Level 4/5 Science - Posters In Science

PEEL in Practice: 1300 ideas for quality teaching
Ian Mitchell, Eumemmering Secondary College

During 1990 I explored the use of posters for the first time in my teaching and I am now an enthusiastic convert. I should like to share three experiences. The first was with (two) Year 7 classes where I used posters as a 'written probe of prior views' at the start of a unit. I asked them to imagine digging a hole right through the centre of the earth; what would they find as they dug? Each student spent a few minutes drawing what they personally thought in their books and then I put them in groups of four. Each group had a (large) sheet of poster paper and some textas. Their task was to pool their ideas and produce (if possible) a group poster of their view of what was inside the earth. If they couldn't agree (and they didn't have to) they were to show both points of view. Both classes tackled this with enthusiasm for 25-30 minutes. Then each group had to report back using their poster, while each group reported, the others had to jot down any areas where that group disagreed with them, and then I encouraged a few minutes of questions before moving to the next group. This went well (and ran well into the next lesson), the question led to some nice debate (chaired by the presenting group) as students views certainly varied. In one class I suggested they use a rough scale but this didn't produce very different results; we got very thick (1,000 km) layers of dirt, then layers of clay and often a layer of water. Several groups had a layer or core of MALT AND ROCK'. Someone remembered about continental drift from Geography and I asked them what which parts of their diagram would drift. One student had it all worked out; 'the continents were on wet sand - you can see at the edge of the land (the seashore) that under the rocky cliffs is wet and they slide across this'.

In my Year 9 class I began a unit on body systems by having groups of three produce a life size outline of one of them and then draw what they thought was inside, where it was, how large and what shape. The drawing was done with great enthusiasm (and remarkably little graffiti). They also reported back and debated about the differences. They had to jot down things they realized they didn't know or questions which occurred them. This raised a series of very useful questions, e.g., 'We know oxygen has to get to the muscles somehow, but we can't work out how it gets from the lungs to the legs'.

In both cases I kept the posters as a very visual record, and later in the unit we pulled them out and they wrote a paragraph on where they had changed their views.

Posters are concrete, fun and encourage good group discussion by requiring students to work out precisely what they do believe (Since they have to draw it). They are a convenient visual record which I could easily and quickly refer to, to remind them of what they had believed.

After this success I used posters again with the Year 9's. We negotiated a list of topics for a library assignment on water pollution, each group took one to research and had to produce a poster (readable at 3 metres) and, rather than plan a 15 minute lecture, they were required to do 'something which got 9J thinking'. We negotiated a marking
scheme and 20 marks (out of 100) were allocated to 'How well did they stimulate thinking and 'How much did 9J learn'.

Since each group learnt from the others we agreed that the first group had a more difficult task and deserved a 10% bonus. Without this they would have been very aggrieved. The first session threatened to degenerate badly as the poster group threw out a provocative question and were then faced with a lot of shouted responses. I delayed intervening to see if they could sort it out and they did (more or less). Both the presenters and the audience realized that they needed to let one person finish and the next person be called in. I pointed this out afterwards and things were reasonably orderly, though still boisterous, after that. The audience asked some very good questions of every group, sometimes these were answered but sometimes the presenters realised they didn't know. This was good; it generated a nice 'need to know' on some important issues: the bioaccumulation of radioactive wastes up a food chain was a good example. How could the atoms get more radioactive just because they are eaten was a widespread objection. I decided to deal with most of these issues while they were 'hot' - at the end of each presentation, thus we took four lessons for six presentations - but this dealt with a lot of content. The students were, of course, modeling what had been going on all year by throwing out open questions and framing questions which challenged or extended what was being said. This means it would not have worked as well at the start of the year. I was particularly pleased with behaviour with the last group - three English as a Second Language girls who were naturally extremely nervous (they had not been forced to make a presentation but had decided to have a go). The boisterousness vanished entirely and several students clearly made a big effort to help them out with useful questions.

While enormously encouraging, it wasn't perfect - there wasn't a lot of variety in the way they stimulated 'thinking'. I think next time I might say they have to use their poster in some way to stimulate thinking (i.e., not just present information). They could cover up part, or have missing bit to stick on, or alternatives which the class have to debate.

Copyright © 2005 Peel Publications