

Interactive Whiteboards Case Studies: new tools, new pedagogies, new learning?

The case studies form the beginning of a resource to explore the ways in which interactive whiteboards are used, and the ways in which they contribute to student learning and teacher pedagogies. They're in no way definitive: what they offer is shared experience, and the beginning of a Community of Practice.

Colleagues may wish to explore the MirandaNet site for other case studies.

Curriculum links

[Basic Skills](#)

[Citizenship](#)

[Design Technology](#)

[History](#)

[Interactive Adventure Games](#)

[Interactive whiteboards in whole-class teaching](#)

[Internet Research Days](#)

[Language teaching](#)

[Mathematics](#)

[Music](#)

[P.E.](#)

[Primary applications](#)

General case studies

[An Adviser's Overview:](#)

Chris Wood, from Greenwich LEA

[An American Perspective](#)

Chris Warren of Actis Ltd has outlined some design principles in:

[*Interactive Whiteboards: an approach to an effective methodology.*](#)

[Industry resources](#)

[MirandaNet](#)

A non-profit making international fellowship whose aim is to enrich lifelong learning using electronic multimedia across national, cultural, commercial and political divides.

[North Islington EAZ Case Study](#)

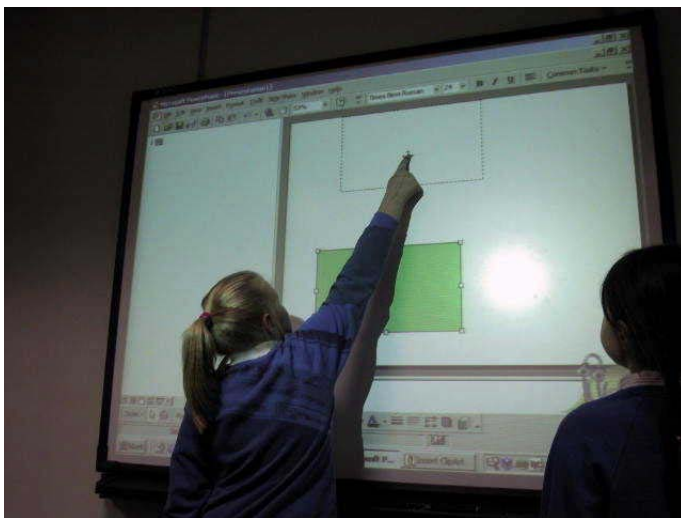
[e-learning resources:](#)

A portal run by Kevin Kruse, which contains an extremely wide range of very useful resources.

Liz Smith, at Pudsey Grangefield School, Leeds, reflects on the effects of interactive whiteboards

Conventional teaching

Interactive whiteboards have transformed the delivery of the curriculum in conventional whole-class settings. The use of mathematics programmes has improved the ability of many students to conceptualise mathematical processes and modelling. The use of interactive whiteboards in groups learning animation has meant that students can not only visualise the process of animation, but identify where errors may have occurred. This can then be shared by the whole group, reinforcing communally constructed learning.



Student interaction.

When interactive whiteboards are combined with all the Key Stage 3 strategy teaching aids, such as student whiteboards and oral and mental starters, student enthusiasm in participation has increased. In fact in some Year 7 lessons their eagerness to come up and write on the board has been quite overwhelming!

Smoother transitions of lessons.

Preparing lessons using interactive whiteboard software has enabled lessons to have a smooth transition between activities. This includes the use of videos in mathematics lessons. The transition between computer and video is seamless.

Lesson Quality

There has been an increase in the quality of lessons when they are planned for the whiteboard. Using PowerPoint presentations has made me think even more carefully about how key facts are explained, and to find the best way to sequence my teaching.

Visualisation

The use of graph plotting software enabled far faster understanding of the concepts: students had a clear visual understanding of the topic, and were able to transfer this understanding to other topics.

Activities

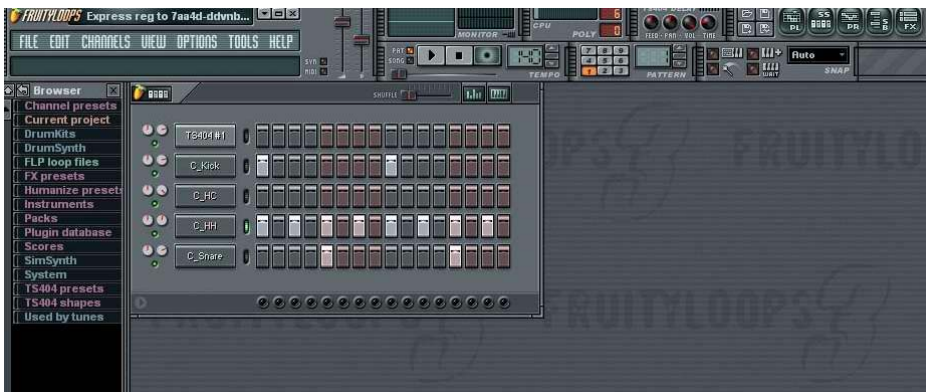
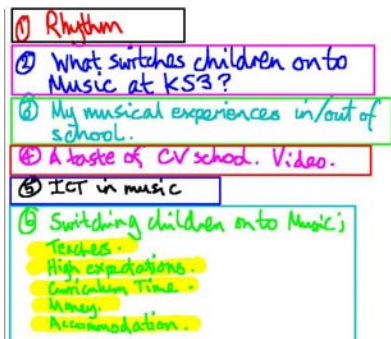
A Year 11 set 4 (out of 5 groups), had been 'doing Pythagoras to death' and still struggling with the concepts. Using www.mathslessons.co.uk and 'Who wants to be a millionaire - Pythagoras edition', the students' understanding was tested in a fun and interesting way which clearly ironed out a number of false concepts. The students were wanting to know **how** to work out the answer, rather than **what** the answer was.

Music activities

At South Leeds City Learning Centre, students used interactive whiteboards to learn the processes involved in using composition programmes, to work through their project, and to present it to their peers. The whiteboards were central to the whole process. Examples are at: <http://www.leedslearning.net/eic/music.htm> .

Tony McNally, Head of Music at Castle View School, Sunderland:

Having the Promethean board in my room has transformed the delivery of the whole music curriculum.



Performing

I am able to record individual and whole class performances and display the recording as a graphic score. I am able to show DVDs and videos of pupil performances without having to crowd around small television screens. I can also show some of the best contemporary musicians giving workshops.

Composing

It is wonderful to create whole class compositions with the aid of the active slate and pen: it helps to encourage and engage even the most reluctant of students to provide input. You can virtually take the “black-board” to the student!



Listening and appraising work

As well as being able to access students' recorded performances for appraisal, there is a wide range of CD-ROMs available that work well in the classroom when used with the board. We also view and appraise scores by the great composers.



As most of our teaching and learning materials are produced and published in-house, I can easily access activities that are in pupil booklets and directly display them for explanation and demonstration purposes. This has had a huge impact on the lessons. The bottom line is that the pupils enjoy using the interactive board every bit as much as I do !



Lis Greenwell, Brierton School, Hartlepool

Don't think that PE and computers go together? Read this:

Physical Education: an Interactive Approach

Lis Greenwell uses mobile computers and interactive whiteboards to support her PE activities.

Read her [case study](#):

Kent whiteboard evaluation

The report below provides excellent case studies, and the 'Resources for Whole-Class Teaching' section is excellent. Highly recommended.

Helen Smith, NGfL Adviser and project teachers

Six primary schools took part in the Kent NGfL Special Project to pilot the use of the interactive whiteboard. Each school purchased a 60" SmartBoard with stand, and NEC 1100 Lumens projector. Teachers were asked to consider:

What is uniquely contributed by the interactive whiteboard? In other words, what teaching and learning benefits cannot be achieved with a large display alone?

Teachers were also asked to report on any specific problems, logistical or otherwise, presented by the whiteboard.

[Project report](#)

[Summary of findings](#)

[Work from schools](#)

[Resources for whole-class teaching](#)

History

Students working at South Leeds Learning Centre used the [Leodis](#) site, a resource containing digital images of Leeds. These pictures provided primary sources of information for students' local history projects. The images were accessed through the interactive whiteboard, enabling students to select them, drag and drop them into a piece of work, and then edit them. The images enabled group discussions, collages to be constructed and images imported into other packages. The use of archive digital images was transformed. An additional gain was that students' sense of local history was established, and their sense of place enhanced: both factors that could inhibit acts of vandalism.



Gwyneth Evans, Teaching and Learning Coordinator at Castle View School, Sunderland, uses an ACTIVBoard for teaching History.

The Promethean whiteboard has become an integral part of my teaching in the preparation, communication and assessment of lessons. It has transformed the learning environment by providing opportunities to develop pupil learning and performance.

So far the whiteboard has been used for

- * PowerPoint presentations delivering and transferring knowledge, key facts and details from Years 7 – 11.
- * Using active studio for competitions such as Blockbusters, saving a lot of time in preparation as the board is there instantly, Year 7 – 9 Pupils particularly enjoy it.
- * Creation of materials – written, diagrams, clips from the Internet & pictures which can be displayed on the board and highlighted.

- * Displaying text and sources - highlighting key points especially when analysing sources for reliability.
- * Displaying model answers especially for GCSE work, forming a basis for discussion from which pupils themselves can identify areas for development.
- * The Active slate & pen is very useful, as pupils contribute to the lesson from their desk without needing to come to the board. It is very useful when teaching, since it contributes to the flow of the lesson regardless where you are standing in the room.

I've found a number of definite advantages in using an ACTIVBoard. I'm sure that, the more I use them, the more advantages I'll find. Not only do the activities heighten pupil interest, work can be clearly structured, sequenced and differentiated easily.

Historical source images and information can be dynamically generated on a screen, giving a high level of interaction from the pupils interpreting sources and providing a catalyst for discussion.

It has been particularly useful when modelling activities enabling pupils to compare knowledge with others and identifying the relevance and importance of particular aspects of the information.

There is enhanced enjoyment and interest in the learning task consequently pupils are motivated and remain longer on tasks.

Pupils can develop and articulate their understanding and analyse information a lot more rather than just the delivery of facts. It offers opportunity for reflection easily especially when their attention is attracted.

How has the ACTICBoard transformed the delivery of History?

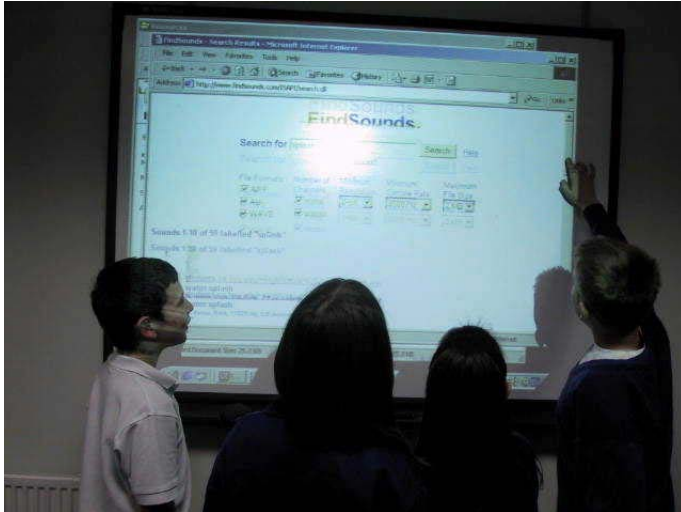
- Lessons have become more varied.
- Information can be manipulated: for example, taking data or graphics and merging them with the delivery to encourage the consolidation of knowledge.
- Transferring from computer to video to the ACTIVStudio saves time, allowing smooth transitions.

What has the impact been on teaching and learning?

This resource can be woven into any part of the lesson – introduction, delivery, plenary and it can run alongside the pupil task. Pupils remain engaged: their attention span and concentration is greater when the active board is used. More importantly, the whole Learning Environment has developed and expanded.

Internet research days

At South Leeds Learning Centre, students use TextEase as an interface to access pages of web links, and to search, select and use data for projects. The interactive whiteboard is the medium through which the groups work.



Interactive adventure games

The use of interactive adventure games (such as Civilizations) on an interactive whiteboard means that students can work as a team. Not only do these group activities reinforce Literacy skills, but they also develop the wider Key Skills of Problem Solving, Working with Others and Improving Own Learning and Performance. When students work through the scenarios they are engaged in modelling; the outcomes form a focus for discussion on Citizenship. If the activities are combined with a journal the students have a very powerful piece of evidence to support these cross-curricular themes.



An American Perspective

Dr. Mary Anne Bell has a case study in the [Teachers.net Gazette](#) that addresses the question “Is an interactive whiteboard more than a toy or gimmick?” She says: “The answer is a resounding yes! With proper planning, preparation, and training, it is a powerful instructional tool, which can be adapted for use with a wide range of subjects and ages.”

Her article is well worth printing out and distributing to sceptical or Luddite colleagues!

Wedgwood IT Group

This is a commercial site with extensive information on presentation aids such as interactive whiteboards, plasma screens, LCD monitors, and digital projectors. There are some useful guides which you can request from the site. However, as a special service to MirandaNet, some of the guides are available for immediate download from here. Click on the links below.

[Interactive Whiteboard Guide](#) (380 KB)

[Plasma Screen Guide](#) (451 KB)

An Adviser's overview

Chris Wood, an adviser with Greenwich LEA, has compiled a detailed interactive whiteboard resource for ACITT. It was published in: "Teaching ICT – Vol. 1 issue 2", and is also [online](#).

A Becta report

The Becta site is continually updated. The case studies, advice, research evidence and downloads provide all that schools need for successful implementation of ICT.

[Presentation technologies in whole class teaching](#)

Language Centre, University of Leeds

The main thrust of work with an interactive whiteboard in the Language Centre has been to reinforce student learning in group situations. This has involved a diversity of approaches, from simple to relatively complex.

- To project students' PowerPoint presentations.
- To project Web resources.
- To act as a workspace for compiling feedback with input from the teacher and the students in classroom activities.
- To act as a workspace on which students can compile their ideas about a topic.
- To present and alter content suggested by the teacher or the students.

Particular operations employed have been:

- Text recognition in various languages.
- Text manipulation to reorganise sentences or paragraphs.
- Matching exercises with images and text.

The Language Centre's aims over the next academic year are:

1. to increase use of the Interactive Whiteboard by teachers and students.
2. to develop new ways of using Interactive Whiteboards for language training.
3. to monitor the effect on students' learning and pedagogy.

to identify the need for more Whiteboards in the Language Centre.

Citizenship

Students from Castle View School, Sunderland, worked at the Sunderland City Learning Centre.

The Year 8 Citizenship curriculum contains a unit of work on Citizenship and Cultural Diversity. All Year 8 pupils were taken to the local City Learning Centre for one day's work on the unit. They had access to Activote and Kar2ouche software as part of the ACTIVBoard package. It was interesting to note that all pupils (both boys and girls and all ability ranges) were completely engaged with the activity. Its fun and interactive nature encouraged pupils to produce a high standard of work; watching their final product on the board gave them a real sense of achievement.

Basic Skills

Kirsten Lowe, Basic Skills Manager at Castle View School, Sunderland

We use interactive whiteboards for all Basic Skills groups. They are used with target groups of students in Years 7 and 8 who are at level 3 and low level 4 (based on the Year 6 SATs results) and small groups in English, Maths and Geography.

General use of the whiteboard is as an alternative to an OHP and blackboard: its versatility means that it is used to show photographs, maps, highlighted text, graphs, instructions for activities and the learning objectives for the students.

The ACTivity curriculum software is used in a variety of subjects. In Maths and English students have completed the angles, shapes and the word activities. In Geography students have designed and presented a weather forecast using a map and symbols from ACTive studio.

In Basic Skills it's impossible not to find reasons for using the ACTIVBoard. I drive the board from my laptop, so planning can easily be done out of school. Pupils are more attentive to new technology, and it's easy for pupils to be involved in the delivery of the lesson. It's also an excellent resource for outline maps, diagrams, graphs .etc.

Design and Technology

Tony Lindsay, from Castle View School, Sunderland, reflects on the ways in which an interactive whiteboard in his room has changed his teaching.

When delivering the subject of Graphics I find the Promethean Whiteboard to be of immense value. It has been installed in my Graphics room. Previously I used other rooms or gathered students at small screens.

The subject demands frequent demonstrations to develop skills and knowledge, and this can be counterproductive in some situations – students' work was disrupted and time was lost where they had to move from and to their working areas.

The Promethean board provides:

- Immediate information
- Visibility in all parts of the room
- The opportunity for step-by-step methods when working on complex drawing tasks
- The opportunity to display comparative designs.

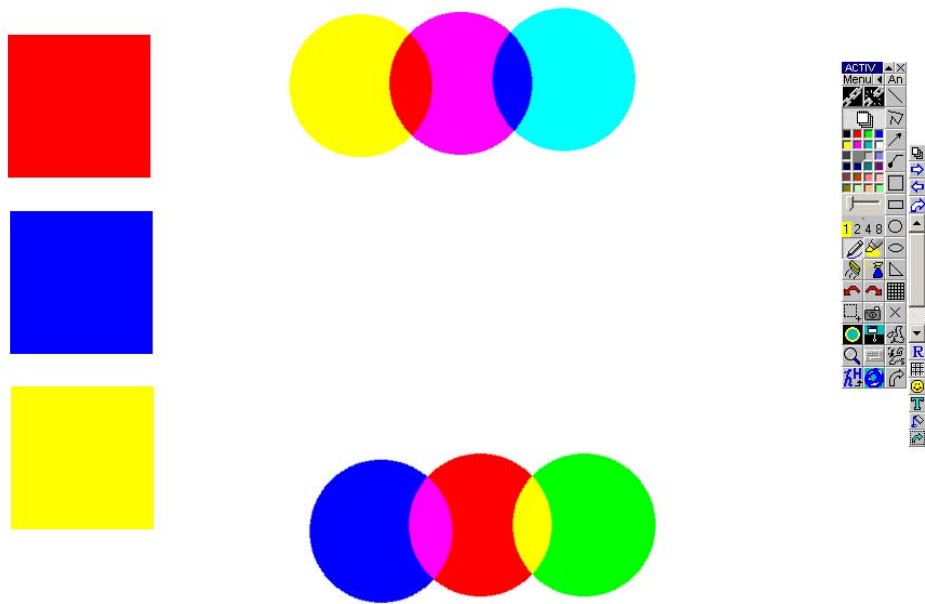
The board is being used with all year groups and has made the delivery of the curriculum:

- Efficient
- Interesting
- Enjoyable for both students and teacher

A less obvious advantage of the board is the way in which it reduces the need for so many pieces of paper material: this results in significant savings on reprographic costs.

The impact on teaching and learning has been positive, with information being provided in such an eye-catching way and pupils can be seen to be responding immediately. Formative assessments show that knowledge is “taken on-board” more readily. I am confident that future summative assessment and examinations will confirm the retention of knowledge and greater understanding.

This flipchart is used to recap on colour types using pen and highlighter



Here the use of corporate colour and the activities are highlighted.

RESEARCH - Colour in packaging

Corporate Colour

Many companies use a particular colour to help establish their brand identity. Different colours are more suited to different types of products.

- **RED** is often used to whet the appetite and to sell fast foods. **PINK** is associated with femininity.
- **ORANGE** suggests power and is used for strong cleaners, health foods and drinks.
- **YELLOW** represents long life (i.e. durability), sunlight and sunsets.
- **GREEN** is the colour of nature and safety and is used to indicate "environmentally friendly" products. It is also the colour of money.
- **BLUE** stands for reliability and is therefore popular with banks, travel and insurance companies and international corporations.
- **PURPLE** expresses smoothness and excitement, and it is therefore used for luxury and exotic products.

ACTIVITY

Here are four products which need packaging:

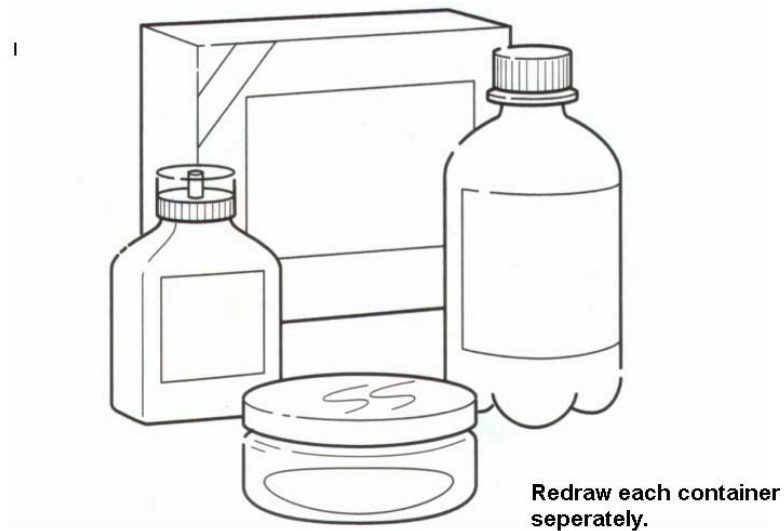
- "ZAP": a household cleaner
- "SLURP": a strawberry flavoured fizzy drink
- "RAINBOW": cosmetics
- "LIGHT and DARK": luxury chocolates.

- 1) Decide which of the containers below would be most suitable for each product.
- 2) Using the other sheet provided, redraw each container separately on one of your layout sheets. (You can do this by tracing).
- 3) Add the name of the product to each container using suitable lettering.
- 4) Add suitable background graphic shapes/patterns.
- 5) Add suitable background colours to indicate the nature of the product.
- 6) Add the title **RESEARCH - Colour in packaging**.
- 7) Add suitable notes to each container about the colours used.



Using the Line tool, tips are given on how to redraw the containers.

Which container would be most suitable for each product?



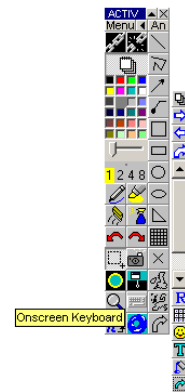
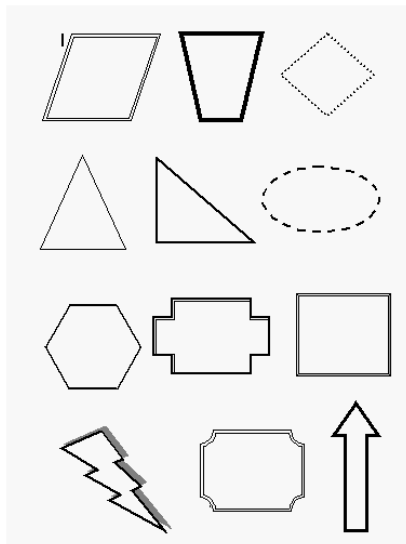
The line tool is used here to demonstrate the four types and how the examples are based on them.



4 Main Types



LETTER/FONT TYPES -TYPOGRAPHY



Basic examples for use on pupil activities are left on display.