Jill Borcherds' Development Work:
Using interactive whiteboards as a motivational tool at Stanborough School, Welwyn Garden City

Jill Borcherds completed the Certificate in Teaching and Learning based at the Hertfordshire Development Centre in 2005. This provided her with a framework for her professional development focused on how to use interactive whiteboards (IWB).

On her arrival at Stanborough School in September 2004 Jill discovered that her teaching room had a newly installed interactive whiteboard. She was excited at the prospect that this new technology might provide an opportunity to develop a new approach to teaching and learning Mathematics. Colleagues in the Mathematics Faculty shared Jill's enthusiasm. They discussed their own developing practice and agreed that there were several distinct ways in which they were incorporating the whiteboard into their teaching and learning routines:

- using the whiteboard as a projector screen for a single image
- using the whiteboard as a projector screen for several images, a slide show or animation
- direct teacher interaction with the whiteboard, using touch or the special pens, rather than working through the medium of a laptop mouse
- direct student interaction with the whiteboard, through touch or writing

Jill's reading told her that the Mathematics teachers at Stanborough School appeared to be developing their use of the whiteboard in similar ways to teachers in other schools (Knight, Pennant & Piggott, 2004). Students seemed to be responding positively to this new technology but Jill was interested to know more about how the use of interactive whiteboards affected student motivation. Was it simply the novelty value or was there something important in the ways in which the boards were being used? She decided to investigate.

Before looking closely at classroom practice Jill examined some of the literature on motivation. She read for example that motivation can be intrinsic or extrinsic. The term 'intrinsic' signifies that the learner finds the activity satisfying or rewarding in itself whereas the term 'extrinsic' suggests that motivation is more instrumental and linked to goals such as passing a test or winning a prize (Baumann, Bloomfield & Broughton, 2000). She reasoned that there was intrinsic motivation because of the novelty value of using the interactive whiteboards but was concerned about what would replace this once the novelty had worn off.

Jill was keen to learn from colleagues who had greater experience of using a whiteboard as part of their teaching and learning toolkit. She was similarly interested in gaining the

students' own views on the effect of the whiteboard on their motivation. She therefore decided to observe the same group of Year 9 students in Modern Foreign Languages and Science lessons as well as other Maths lessons. She also observed the use of interactive whiteboards in her own children's Primary School and arranged a discussion with a group of Year 12 students who had experience with the technology.

She then chose twelve Year 9 students to work more closely with to explore their views. She divided the students into discussion groups of three and asked them to share their views on the advantages and disadvantages of using whiteboards to support their learning. She circulated around the groups listening to the students' discussion, picking up issues and passing them on to other groups. At the end of this review session the students were asked to complete an individual feedback sheet.

Jill analysed her observation notes and the notes from the review session with students using a framework consisting of the four categories she had identified in the initial discussions with colleagues. She found that she had learnt a great deal about ways to use the IWB and how this motivates students.

The key motivating aspects for students appeared to be the variety of activity involved in the use of the whiteboard, together with the belief that the activity would help them to learn more effectively.

Some of ways in which the IWB could be used included:

- accessing the internet and sharing this with the whole class as part of the lesson – both as a planned activity and as a response to questions that come up during a lesson
- students presenting their own work using PowerPoint
- teachers scanning in examples of students' work to illustrate good practice
- showing extracts from television programmes and DVDs - clear images frozen for whole class discussion
- retrieving and displaying electronically stored material
- playing electronic learning games

It appears that students are well motivated because the high quality images attract and maintain attention. The whiteboards enable the teacher to enhance the pace of the lesson; the use of games brings fun and humour into the lesson and the element of competition. Presenting on 'the big screen' can generate a lot of pride for students.

Jill's work not only served her own professional development but also enabled her to contribute ideas to new schemes of work within the Mathematics Faculty and to the Stanborough Teachers' Toolkit.

References

Baumann, A., Bloomfield, A. & Broughton, L. (2000) *Becoming a Secondary School Teacher*. London: Hodder and Stoughton.

Knight, P., Pennant, J. & Piggott, J. (2004) 'What does it mean to "use the interactive whiteboard" in the daily mathematics lesson?' *Micromath*, (Summer 2004).