Introduction
Interactive whiteboards are now a common feature in schools, both primary and secondary, but a recent arrival for some of us in HE. The question is: what have they got to offer the HE maths, stats and OR community and can they help us with our teaching?

What they are
First a description for those who have never knowingly met one – an interactive whiteboard is a white screen which turns out to be both an electronic flipchart which can be written on, flipped through and saved, and also a touch screen for a PC so that your finger, or special pen, activates icons as a mouse would. There are 2 main types: the Smart Board which you activate with your finger and the Promethean which requires a special pen. Neither are cheap.

Both types require the board, a PC connected to it, and a data projector. All programs used by the PC can be projected, and in addition software is provided for other PCs which enable work to be prepared in advance in flipchart format.

The key word is ‘interactive.’ I know of a reception class where children, as they arrive each morning, use their finger to drag their names from a corner of the board into the appropriate space for school dinners or packed lunches. This is an example of dragging and dropping, a key feature, but there are other features available such as hiding and revealing, which are utilised in a wide variety of specialist materials, many freely available, at primary and secondary level.

What works for me
Interactive whiteboards do not require specialist materials. Where I have used one most successfully is in teaching software packages such as Excel and in particular SPSS to students who struggle with ICT as well as statistics.

I have found that being able to stand at the board and physically demonstrate which pull down menu to use, helps students to follow the process far more easily, particularly if they are in a computer lab doing as I do. I am then able to look at the output with them, engage in discussion and get them to perhaps suggest an alternative approach which I can demonstrate, without moving away from the board and not distancing myself from the situation. I have felt far more involved with the students and their learning, than I do behind a lectern clicking away.
With a PC connected to the internet more possibilities are opened up as there are a wide variety of useful interactive java applets available, such as R. Webster West and R. Todd Ogden’s “Interactive Demonstrations for Statistics Education on the World Wide Web” or Waldo Maths.

The key word is interactive, but I have recently discovered:

**A gyroscopic wireless mouse: a cheaper alternative**

I was supplied with one of these in November 2006 to evaluate as part of the recent first round of TechDis HEAT funding, together with a cordless keyboard. This equipment, which costs around £120, transforms any whiteboard and data projector into an interactive whiteboard of great use to me. Everything I have used an interactive whiteboard for, I can do with this – anywhere with a data projector.

That's the real bonus of this equipment; it is easily transportable and truly plug and play, with no fiddly installation problems. The mouse has a range of 9m from the computer, and can be used in the air similar to a remote control, as well as more conventionally on a hard surface. I can use it myself from anywhere in the room, being no longer confined to the rear of the lectern, and pass it around students, getting them to interact with the software on the board. In small classes of up to 30 students, I have found that this has greatly increased engagement, and when it comes to data analysis made us far more of a community of learners.

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**Already available to you**

Interactive whiteboards enable you to write on flipcharts, but with Ctrl P you can write on blank PowerPoint slides, or use a cordless graphics pad for greater control. Such annotations can be saved. Drag and drop PowerPoint is also available.

Under **Settings>Control Panel>Mouse >Pointers>Scheme** you can change the size of the cursor to extra large which shows more clearly on a screen.

**Interactive whiteboards in the secondary mathematics scene**

An article on interactive whiteboards would be incomplete without some reference to the work done at Keele University by Dave Miller and Derek Glover in relation to developing the use of interactive whiteboards in mathematics in secondary schools.

In a recent discussion paper Miller says “At present research suggests that interactive whiteboards have a positive impact in the secondary mathematics classroom but nothing yet suggests an impact on pupils’ attainment. It is our contention that such an impact requires secondary mathematics teachers to adapt their teaching so that they ‘triangulate’ their work “at the board”, “on the desk” to create an impact “in the pupil’s head”.

**Conclusion**

Although convinced that interactivity has a greater role to play in effective teaching at HE, I am far from convinced that interactive whiteboards are the answer. It is the interaction that requires my initial attention and energies, interaction that I can now use on all data projectors with my wireless mouse.

**References**


4. Smart technologies, Smart Board accessed via http://smartboard.co.uk/ [Accessed 14 April 2007].
