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The ultimate collaboration

By **JANE HUNTER**

What is an interactive whiteboard?

An interactive whiteboard is a large touch-sensitive display panel. When connected to a data projector and computer it allows a computer image to be projected onto the board. This image can be controlled by touching the board either directly or with a stylus, as well as using the computer mouse or keyboard. Users can interact in multidimensional ways with the board, as well as write or draw on the surface, save and re-use content, and print off the image.

What is happening in NSW?

Public schools across NSW are purchasing interactive whiteboards with funds from various sources. The State Government recently announced it would spend \$66 million over the next four years, providing every NSW public school with an interactive whiteboard to enable more students and teachers to benefit from learning with this technology.

Since the beginning of 2005, the Teaching and Learning exchange (TaLe) team at the Centre for Learning Innovation (CLI) has talked to more than 7,000 teachers during 94 presentations. These presentations centre on accessing content for learning using TaLe www.tale.edu.au and, as more schools acquire whiteboards, multimedia resources have been demonstrated using this tool.

“Benefits to learning using an interactive whiteboard, especially in terms of engagement and motivation, are clearly identified in NSW, Australian and international research,” says Sue Beveridge, the assistant director, teaching and learning innovation, at CLI.

Ms Beveridge managed the first NSW schools research into the use of interactive whiteboards with a team from CLI. The study*, which evaluated K-12 pedagogy using interactive whiteboards, was carried out in partnership with the University of Technology, Sydney, and the DET’s Western region. Five questions underpinned the 18-month study of teachers and students in six DET primary and secondary schools.

1. The value of interactive whiteboards for teachers and students in lesson design.
2. Teacher and student beliefs about the technology in relation to teaching and learning.
3. The role of the school in promoting use of the technology.
4. The learning outcomes that are supported by teachers’ use of the technology.

5. The pedagogical approaches teachers are using.

Early findings indicate that:

- The interactive whiteboard is a catalyst for teacher learning, especially reflection.
- The way it is used fits with a teacher's stated teaching philosophy – that is, if a teacher mainly teaches in a didactic manner then this tool reinforces this approach.
- The interactive whiteboard provides for a breadth of learner interactions and responses, in particular for special education students.
- There is a positive response by teachers and students to the whiteboards' physical interactivity, convenience and immediacy
- The visual nature of the board is a strength, as is the engagement and student ownership exhibited when teachers use it.
- It makes a link to students' "digital culture" and confirms international research demonstrating that students, especially boys, find this technology engaging and motivating because of its visual appeal, pace of learning and its ability to bring "their world" into the classroom.
- Interactive whiteboards are able to support many of the elements of the NSW model of Quality Teaching.
- A supportive principal is critical for effective implementation in schools.
- Key staff in schools make themselves available to support, mentor and teach other colleagues.
- The likelihood of successful implementation is when the school culture encourages innovation, especially if combined with a supportive parent culture.
- The need for teachers to have time at school to learn and prepare lessons using the interactive whiteboard.
- Whole class interaction, with explicit instruction, is the dominant pedagogy currently used by teachers. The interactive whiteboards are serving a possible "bridging" or "transitional" function for those teachers who have in the past been reluctant to embed technology into classroom practice.

In late 2005, a professional learning community (PLC) on TaLe www.tale.edu.au was set up as a response to DET teachers' interest in interactive whiteboards. More than 820 teachers have now visited this PLC and a survey of approximately 100 of those visitors concluded that female (60%) primary school teachers (58%) who have been teaching for more than 12 years (68%) are the main users of the technology at this stage. These users regard themselves as teachers who have learned to use ICT "quickly and are able to teach others".

The experience of survey respondents is that most professional learning about interactive whiteboards has been provided by vendors (33%). Others have had their professional development provided by the school (24%) or are self-taught (24%). At present, teachers keep their professional development current by personal reading and practice (62%) and rely on their colleagues (56%) as the main source of support. They report using the interactive

whiteboard every lesson, or at least once a day, and regard themselves as having “some expertise”.

On reflection, these teachers do not see themselves as “highly expert”. Most prepare for interactive whiteboard lessons by using a PC or some type of electronic planning. When the interactive whiteboard is used in the classroom, teachers tend to use a “modelled or guided arrangement” (48%) with their students. The main teaching and learning materials used in conjunction with an interactive whiteboard are resources that teachers create themselves (40%), followed by their own favourite internet sites (24%), especially TaLe.

What was also interesting in the survey finding is that, in terms of the elements of the NSW model of Quality Teaching, more than 80% of teachers believe that using an interactive whiteboard allows them to embed 13 of the 18 elements into lessons. All teachers believed “engagement” was the most easily embedded element; the most difficult to embed were “cultural knowledge”, “social support”, “students’ self-regulation”, “problematic knowledge” and “narrative”.

The picture across Australia

The use of interactive whiteboards in Australian classrooms is relatively new. Few schools have been using them for more than four years; most have been installing them over the past two years.

All states and territories are currently involved in research to examine teacher use of the technology with digital resource material from The Learning Federation (TLF). All TLF resources can be accessed through TaLe www.tale.edu.au CLI is acting as a “critical friend” to two schools in the Australian National Schools Network project, the outcomes of which will be reported to the Ministerial Council on Education, Employment, Training and Youth Affairs later this year.

And internationally ...

International studies, especially the 2005 research carried out by a team led by Dr Steve Higgins at Newcastle University in England, reports significant satisfaction with interactive whiteboard technology, stating that “it is well suited to supporting whole class teaching, it is flexible, efficient and motivating for students and it supports lesson preparation”.

Other UK researchers, Miller and Glover (2006), note that the interactive whiteboard’s ease of use is the critical factor in its popularity with teachers and students. They suggest there is an “improvement in lessons in which interactive whiteboards are used”. Interactive whiteboards have been provided to all government schools in the United Kingdom since 2003.

Professor Steve Kennewell (2006) from the British Education Research Association Group, in a meta-analysis of overseas research, reminds jurisdictions that “what the teacher does with the interactive whiteboard is

much more important than the nature of the tool itself". It is consistently found that teacher professional development must move beyond the acquisition of technical skills in the use of the board, thereby supporting the individual teacher's exploration of their current pedagogy while offering the possibility of extending or transforming existing practice.

Research from the British Educational Communications and Technology Agency (2003, 2004, 2006), the UK's Department of Education and Skills (2007) and Starkman (2006) in the United States agree that the role of the teacher is central in orchestrating the potential interactive whiteboards offer to students in classrooms. School leadership, teacher quality and ongoing support are also important.

These international research findings are published on TaLe's interactive whiteboard PLC.

Bridging the gap

The possibilities that interactive whiteboards present for classroom learning are certainly exciting. Some models of interaction point towards:

- Pedagogy that shifts from a teacher-led transmission style to collaborative models that are jointly constructed.
- Small group interaction where students are rotated through different activities allowing for more flexible learning structures.
- Personalised or independent approaches to student learning.
- Inter-classroom, or connected spaces linked by web or video-conferencing software.

Using an interactive whiteboard, accessing quality digital content from sites like TaLe and using collaborative tools, including all the web2 technologies, will provide an education experience that will start bridging the gap between the learning that young people are doing outside the classroom and that which goes on in schools.

Jane Hunter is the senior project officer on the TaLe team at CLI.

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* For more information on the research mentioned in the article contact Sue Beveridge, assistant director, teaching and learning innovation, CLI, T: 9715 8030