The black and white show

Garry Benson looks at our oldest visual aid

Consider the first chalkboard. A small group sheltering in a desert cave, learning the basics of kangaroo hunting. On the cave wall, an ochre diagram is being used to teach the newly initiated the intricacies of the hunt.

The chalkboard, chalk and 'chalkies' are synonymous with images of Victorian age education, from the serried ranks of obedient, mute inmates to the halcyon days of exciting education with Mr Chips. The uses of black (and white) boards have expanded remarkably since those times, and their flexibility, availability and versatility are a definite boon to the classroom teacher. In these days of multi-mode media-madness, the blackboard or white board has many pluses. They:

• are freely available in most classrooms;
• need no power (except in the case of electronic whiteboards);
• are user friendly (if you have chalk);
• can display a large number of colours;
• can be used with a variety of other materials for a broad range of teaching strategies.

Planning

Few teachers use the full potential of the chalk/whiteboard. With judicious planning, teaching can become an exciting visual, information-packed adventure which benefits both students and teacher. The main point is planning.

Writing on a black, green or white board (hereafter called the B/Wboard) needs the same approach as writing any course material in a lucid, intelligent and informative way. The first major problem is that most teachers know their subject matter ad nauseam. The other major problem is that the students don't.

Lines of impenetrable prose that resemble chicken scratchings are usually a barrier to learning, unless you are training pharmacists to read prescriptions. There are some very practical ways of improving your presentation and teaching powers using B/Wboards, communicating your ideas to your students, and making creative additions to your teaching lexicon.

Treat your lesson as you would a book. Break the information down into sections or chapters. Use headlines and subheadings to inform your audience. Don't get bogged down into detail unless it is essential. The best use of a B/Wboard in a classroom is to illustrate major points and concepts, not force-feed students with information which they can glean from research or reading.

With this idea in mind, print all information rather than scrawl (or write) it. Use large sizes of lettering for major points, using the newspaper metaphor of headlines, sub-headlines and body text—write large enough so that those at the back of the room can read the material.

Think about the architecture of your classroom where you are teaching. You should always check the lighting of the room. Is there any shine off the board from overhead or natural light (look from the students' viewpoint)? Always start a presentation with a clean board, unless you wish to prepare specific material beforehand. Prepare by writing or drawing lengthy material on the board before the class or meeting is to start. Cover with a pull-down projection screen or paper held with tape; remove when ready to use.

Clean the board carefully, using downward strokes with a duster to prevent chalk dust spreading.

Avoid chalk and talk—literally. It is very disconcerting to talk and write on the board at the same time. When speaking, look at the students, not at the board.

When you do write, face the board at right angles and move from left to right across the board, which assists in writing in a straight line. When you've finished, stand aside so that the students can then see the blackboard and read the information.

Use colour to point out major elements of your presentation, without overdoing the rainbow effect. Certain colours work better than others, so use colours with discretion. Yellow and white chalks work better for most information; red, dark blue or green chalk is difficult to see and erase.

As the demonstration proceeds, build explanations on the board, point by point. Place a few dots across the board in advance so that a line of writing appears level.

Use light chalk marks to place lines for guidance in drawing complex diagrams.

Use plywood or heavy cardboard templates for tracing frequently used shapes.
Some B/Wboards are constructed for multiple use, with a metal base which will hold small magnets, pictures, word strips, and other visual materials which can be displayed. With a magnet glued to the back, the material attaches to the chalkboard. Chalk can be used to write additional material or lines can be drawn to interconnect the magnetic materials. This board is often called a ‘magnetic chalkboard’.

The pounce pattern can be used to improve quality of your drawings on the chalkboard. If you need a chalk drawing during a presentation, make a pounce drawing by enlarging the drawing (using an opaque projector or OHP on a piece of thin posterboard, then punch holes with a sewing pattern wheel all along the lines).

Place the pattern on the chalkboard and pounce chalk dust through the tiny holes using a dusty eraser, leaving a very light pattern on the chalkboard. You can see it—but the audience can’t. When you need the drawing, simply connect the dots and you have prepared a neat, professional drawing.

Some blackboards have large T-squares and rulers provided. The major problem is their size when handling them in front of a class, so try to work with them before you commence the class.

A black, green or white board can also be a very creative medium. If you wish to build up a drawing or a sequence of graphics you could draw the graphics in stages then photograph, film or videotape the process, resulting in an animated sequence on slide, film or videotape. Apart from using the chalkboard as an animation tool, you can show students a sequence in ‘real time’ and avoid having to redo the graphic each time you teach that area of your course. If the chalkboard has a whiteboard on the other side, simply flip it over and project the sequence on that side.

Of course, all the techniques in the world won’t help if you present boring material in a boring way. Try to be concise, and use the old journalists maxim—5WH. Tell the students ‘What, Who, Where, When, Why and How’. And don’t forget KISS – ‘Keep It Simple, Stupid’.

**Whiteboards**

When is a whiteboard not a whiteboard? When it’s a projection screen!

Whiteboards should have certain standards of manufacture in order to be used successfully. They should have a strong, non-scratch surface (such as vitreous porcelain or a similar surface), be low gloss (for a projection surface when required) and have a magnetic surface.

With these attributes, the whiteboard becomes a formidable teaching aid which can be used in a variety of ways.

The birth of the whiteboard was a combination of many factors, but it was virtually dragged into existence by the combination of old—and new—technologies. In the last decade, many schools and colleges have introduced whiteboards for the following reasons:

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Consider the types of material that can be used on them:

- Chalkboards are just that—surfaces covered with chalk dust, which may induce allergic reactions in some people, and definitely is a cleanliness problem with hands and clothes.
- Chalk dust is deadly when it confronts the decades star innovation, the computer. A little chalk dust, being highly abrasive, can permanently ruin computer hard disks, floppies, and the insides of all sorts of delicate electronic equipment. Some computer companies in the USA even ban smoking in their buildings, so you can imagine how much more effective chalk dust would be in ruining a computer!

Whiteboards are very versatile—consider the types of material that can be used on them:

- Erasable colour markers (usually made from oil-soluble resins and organic pigment inks).
- Semi-permanent markers. These are useful for drawing grids, charts and information that is required to remain whilst other writing is changed or updated.
- Self-adhesive line tapes, known as 'graphic tape'. These thin self-adhesive tapes can be used to draw simple outline shapes etc.
- Vinyl contact lettering. Self-adhesive letters can be used in conjunction with magnetic tapes for tilting semi-permanent charts.
- Magnetic discs. These cling to the surface of the board quite tenaciously, and can be used for design or to clamp other objects to the board (similar to fridge magnets).
- Flat magnetic tapes can be used for charts and graphs, and as a base for vinyl contact lettering.
- Railed-edge magnetic tape is used in conjunction with Dymo lettering sections, and responds in width to the three sizes of Dymo tapes.
- The whiteboard can be very successfully used as a projection screen for slides, OHPs or film, allowing other information to be 'overlaid' on the projected images.
- With this range of graphic materials, you may find you need to be a graphic artist rather than a teacher!

Here are a few hints about using whiteboards:

- Use the correct pens with a whiteboard. A dry cloth is often adequate but sometimes you may need to use water, detergent, or perhaps methylated spirits.
- Never use an abrasive cleaner—it may gouge the surface and do irreparable damage.

Electronic whiteboard

may gouge the surface and do irreparable damage.

\[\text{All this whizzbang technology comes at a price}\]

In a non-teaching environment, the whiteboard can become a very fluid medium for the interchange of ideas. Using such a transient medium means that ideas and concepts can be visualised, discussed and discarded without any permanent record. It also saves on paper and paper shredders!

The electronic whiteboard

When it comes to permanence, the electronic whiteboard is in its element. Key points of discussion can be written on the board, refined, and then copied on to A4 size paper (up to 99 ‘instant’ copies).

Electronic whiteboards use a film-roll system to record images on the writing surface. The image must be created within certain parameters on the screen (about 2 cm of the frame). As the screen moves across horizontally, a new screen emerges. You can continue to write on the new frame whilst the previous frame is accessed through a thermal printing system.

Most of the electronic whiteboards allow at least three types of printed formats for reduction copies:
- 1 frame
- 2 frames simultaneously
- 4 frames simultaneously

Frames can be stopped at any position so you don’t have to worry about frame boundaries, if making two frames per copy. The first copy of material on the board usually takes about 20-30 seconds, and second and successive copies about 10 seconds each. Frames can be accessed quickly by moving the writing surface backward or forward so that information can be reviewed.

All this whizzbang technology comes at a price.

The electronic whiteboard is very sensitive to the ambient heat or cold of a building, and there are a large number of precautions to take while using the board. They include:

- Don’t place the unit in hot locations such as in direct sunlight or near heaters.
- Don’t place the unit near fans or air-conditioners.
- Don’t place the unit on a bumpy service which can jar the electronics.
- Don’t place any adhesive tape such as cellophane tape on the white sheet.
- Don’t use pins or sharp objects which will pierce the surface of the sheet.
- Don’t poke or hit the whiteboard with any sharp or hard objects, as
this will scratch the white frame and prevent the ink from being erased.

- Don't shake the unit while printing, as this can produce poor quality copies and paper jams.
- Don't use marker pens which are not the recommended type, as they may scratch the white sheet and may not be erasable.

When you have finished with the electronic whiteboard, the image on the frame should be erased. If any material is left on the white sheet for too long, it may become un-erasable. If it does become a problem, do not use benzine, thinners, alcohol or spray (window cleaner) to try to remove the information, as the sheet may discolor or be damaged.

When writing on the board, use thick, dark lines as faded or thin lines will not be clearly copied.

Remember, the large screen image will be reduced to A4 or less. A black marker reproduces best—red or blue lines may not be clearly copied, particularly if they are long vertical lines.

Well, that's the castlist for The black and white board show. With all this range of resources, the major thing is that you know 5W/H:

- WHO you're teaching;
- WHAT you're going to teach;
- WHERE the various resources should be used—including the disadvantages;
- WHEN you should use different techniques;
- WHY you should use a chalkboard, a whiteboard or an electronic whiteboard;
- HOW to use the resources effectively.

Don't forget the maxim—planning, planning and planning!

Garry Benson is Lecturer in Electronic Media, Adelaide TAFE.

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