

Interactive whiteboard: benefits in the classroom



Introduction

The issues surrounding the use of interactive whiteboards (IWB) and creativity forms the focus of this essay. This area provides an opportunity to look at the interaction between new technologies and classroom reality in the Primary school setting, both in theory and practice. The essay starts with a brief overview of interactive whiteboards within the classroom setting before looking more closely at encouraging creativity both in teaching and learning.

Teachernet (online) credits interactive whiteboards with the benefits of:

- Improving understanding of new concepts
- Increasing pupil motivation and involvement
- Improving planning, pace and flow of lessons

Teachernet online, Interactive Whiteboards

As Cogill (2003, p. 52) points out in her research report for Bects/DfES on IWBs in primary schools, the uniqueness of IWBs lies in its design to be used by teachers for teaching at whole class level. Yet in order to achieve the goals quoted above it is clear that certain other systems need to be put in place, especially professional development and teacher training. For example, as Barber *et al.* (2007) point out, it is vitally important for teachers to be confident and familiar with IWBs in order to use them to best effect. They also need to have a solid understanding of how to work with, and inspire, creativity and why (e. g. see Loveless 2002). To this end, and in agreement with official policy, there has been an upsurge in texts designed to help teachers work with IWBs. For example, Cooper *et al.* (2006) give a

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pragmatic description of how one can use IWBs within all teaching areas, from Maths to Reading. Craft (2000) also argues for the potential to use new technology with creativity rather than following the view expressed by some teachers that '...computers, far from stimulating or fostering creativity, both represent and do the exact opposite of this' (Craft 200, p. 88). In creating space to use technology creatively it would seem that the first stage is to support their classroom use through training teachers both at pre-service level and through ongoing professional development.

However, there is room for debate as to the depth of learning some of these formats inspire, seeming as occasionally do to seek to add entertainment rather than enrichment to learning. Whilst the funding made available through official initiatives, such as the National Grid for Learning (DfES 2003: DfES 2001) has encouraged schools to invest in new technologies, there is a need for systemic support to get the best out of it. For example Machin *et al.* found correlations between schools success with ICT and a 'fertile background for making use of it' (2006 p. 12). More pragmatically, Yelland (2007, p. 163) is one who warns that 'not all software is positive for learning outcomes' but then goes on to argue, in common with Machin *et al.* that it is the pedagogies generated by these new technologies that can create issues. Likewise Sutherland *et al.* (2004) warn that embedded use of ICT in the classroom can affect how knowledge is constructed. It is bearing this in mind that the following essay seeks to differentiate between, and concentrate on, creativity and not on the range of pedagogies that fall between poor practice and what has been referred to as *edutainment*.

It seems clear that IWBs can provide a fantastic support, especially for visual learners, and possess the potential to be used to support and encourage highly creative interactive and educational learning environments through a wide range of curriculum areas. The ability for both students and teachers to manipulate visual materials (e. g. numbers, words, pictures etc) via the IWB and interact with the information displayed has been credited with:

...increased pupil engagement, motivation and enjoyment, all potentially leading to improvements in pupil attainments

Jones & Vincent 2006, p. 2

However, research shows there is still considerable unfulfilled potential with the creative use of IWBs (Jones & Vincent 2006; Smith *et al.* 2005). Creativity in itself has been viewed as essential for the progress of society (Cropley 2001, p. 133) and the next section of this essay looks more closely at how IWBs can be used in a variety of creative contexts starting theory and exemplifying with practice.

Learning, or cognitive, styles are traditionally divided into visual, aural and kinesthetic and, in common with Gardner's (1983) Theory of Multiple Intelligences, recognize what Craft (2000, p. 10) called a pluralist approach. This means catering for the various ways in which individual's best absorb information and make meaning of it which in turn affects levels of student motivation. From the teaching perspective, creative planning is a means of overcoming individual barriers to learning and requires presenting information in a number of different ways. Cropley (2000, p. 148) saw this application of variety as encouraging creativity in students. IWBs ability to

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operate as a computer means that audio and video tracks, live websites and multimedia applications can be used to appeal to a range of students learning styles. Ideally, this engages their attention, thereby impacting on their motivation and encouraging creative thinking.

IWBs provide an opportunity to link or encourage student interests in a very visual and interactive way. The following takes an aspect of geography as an example of the ways that IWBs can enhance and allow creativity of teaching methods. When teaching the water cycle, the IWB can be linked to any number of live weather cams and channels both in the locality and internationally and show real time weather. Diagrammatic representations of the water cycle can involve the students moving the pictures or labels into the right order using the IWBs touch sensitive capability. Graphic representations of rainfall data or 'what if' questions connected with changes in rainfall can all be presented on the IWB. The IWB allows questions to be investigated and extra dimensions to be added, such as a 3 dimensional view of a rain drop or the response to a question regarding the different forms of water - solid (e. g. show ice cubes to glaciers), gas (e. g. show animated kettle boiling or a steam train running) or liquid (show rivers, seas etc). Notes can be added as the subject is discussed and saved for review the next time.

It has been commented that, even as early as Key Stage 1, science can be taught in too theoretical a manner (Charlesworth 2008). Yet in the Ofsted *Success in Science* report (2008), from which this information apparently derived, the use of an IWB is described as an effective component in a science lesson demonstrating how light works. The teaching strategies

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included whole class to small group work, role plays and investigative questioning with the IWB used make notes of the students ideas and 'aid learning' (Ofsted 2008, Sec. 18, p. 16). Although how the IWB was used to aid learning was not actually described, the suggestion is that it was a valued means of contributing to lesson management, flow and effectiveness.

Likewise in maths, the IWB can be used to easily display mathematical representations, be they numeric or conceptual, such as numbers or blocks on a clearly visible scale to the whole class. IWBs provide an excellent support to lesson modeling. This issue of visibility is clearly important and to be able to demonstrate things such as small blocks or coins to a whole class so all can see has been mentioned frequently, such as one of the teachers in Cogill's research into IWB use in primary schools (2002, p. 25). The DfES has produced - and continues to do so - Interactive Teaching Programs (ITPs) within the Primary National Strategy. For numeracy, these provide curriculum linked interactive programs designed to contribute, not take over, the lesson. Other methods include those demonstrated by Cooper *et al.* (2006) who show simple ways to add to the dynamics of the lesson, for example using games with clipart to play number line football on the IWB and so on. The important point is that the IWB works in combination with other teaching strategies, not at the expense of, or to the exclusion of, a balanced well-rounded teaching approach.

Equally, the IWB is available to literacy and has an increasing array of supporting software (e. g. DfES ITPs). Cooper *et al.* (2006) exemplify the IWBs ability to provide students with focus through managing the amount of text visible and the method of presentation - font size and type, highlighted,

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shaded, hidden, revealed, coloured etc. This adds a dimension to focusing on text formats, from punctuation to spelling and can be very useful in identifying difference for students and helping the retention of information. At the same time, the IWB allows for connection to external media, for PowerPoint's, video and audio clips, all of which add a dimension to the intended learning if used carefully.

IWBs can also be used to create an inclusive environment for students with special needs. As with the font, size and colour changes mentioned above, for students who may have issues with eyesight or problems interpreting words, IWBs can be used to add a dimension of size and impact. For students who find it hard to concentrate, the use of interactive, highly visible materials within their range of interest can easily be projected through IWBs, for example using cars as counters or horses as cursors. The ability to use the IWB to gather notes may also enhance assessment opportunities for the teacher and the savable nature of IWB notes means these are accessible when required in an easily usable format. All these elements not only add to the pace of the lesson and appear to add to the pace of the learning, they also add to the teachers resource bank both for teaching and evaluating progress.

In essence, it is perhaps in the area of ongoing professional development that the creative use of new technologies, such as IWBs, needs to focus. When the teacher is motivated and confident, then that comes through in the teaching tools. Indeed the research looked at for this essay has generally agreed with Wood and Ashfield (2008) that new technologies such as IWBs can provide excellent formats for creating and inspiring creative teaching

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and learning, yet these depend on the teacher's knowledge and ability to use the technology to achieve this. Becta supports this in its assessment of research and comes to the conclusion that:

In some subjects, the more experience the teacher has of using the interactive whiteboard the greater the likelihood of positive attainment gains for pupils

Becta 2007, online

Cropley (2001) argued that creativity is dependent on a wide range of factors, from cognition to personality, and this has to be considered within the context of the whole classroom environment. IWBs provide teachers with another means of teaching creatively through presentation in altered formats, especially when it comes to communicating with the class as a whole. However it is not alone in encouraging the creative skills of divergent (broad concept connections) and convergent thinking (focused concept connections) or in developing meta-cognitive thinking and accommodation, rather than assimilation, of information.

In conclusion, IWBs have the potential to be used extremely creatively for both teachers and students. However, as with many new technologies, their use needs to be supported both by school policy and professional development. As it is likely that these technologies will continue to develop considerably during the near future, it is not enough to teach the usage of specific technologies and think that is where it ends. Perhaps an ongoing mentoring program or collaborative approach to planning with a high IT content may help compliment continued professional development. The <https://assignbuster.com/interactive-whiteboard-benefits-in-the-classroom/>

same criteria apply to pre-service teacher training whereby familiarity with current IT needs to be supported by an ongoing ability to develop IT capacity. From the students' perspective, well planned and imaginatively used IWBs provide a stimulating, engaging and motivating means of learning. It is clearly just as important to use this interface as a part of a holistic, well rounded curriculum as well as an area in itself and not enough to assume familiarity with contemporary technology without teaching it.

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