

## Transcription: Active learning in practice

### **Kavita Sanghvi**

Physics Teacher, MET Rishikul Vidyalyaya School,  
Mumbai, India

### **Cathy Priest**

Science Teacher  
Sancton Wood School, Cambridge

### **Mark Winterbottom**

University Senior Lecturer, Science  
Faculty of Education, Cambridge

### **Zelda Maclear**

English Teacher, RSG Slingerbos Levant School  
Netherlands

### **Alka Pandey**

Vice Principal at Daffodil International School  
Pune, India

### **Michael Palmer**

Deputy Head of Sixth Form  
Chelmsford County High for Girls, Essex

## ‘How have you used active learning with your students?’

- Kavita Sanghvi:** When I teach physics, I make sure there is a lot of experiments that the students are performing in the laboratory and more often recently I’ve started using the experiential learning model to teach my students, where the students experience a content for themselves and then, after that there’s a reflection sheet that follows it, so the students understand the concepts for themselves and then they learn to apply the concepts to new situations.
- Cathy Priest:** As a science teacher the challenge is always how to communicate abstract ideas to students and I found that modelling always goes down really well as they get to grips with an idea better. Last week I was teaching about the idea of pressure to 11 – 13 year-old students and they were all given a scenario to make out of plasticine and explain to the rest of the class. For example: ‘How do snow shoes work?’ ‘Why do we need a sharp knife to cut cheese?’ ‘How do caterpillar tracks stop machines sinking?’ and the students really enjoyed the modelling and were completely on task and I could see the penny just dropping with pressure is force over area. So, if you want to decrease the pressure you need to increase the area and that’s quite an abstract idea to get and I could see students really getting it. So, that was an example of active learning.
- Mark Winterbottom:** So, opening up that discussion, opening up the questioning, is important. Like you say, with collaboration and trying to engage everybody is an art in itself. So, for example, you may provide a question to a group of four sitting round a table. They have to discuss that question before deciding on a shared answer, which is then contributed to the class discussion, rather than simply one person contributing on their own and the other three not engaging at all. So, there’s various techniques and tricks like that to ensure that everybody has some involvement in what they’re supposed to be learning about.
- Zelda Maclear:** We do scaffold quite a lot. We’ll give them, perhaps, a project to do. There’s a great book on the Cambridge Copy Collection called Imaginative Projects, where we’d give them a project to do and we’d scaffold it very carefully so that every step of the way is clear to them. Because they don’t speak English yet, you have to make sure that they know exactly what they have to do. So, we give them a really, very good scaffold. We tell them, this is what we want, step one you have to take is this, step two you have to take, step three you have to take, so that you stimulate them just enough so that they have enough tools to do it and not to be tripped up by the fact that they’re not yet fluent enough in the language. So, I think we do a lot of scaffolding, just in terms of making them able enough to then go out and do it themselves.



**Alka Pandey:** Basically, first of all, we help the students build up their habit of reflection on their own learning, observation, on what is being taught and then analysing, learning from their own mistakes, experiences of other learners and that is done by a lot of sharing and collaborative learning in the classroom. So, those skills are built up, that learning, how to collaborate, how to share, how to take the experiences and mistakes of others forward and basically it's about collaborative critical thinking. These are the main skills which we help our students with in mathematics.

### **'How do you ensure students are taking responsibility for their learning in class discussion?'**

**Michael Palmer:** There are two answers to that question. The first answer is relatively straightforward and I think that's about not allowing students to hide from the discussion and somebody once said to me, "I find that there is nowhere to hide in your lessons", and I took that as a reasonable compliment. So, often one might start a discussion, simply by asking a student at random to speak about a topic and then asking them to develop their points and then to develop those points and then to pull somebody else into the discussion to contribute to it. So, rather than asking students very closed questions, one would endeavour to have much more open discussion. Open questioning and a less structured discussion that gave more space for the expression of ideas and the exploration of ideas. And were the teacher's function is to simply ask the students to develop their ideas beyond the superficial, and one of my favourite phrases in discussions like this is, "go on". Simply asking the students to say more about the points that they've already made, and I think that that notion that every student in the class can be expected, or is expected, to make thoughtful contributions, helps to develop an atmosphere where students are more willing to venture ideas and to speculate and to make suggestions even on topics where they're not necessarily abundantly clear what the answer might be. So, I suppose my second point is the development of the first. That when there is nowhere for them to hide they are then perhaps forced to begin to think more actively about the material for themselves and a lot of the skill here is in asking the right questions and trying to lead the discussion in the way that is best suited to the purposes of the lesson, without directing the students in too obvious a way.