Questions and dialogue

# Questions and questioning: WORKING WITH YOUNG CHILDREN

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Look at strategies for encouraging children to think and question

Teachers who work with early-years children often ask how young children can be encouraged to **think** about the events, living things or objects they are investigating and how they can be encouraged to ask appropriate scientific questions. The foundation stage profile states that children should be able to:
*ask questions about why things happen and how things work*
and the National Curriculum requires children in key stage 1 to:
*ask questions, for example 'How?', 'Why?', 'What will happen if…?*
But teachers tell us that they have difficulty encouraging children to raise these types of question.

Harlen (2000, p. 119) suggests that:
*Children's questions are … very important to teachers since they help to indicate the boundary between where children feel they can and cannot make sense of something.*

We felt that we needed to examine our own practice and that of other teachers in respect of questioning, and so we taught several classes of children between the ages of 4 and 7 and made notes about their questions and the questions we asked. We also observed other teachers. Here are some of the useful ideas we picked up.

## Helping children to raise questions

We found several strategies that were effective with some children although not all children responded in the same way. In a year 2 class (6–7 year-olds), children were exploring making bubbles and the teacher placed a large floor book beside the bubble-making materials. Children were encouraged to make entries in the book about what they had observed and to write down questions they wanted answering. The children enjoyed this experience and one child wrote to the teacher *'Thank you for letting us use the floor book. I enjoyed it'.*

Allowing children plenty of time to explore objects was the most effective strategy with the foundation stage children, although not all the questions were articulated. Sometimes children showed by their actions that they had 'Questions in the mind' (Harlen, 2000, p. 120). A group of reception children were fascinated by a balloon, taped to the end of some plastic tubing, which they could inflate with a 'squeezy' bottle, and by a pop-up tipper truck we had made. When we asked *'Have you any ideas about why it is popping up? What might*

Figure 1 **Working in small groups gave children more confidence when answering questions**

*be in there?'*, Alex replied *'because there is air'*. Alex was then asked *'I wonder if we could make the balloon get bigger?'* This time there was no verbal response; instead, Alex sat on the washing-up bottle! He was performing an action to answer the question in his mind.

Another useful strategy was to play the 'Minute Game'. This is particularly useful with year 2 and 3 children (6–8 year-olds). For instance, when children had had some time to observe snails they were given one minute, in small groups, to think of as many questions as they could related to the snails. Although not all questions could be answered in the classroom, some could be investigated. We can examine some of the questions they asked and consider how they might be answered.

The question *'Why does it make slime?'* could be redefined by the teacher to encourage reflection and investigation. If we asked *'Do snails make as much slime on rough surfaces as they do on smooth surfaces?'* then the children could plan and carry out a test to find the answer. Having found the answer, the children could think about why the snail makes slime.

The child who asked *'Why has the snail got a hole underneath its shell?'* was encouraged to answer his question by using a magnifier and watching the hole very carefully. He noticed that the hole was *'Moving in and out!'* Although we had to explain that the hole was used for breathing, by encouraging further observation we hoped that he would be able to relate the movement to the breathing.

*'How old is the snail?'* and *'Why has it got a pattern on the shell?'* are questions which could act as a stimulus for research using secondary sources. Whereas, the question *'What does it eat?'* does not need redefining and could be investigated in the classroom.

In our observations of other teachers we noticed that, in classrooms where teachers *modelled* the raising of questions, children were more likely to ask questions that showed they were thinking about what they had observed. A teacher in the nursery was playing alongside her children as they were comparing home-made play-dough with purchased modelling materials. She said *'Oh wow! Mine is stretchy. I wonder if all the stuff is stretchy?'* The children proceeded to stretch the materials and began to talk about what they could see. The teacher didn't ask a question that required an immediate answer from any particular child; but, by asking herself a question, encouraged further exploration. Later in the session one child said *'Look I've made a sausage with mine. Can you make a sausage Miss?'*

## Teachers' questions

When we were planning our own lessons we wanted to encourage the children to **think**. We realised that, very often, it is easy to take answers from the children who put up their hands so that the lesson proceeds smoothly. The danger, of course, in doing this is that the children who never put up their hands 'switch off' and do not bother to think. One strategy we used with years 1 and 2 was to ask all children to close their eyes and put up their hands when they had an answer. Although we were not 100 per cent successful every time we used this strategy, it did result in more children attempting to answer.

We found that often we had to **scaffold** the children's responses if we wanted them to think about a particular concept. In a year 2 lesson, children were investigating how cars move down ramps. Before giving them the ramps we asked them to observe what happened when they pushed toy cars on the carpet. The children worked in small groups and were asked to watch the cars very carefully to see how they moved. When asked *'How did the cars move?'*, several children replied *'by wheels'*. Only by asking *'How did you touch them to make them move?'* were we able to get the class to think about the fact that the cars needed a push or a pull to make them move. Teachers can plan their initial questioning before the lesson, but very often it is the children's answers that determine what the next question should be.

This was particularly apparent when we were helping the children to develop their planning skills. When we asked *'How can we tell if the height of the ramp makes a difference to how far the car travels?'*, the children were hesitant to respond. We had to show them how they could put one block under the ramp and then two, three or four blocks before they could visualise how the question could be answered. They were clearer in their minds

about how to measure the distance. Amy suggested using a measuring tape and measuring in centimetres and Megan said that we had to '*measure where the back wheels are*'. Very often, though, we have found that we need to rephrase our questions several times when we are asking young children to identify what evidence needs to be collected in order to answer a question.

We found that children were more confident when answering our questions if they were working in small groups. In the year 2 lesson they worked in small groups to carry out the test and they were able to answer the questions, which encouraged them to predict and to interpret information (Figure 1). More also wanted to answer our questions if we made sure that we gave plenty of **thinking time** before we expected replies.

Often children in the foundation stage, particularly in the nursery, **declined to answer** the questions they were asked. It could be that they didn't know how to answer; it could be that they just didn't understand the questions; or it could be that at the time of asking they were far too engrossed in their explorations to reply. Sometimes, too, they replied by talking about their observations. When a group of children in the nursery were examining bird feeders and looking at how they worked (Figure 2), we asked:
*What do you think they are made of?*
*They're hard,* replied Jackson.
*Why does it need to be hard do you think?* we asked.
*They eat the seeds,* was the reply.

When we were working with the very young children we found that they responded well to our questions if we used puppets or acted out a drama ourselves. By personalising a problem, children seemed to be encouraged to apply their thinking skills in a more focused way. When teaching a class who were investigating the ways in which sound could be muffled, we used a puppet called Charlie to tell a story about a character with a very bad headache. Charlie had been to the park and played near a man breaking up a concrete path with a very noisy machine. Charlie pulled his hat down over his ears but he could still hear the noise. We wanted to find out what the children knew about the muffling of sound and so we asked: '*Charlie picked up a handful of leaves. What do you think he did with them? How could he use them to help to muffle the sound?*' Many of the children had no hesitation in suggesting that Charlie should push the leaves into his hat to cover his ears. It was only a short step from here to understanding how we might '*stuff different things into our ear muffs and see which is best for keeping out the noise*'.

On another occasion, working with year 1 children, we wanted them to think about moving things with pushes and pulls. Using a puppet called Squeaky we set a problem for the children. Squeaky's hat had blown off in the wind and was stuck out of reach in a tree. We asked the children to suggest the next course of action. They responded enthusiastically:
Loren: *He could get some ladders.*
Ryan: *He could climb up.*
Nicola: I*f there was a hole in the tree he could climb up the inside.*
Connor came up with the most original suggestions. He said:
*He could get a bouncy castle and bounce up!*
Even when the discussion had moved on Connor was obviously still engrossed with the original problem because after a while he announced:
*I have another idea. Dig a hole and let the tree drop down. Squeaky could easily get his hat back then.*
The rest of us were stunned by this creative suggestion!

Sheila Jelly (2001) said that it was important to find a way of encouraging questions that '*does not make the child wish (s)he had not asked*'. A classroom where questions are celebrated and modelled will create an ethos of creative and critical thinking, and may begin to address the requirements of the statutory documents.

Our small study has shown us that asking the appropriate questions is not always easy either for children or teachers, and even with thorough planning we are sometimes disappointed with the children's responses. An exciting and stimulating environment where curiosity is fostered would perhaps be a good starting point.


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## References


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Figure 2 **Nursery children don't always give the answers expected!**


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