, compose, combine, reorganise, reflect, predict, speculate, hypothesise, summarise	Compose a phrase of you own using a syncopated rhythm What is the writer's main point What ways could you test that theory? What conclusions can you draw?
Evaluation	Assess, judge, compare/ contrast, evaluate	Which slogan is likely to have the greatest impact? Should they develop the green-field or the brown-field site? Which was the better strategy to use?

Try to use the steps in the taxonomy to plan sequences of questions in a lesson or to plan objectives for lessons over a period of time to make sure they are making increasingly challenging cognitive demands on pupils.

Strategies to improve the distribution of your questioning

1. Introduce hands down questioning - where **you** decide who to ask. Tell the pupils clearly "*This is a hands down question - I expect you all to be able to give me an answer, even if that answer is 'I'm not sure'.*" It takes some training, but it's worth it!

2. If you tend to question the same pupils try moving about the classroom. Teachers seem to ask those pupils seated in a sort of "shifting spotlight " in front of them By moving to different areas of the room you are likely to ask a wider range of pupils

Teacher

Pupils

A   B
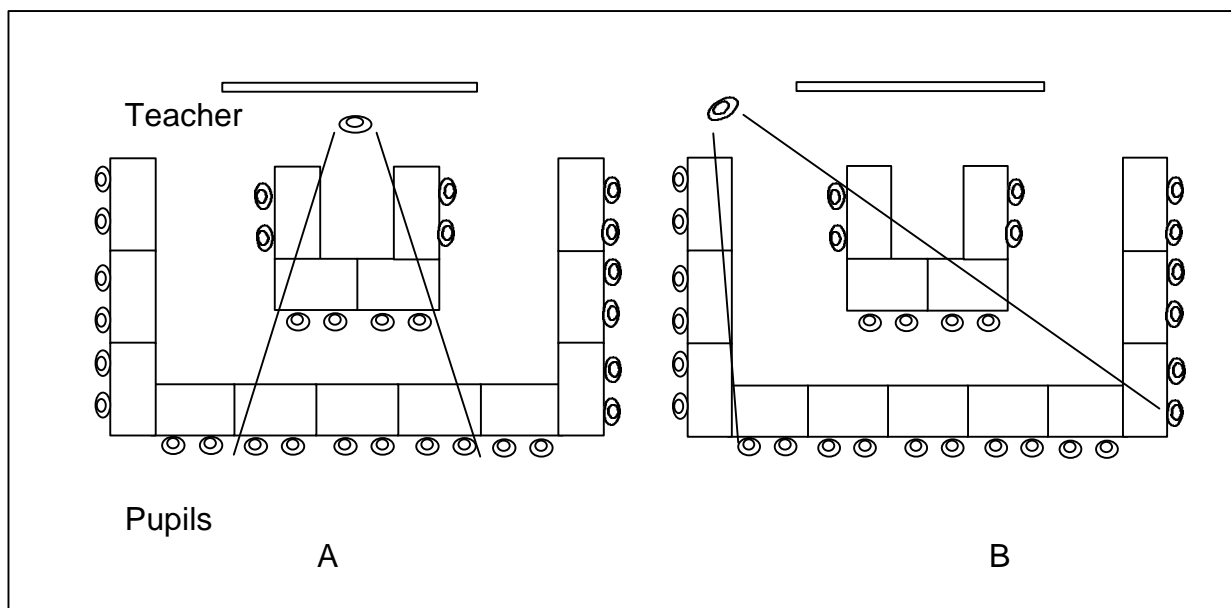
3. Distribute slips of paper/card at the beginning of the lesson. As pupils answer a question, they hand over one of their cards. Teachers can see clearly who has still all their cards and can target an appropriate question! This technique also allows teachers to engage reluctant pupils, who may be given fewer cards.

4. Address a question directly to a named pupil. Keep others involved by asking them to consider what they could add/ whether they agree etc. e.g. "John, do you think that Macbeth really wants to kill the King at this point? Sam, do you agree? What evidence can you find? Does anyone think something different?"

5. Use the 'thinking time' pause after asking the question to consider who has answered questions already. Try simple strategies like asking a pupil who often answers to select two or three others to answer - thus keeping them involved.

6. Get an observer to record on a tally chart where you direct questions in the room. This can be very revealing about distribution in terms of location and gender. A pupil may even be able to do this, and this may engage others in the discussion about who answers and why...

Alternatives to recall question and answer sessions

Recall questions are often necessary to lay out the territory of the lesson, fix key vocabulary etc. Using questioning strategies which demand that all pupils are involved in recalling information can ensure engagement and pace, avoiding the teacher - pupil routine where only a few pupils respond. Our favourite strategies are:

*Use of **mini whiteboards** - pupils have to show their answers. Teachers can thus see at a glance who has the knowledge, and who needs further input*

*Games such as "**Key-word Bingo**" where pupils write down a number of words from the board. The teacher reads out definitions, pupils mark off if they have those words. Pupils read words and definitions when they get a* full house*, or a line, or a column etc.*

***"Here's the answer, what's the question?"** can quickly ratchet up the thinking required and make pupils make connections. e.g. "The answer is 42 - what could the question be?" or " The answer is Henry VIII, how many questions can you think of that this could answer?" Compare the quantity and quality of responses for yourself!*

In planning, rework lower order questions to raise the level of thinking required. Consider the difference between "Draw me an isosceles *triangle*" and "Draw me some different triangles. What is similar and what is different?"

*Try using **quiz-type programmes** on the interactive-whiteboard (Block-busters etc.) **in conjunction with mini-whiteboards** or **colour swatches for multiple-choice answers** -A is red, B is blue etc. Coloured pencils or fingers can be used as an alternative.*

If there is a "right" answer, try to plan to use a strategy which means all pupils have to give it. This will enable the teacher to quickly assess who knows and who doesn't, and modify teaching accordingly

Making it safe to get things wrong

Questioning strategies need to build pupils' self-confidence. If pupils are to become effective learners they have to be able to take risks, try new things, make and analyse mistakes. Teachers need to handle incorrect responses effectively so that they are raising the level of challenge rather than the level of stress, and at the same time, encourage pupils to develop a broader understanding by making connections between *bits* of knowledge.

Some of the ways teachers have tried to do this include:

Think time after *an answer to encourage pupils to reflect on an answer and add/ modify for themselves*

Phone a friend/ ask the audience *(Builds confidence - can be used for low and high order questions.)*

Previewing *a question in advance (Gives time to prepare - but may still need pair time for discussion.)*

Echoing *- "So what you seem to be saying is.... Does anyone think anything different?"*

After an incorrect answer, take a few other responses, then ask the first pupil to decide whether he wants to change. Vary this by asking pupils with partially correct answers to listen and add to their response having heard others.

Saying "I'm going to try to be challenging now... How would what you say fit with ... (evidence, example etc.)". (Encouraging justification)

Summarise the answer/ argument again for the class - then ask "Does anyone see any potential problems with what James has said?"

Extending pupils' responses

By encouraging pupils to extend responses, they make their thinking visible - to the teacher, the class and themselves. This is vital for assessment for learning in that it gives opportunities for the teacher to identify and challenge misconceptions and insecurities so that their next steps can address the learners' real needs.

Often pupils only reach understanding when they actually say something aloud, so it is important to provide opportunities for them to explain their thinking. Sharing and modelling thinking processes can demonstrate to other pupils ways in which they can use the processes themselves.

***Strategies for extending pupils' responses**

Pausing (giving thinking time) - before and after asking, and after response, encourages pupils to extend their answers.

Not only do more pupils answer, they also add greater detail, and pupils who have initially given an incorrect response often self-correct if the teacher waits a few seconds.

If you find it hard to wait you could try:

▪ *Suggesting pupils have half a minute to share their answer with a partner before feeding back. This also promotes confidence as it is a "joint effort"*

▪ *Planning to use strategies such as "Think, Pair, Share" or snowballing (see page 14) at key points for "big" questions*

▪ *Plan to ask the question, move to another part of the room and repeat it before taking any answers*

▪ *"You are not allowed to answer this question in less than 15 words...*

cont...

- *After the pupil has responded, try:*

  "Could you say a little more about that?"

  "Go on…"

- *Non- verbal cues, e.g. hand upturned, silence with continued eye- contact etc*

  "Can you show me what you mean?"

- *Echoing:*

  "So you think that…?"

  "So what you're saying is…"

  Can someone summarise what Tara has just said?"

- *Reflecting:*

  "Yes, I sometimes think that…

  "I know what you mean I also think…"

  "Do you feel that…"

- *Use body language - e.g. eyes fixed, waiting, or hand extended, upturned to signal expectations that there may be more to be said...*

Techniques which foster extended responses enable teachers to identify and challenge misconceptions so that their next steps can address the learners' real needs.

Questioning and independent learning

It is important to remember that one of the key aims of assessment for learning is to enable pupils to become increasingly independent. Questions need to encourage them to think for themselves and consider other options.

For example, try:

When pupils begin a piece of work, make planning explicit and encourage internalisation of the success criteria:

- *How do you think that…?*
- *How are you going to…?*
- *Are there particular things you'll need to.... ?*
- *Do you think that…?*
- *Is it important to…?*
- *What might it look like if it's successful?*

If they have difficulty:

- *Could you try to…?*
- *What about…?*
- *Why not…?*
- *Have you compared your ideas with…?*
- *What other strategies could you consider?*
- *Would a … help?*

Whilst they are working, help them make their thinking explicit:

- *Did you decide to…? / Why did you decide to..?*
- *Where might ...?*
- *Have you….?*
- *Can you think of…..?*
- *Can you explain how you…?*
- *What other ways could you...?*

At the end of a lesson, promote reflection and metacognition:

- *What/ how could you improve…?*
- *How did that happen?*
- *What did you get out of it?*
- *Why was that?*
- *Which were your best…?*
- *What were the trickiest bits? Why?*
- *Which were the most effective strategies?*
- *Where else might you be able to use those strategies?*

Questioning and independent learning (continued)

Encouraging pupils to ask questions for themselves is an essential part of their becoming independent.

Developing confidence to do this requires not only that they feel safe to get things wrong (see page 9) but importantly that they have opportunities to develop questioning strategies which can be applied across subjects. In this way pupils can be encouraged to draw on appropriate questions to help them find things out for themselves, then transfer those strategies into different contexts.

The strategies below have been found helpful in encouraging pupils to ask questions themselves, shifting them towards greater independence:

5Ws – who? what? where? when? why?
e.g. in response to a photograph, a diagram, an account, a newspaper report)

Hot- seating
where pupils prepare questions to ask of a character e.g. Darwin, Oliver Cromwell, Hamlet

Snowballing
pairs discuss, move into fours, share ideas, fours to eights -feed back. (Allows safety - no one person is responsible for the answer.)

Think, pair, share
pupils come up with one or two ideas/questions independently, pair up to discuss/ develop them then share with the class.
As with snowballing, this encourages them to think aloud before answering, resulting (usually!) in a higher quality of response

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"What might ...... think about James' argument?"
offering an opposing view - e.g. a developer's view on a proposed brownfield site

What questions might a ... have about this?
e.g. a parent with small children about the closing of a local shop.

The six thinking hats - based on the work of Edward de Bono

De Bono's "Thinking hats" approach is an effective way of getting pupils to ask questions from a variety of perspectives, again allowing teachers to assess pupils' current level of thinking.

In its simplest form, it encourages pupils to approach "big issues" from a variety of perspectives making them more manageable. Like other strategies, pupils get better at it the more they use it. (A summary is included on p.17.)

Teachers report that allocating roles to pupils to start with can help them grasp the idea. For example, try a jigsawing activity where 'yellow hats' plan their questions together, as do greens etc., Pupils then reconvene in original/home groups for a discussion, having considered the problem from a variety of perspectives.

Consider where the *thinking hats* approach would enrich pupils' thinking in your subject.

> For example, in RE - *"What would happen if religion were banned?"*
>
> Or in Geography*, "Should Belize have developed tourism?"*
>
> Or Biology, *"Should embryos be used in research?"*

Try the approach to some of the more complex issues in your subject and evaluate whether it helps broaden pupils' thinking.

• **White hat thinking**: Involves facts, figures and information, presented neutrally. This is about gathering information, so questions may include: *What information do we have? What is missing? What do we need? How do we get it*	• What has the land been used for previously? How many people live there? How will the water be transported?
• **Black hat thinking**: Involves caution, truth and judgement. This is about reality, identifying problems and avoiding mistakes. It promotes thinking about the validity of your line of reasoning, so questions may include: *Do the conclusions follow from the evidence? Is the claim justified? Will the plan work? What are the dangers of the plan?*	• Will there be sufficient drainage? • Is a leisure centre really needed here?
• **Red hat thinking**: Involves emotions, feelings, hunches and intuition, and therefore allows people to put forward feelings without having to justify them, however mixed they are! Questions may include: *What do I feel about that decision? Is my gut reaction yes or no?*	• Do I want a building in the middle of this area? • Do I think this design is too modern?
• **Yellow hat thinking**: Involves looking for the positives- the sunny day thinking - advantages, benefits or savings, but they must be justified! Questions may include: *What are the benefits? Why?*	• What are the good things about having a leisure centre here?
• **Green hat thinking**: Involves creative thinking, exploration, proposals, suggestions and new ideas. It is about broadening the range of options before any one of them is pursued in detail, and does not require the logical justification of alternatives. Questions may include: *What would we ideally wish for? What alternatives are there?*	• What else could we do with the space? • What about an adventure park? Or some futuristic green houses?
• **Blue hat thinking**: Involves metacognition - thinking about thinking. It is about reflecting on the process rather than the decisions. Questions may include *Where are we now? What is the next step? Is this the best way to decide?*	• Was this a good way to go about making the decision?

A 'special' time for questions in class promotes the notion that pupils are expected to have questions.

This can be further supported by simple strategies such as:

- *Giving pupils 'post its' on which they write questions about the topic prior to the main teaching input. They tick off questions as they are answered and ask about anything not covered at the end. This can help pupils focus on the input, and help the teacher understand from what levels pupils are approaching a topic.*

- *The teacher modelling appropriate types of questions e.g. thinking aloud..."Now, a really good question at his point would be...... because..." This can later be adapted to "What would be a really good/ important question to ask at this point?*

- *Using traffic lights to encourage pupils to identify for themselves where their understanding is good and less assured. Pupils colour-code aspects of a topic green for good (could explain to someone else) amber for o.k. (some areas insecure) and red (unsure - need to go over this) Pupils can then be grouped greens with ambers while teacher deals with the reds' questions.*

- *Pupils can write exam type questions for themselves - and develop mark schemes to increase understanding of the kind of depth required. This is particularly effective as a revision strategy....*

Research has found that training learners to generate thought-provoking questions and then answer them is a very effective study technique. Pupils trained to ask questions of one another significantly out-performed those who had not. Teachers who model a question in mind by thinking aloud and asking good questions help pupils to be active in questioning.

Questions about your questioning

Now that you're reaching the end of this booklet, you're probably buzzing with ideas! But how and where to start?

Take a moment to look at the table on the following pages. This should help you analyse your own strengths and weaknesses in questioning, and focus your next efforts. Try to answer the questions as honestly as you can. We've laid the table out in a way that will allow you to 'traffic-light' these, then choose one or two "ambers" to develop.

Use the space below to note key actions.

Next steps:

Points for action:

-

-

-

-

-

-

Analysing your own practice:

	RED	AMBER	GREEN
Do your questions reinforce/ revisit the learning objectives?			
Does your questioning engage pupils in thinking for themselves?			
Do you involve all pupils?			
Do you use the 'individual, work as a pair, share as a group, present to the class' method to its best effect?			
Do you model for pupils the sort of questions they might want/ need to ask?			
Do your questions show connections between previous and new learning?			
Do your questions motivate?			
Can you preface your questions with an individual's name and a motivational challenge? 'James, I know that you can give me three examples…'			
Can you do this in ways that make it safe to get it wrong?			
Do you ask pupils to explain their thinking?			
What do you do when you ask the question 'What makes you think that Rapesh?' and get the answer 'Dunno, miss' Do you provide other, extending questions: 'What other alternatives did you consider? 'Why did you reject them?' 'What makes this choice the best?'			

Do you reflect back? '*So, if I'm right what you're saying is….'*			
Do you ask pupils to listen accurately? Summarise? Speculate?			
Do they listen and respond to each other as well as the teacher?			
Do you play devil's advocate?			
Do you promote justification and reasoning?			
What about speculation and hypothesis?			
Can you encourage upside – down thinking by asking for the opposite point of view, or an outrageous alternative?			
Do you encourage thinking about thinking through your use of questions?			
Do you provide opportunities for pupils to explain the processes they chose, as well as describe the outcome?			
In what ways do you foster an atmosphere of trust where pupils' opinions and ideas are valued?			
Do you stage or sequence questions with increasing levels of challenge, moving them from unsorted or unordered knowledge to organised understanding, where patterns and meaning have been established?			
Do questions feature in your medium term and short term plans?			