

Engaging learners through use of questioning and feedback

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Authors:

Smith, H. & Higgins, S.

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Introduction

This UK-based study investigated the role teachers can play in facilitating interactive classrooms through the use of feedback in lessons. The researchers found that feedback designed to open up thinking and discussion involves engaging with responses to questions and offering students opportunities to express themselves.

Keywords:

UK, students, literacy, numeracy, whole class teaching, student participation, teaching methods, speaking and listening, thinking skills

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What strategies did the teachers in the study use to create interactive classrooms?

The study found that the classrooms where effective interactive learning was taking place were characterised by teachers' use of feedback to create a conversational environment. These classrooms had a more even distribution of dialogue between the teacher and students than

classrooms with poor interactive learning. Teachers were found to be using a range of feedback techniques to encourage conversation that promoted learning and fostered interaction. These feedback techniques included:

- opening up students' responses to closed questions;
- encouraging peer-peer feedback;
- facilitating longer responses to questions;
- engaging with students' ideas, comments and personal reflections; and
- adopting a flexible approach to using students' input to shape lessons.

Conversational classroom dialogue was established when teachers asked questions aimed at opening subsequent classroom discourse, reacted to responses from students, and used conversational prompts such as "oh", "ooh", "ah", giving opinion and drawing on personal experiences. For example:

Student: Ehm, it's a guitar with laser strings...it's for teenagers that actually know how to play the guitar.

Teacher: Ah, now I have to say I think that's going to appeal to people who play guitar. I know my sister plays the guitar, it drives her mad every time the strings break.

Interactive classrooms also encouraged peer-peer interaction, conversations and feedback, as a way in which students could respond to questions and expand on ideas. Teachers played a key role in facilitating peer-peer conversations by inviting students to respond to each others' answers, for example:

Teacher: Ok ready three, two, one, show me, brilliant, [student] read it out for me please.

Student: Four...four hundred and twenty thousand.

Teacher: [Student] thinks she's got four hundred and twenty thousand, anybody want to disagree?

In this example the teacher is opening up a seemingly closed question to the rest of the class and encourages whole class discussion.

The researchers found that teachers who were able to adapt lessons in response to student questions and feedback also promoted interactive learning environments. The following example is from a lesson where students are using interactive whiteboards to draw shapes:

Student: You could rotate it and then that would fit.

Teacher: Ooh rotate it then.

Student: Ok, ehm right [laughs]...[long pause as student tries to draw rotated shape].

Teacher: It is a bit tricky isn't it? Can you on the whiteboards in front of you try and rotate the shape? [teacher opens the task to the whole class].

This kind of flexibility in lessons and engagement with students' feedback to questions was found to give students a greater sense of ownership of their learning.

What role can questioning play in creating interactive classrooms?

The study discusses the nature of open and closed questions. The researchers suggest that the key difference lies in the opportunities each type of question creates for classroom interaction. They also indicate the potential benefits of adapting closed questions to make them more open. For example:

Open Questions

Open questions typically have multiple answers which are open to discussion and negotiation. For example toward the end of a literacy lesson on writing instructions the teacher asked:

Teacher: Ok what things are important in instructions? If we were going to write a checklist for when I do this with my class next year, what things would

you say to them? What would have to be in your instructions?

The questions posed by the teacher in this example are open to a range of possible responses from students, with no one pre-defined 'correct' answer. But purpose is crucial. It is certainly possible to use an open question to shut down a discussion.

Closed Questions

Closed questions are usually understood to have a 'correct factual' answer, however the researchers suggest that even closed questions can be transformed into opportunities for interaction through the teacher's facilitation of the situation as in the following sequence. The teacher asks a simple factual question; Student A responds with the correct answer; the teacher then opens this up to the whole class to corroborate, challenge and discuss this answer and suggest alternative answers.

Effective teachers also asked closed questions to open up thinking about incorrect responses. The following example from a maths lesson shows this in practice. The teacher is explaining that multiplying by 100 is the same as multiplying by 10 and then 10 again, a student asked the following question:

Student: You know when you times it by 20, you do two 10s.

Teacher: No, think carefully it's not two 10s is it, its 1 times 10 and then you?

Student: Double it.

Teacher: Do you see where you went wrong there?

How can feedback be used to help create interactive classrooms?

The researchers found that classrooms where effective interactive learning was taking place were characterised by teachers' effective use of feedback to stimulate classroom talk; and supporting students to articulate more complete and elaborate ideas. They explain that 'feedback' is part of the common structure of classroom interactions which take the form of I-R-F, which is initiation (usually a question from the teachers), response (usually an answer from students) and feedback (comment from the teacher, usually to confirm the correct or incorrect answer from the student).

The standard IRF exchange can lead to teacher-student interactions being overly teacher-controlled. However, feedback, in the authors' view, creates opportunities for the teacher to involve more students and share ownership of the dialogue. The following extract taken from a discussion after students had watched a presentation of *A Midsummer Night's Dream* shows how the teacher picked up on what students said and incorporated it into succeeding questions s/he directed to other students:

Student 1: We kind of saw it all put together, and the good thing was, was that they turned, you were just telling them something and they took their ideas and they got [unclear] to be the swords, some whiteboards to be a, a wall, the people to be trees

Teacher: OK so they thought around the problems of how am I going to show the moon, cos' in the film his eyes go 'ooh' like that don't they [gestures]. What else did they do well?

Student 2: It's the thing, ehm, because the mum and the dad were pulling them back you could see them trying to grab hold of each other.

Teacher: So what—go on

Student 2: Their parents didn't want them to see each other.

Teacher: So you're saying you can see the action, you can see what's happening very clearly, they're keeping them apart. They were very good as well for other reasons, we're going to have to wrap up in a moment, but what Lauren said in particular, the actions were really clear and bold and strong, and we could all see that. Last point [Student 3].

Student 3: There was a there were two things actually I really liked when Christopher killed himself and Helen killed himself.

By paraphrasing the students' ideas, the teacher ratified their importance, whilst also facilitating a shared understanding.

How was the study carried out?

In order to explore the ways in which teachers use feedback to create interactive learning environments the researchers observed and analysed classroom interactions over a two year period. The researchers aimed to investigate how teachers can use feedback, commenting on and acknowledging students' responses to questions, to create interactive learning environments.

The study involved 213 primary literacy and numeracy lessons (114 Year 5 literacy and numeracy lessons in 2003, and 99 Year 5 and 6 lessons in 2004). Real-time observations using hand held computers took place and a further 29 were video recorded. The researchers were investigating talk (discourse/dialogue) in the lessons: what was said and the manner in which it was said, focusing specifically on the initiation, response and feedback (I-R-F) process. The researchers then analysed the five literacy and five numeracy lessons from the 29 video recorded lessons which had a reasonably even distribution of talk to investigate teacher behaviours in more detail.

What are the implications of the study for practitioners?

In completing this digest the author began to ask the following questions about the implications for teachers and school leaders:

Teachers

- The authors of the study found that it wasn't simply that effective teachers used more open questions, they used closed questions too and a range of strategies to promote open discussion. If you are already using open questions successfully in your classroom, you might like to try adapting the feedback you offer students following their responses to the closed questions you ask.
- The authors found a great deal of student interaction in effective lessons. Think of examples of lessons where your students had a good discussion about an issue and where you have evidence of learning taking place. What role did you play in facilitating and encouraging those discussions? Are there any particular features of your role that made the discussion go well that you would use again?
- Would you find it helpful to have a colleague observe your teaching or to video a lesson in order to gain more information about the ways you use feedback to open up student discussion?

School leaders

- Are the staff in your school fully exploiting the potential of interactive teaching and learning? Would staff benefit from a workshop or seminar focusing on the techniques of questioning and the use of feedback to open up discussion?
- Do you have staff members who are effective promoters of classroom dialogue? Have you considered engaging them in coaching other staff who are trying to develop in this area?