Interactive Whiteboards & Eagle Vale High

An analysis on the benefits and costs of Interactive whiteboards in the classroom

Written For
Robert Duncan
Principal of Eagle Vale High School &
The Eagle Vale High School Executive

Written By
Al Kenneth Cervantes
Student 15789512
University of Western Sydney

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1 Executive Summary

The purpose of this report is to analyse the introduction of interactive white boards as a new communication technology in Eagle Vale High School. Research has been sourced from international sources as well as local investigation to present a report outlining benefits, problems and potential solutions in the implementation of interactive white boards. Interactive white boards have proven to be beneficial for both students and teachers in this digital age; however the high cost of installation, maintenance and security are underlying factors in considering further purchases. This report recommends a gradual investment into the benefits of interactive white boards in long term, in light of the financial position of the school.
2 Introduction

The way the classroom is managed has long evolved from the chalk dust method of some 20 years ago. Today the Interactive Whiteboard (IWB) offers a new stimulation to the classroom. The New South Wales government has recently funded and promoted the use of this new technology in today’s classrooms as part of the “digital revolution in education” allowing for the exposure and development of education in this new direction of digital interaction (Davies, 2007). In light of this, the funding has only allowed for one promised IWB per school, creating an inequality across the local school body as not all students and teachers have access to the new technology. This report uses international and local research, and is addressed to the executive of Eagle Vale High School (EVHS) to allow decisions to be made about further implementation of Interactive White Boards in the classrooms of Eagle Vale High School.

3 Background

3.1 School Purpose

EVHS’ website states that its school purpose is as follows;

_Eagle Vale High School is a comprehensive community high school that is committed to providing a stimulating learning environment where all students may achieve their full potential; it endeavours to develop well adjusted students who have a life long love of learning with an interest in and an understanding of their own and other peoples’ cultures_ (http://www.eaglevale-h.schools.nsw.edu.au/)

3.2 General information about Interactive Whiteboards

An IWB is described by BECTA (2003) as a large, touch sensitive board which is connected to a digital projector and a computer. The projector displays the image from the computer screen on the board. The computer can then be controlled by touching the
board. The IWB is an Information and Communications Technology (ICT) that promotes an interactive classroom (pp. 1-2). The NSW Education Minister John Della Bosca said “the whiteboards had been shown to enhance student engagement and enable collaboration across classrooms and schools.” (Moses, 2007). A typical IWB classroom scenario would have the teacher display the classroom work on the IWB, the teacher is then able to work through the class work with a special pen, writing on the touch-sensitive IWB and marking notes that can be saved and printed. Much like the existing porcelain whiteboards, however with great advantages of connecting to the internet and other networks, as well as the ability to include any existing computer application in the classroom.

3.3 Current use of Interactive Whiteboards

Eagle Vale High School currently uses seven IWBs across its seven faculties, creating a one to one ratio of IWBs per faculty. The promised IWB from the NSW Government is yet to be delivered, however EVHS has introduced this new technology by purchasing seven IWB packages on its own. EVHS has a student body of circa 730 students from many ethnic backgrounds, the majority being of Pacific Islander descent. EVHS is located in the suburb of Eagle Vale, and is classified as a socio-economically disadvantaged school by Department of Education classifications (DET, 2006). Purchasing 7 IWBs has allowed students to be exposed to cutting edge communication technology in classrooms. However, the IWBs are stationary in 7 classroom locations and a majority of the school body is without regular access to an IWB.

3.3.1 Comparison of other school use

Schools such as Dubbo South, with a similar pupil population of 850 have found positive success by further implementing IWBs to a total of 31 to cover every utility room in the school. “Feedback from parents had been overwhelmingly positive, and teachers were reporting increased interaction and participation among students.” (Moses, 2007)
4 Benefits

4.1 Benefits for Students

Schuck & Kearney (2007) discovered that according to students IWBs are a match to the student’s digital culture. The opportunity for visual engagement and practical application inspires the individual to learn, and makes it easier to stay on task (Gage, 2006). BECTA (2003) found that IWBs increased enjoyment and motivation in students in the classroom, and other research state the benefits as;

- Developed personal and social skills through greater opportunity of participation and collaboration
- Greater ability to cope with complex concepts as a result of clearer, more efficient and more dynamic presentation
- Different learning styles can be accommodated better
- Increased participation for younger children and students with disabilities as students do not have to use a keyboard.
- Enables students to be more creative in presentations

4.2 Benefits for Teachers

Schuck et al. (2007) reports teachers felt that IWBs allowed many elements of the Quality Teaching Framework (QTF) to be realised in their classrooms. The access to relevant resources, contact with a widespread technology and exposure to visually powerful media, added to many elements of the quality learning environment, especially connectedness and inclusivity (p. 5). BECTA (2003) outlines acknowledged benefits to include;

- Allowance for implementation of Information Communication Technology while teaching from the front of the class
- Spontaneity and flexibility
- Save and print functions reduce duplication of effort and facilitating revision
- Ability to share and re-use materials, reducing workloads
- Increased enjoyment of lessons for students and teachers through more varied and dynamic use of resources.
5 Problems

5.1 Insufficient Access for Students and Teachers
IWBS are becoming the way of the future of education. However, with the limited number of IWBs installed in a few classrooms, there is inequality across the school body as not all teachers and students have access to the benefits that IWB research has suggested. BECTA (2003) states sufficient access for teachers and students is a factor for efficient use of IWBs.

5.2 Need for Adequate Training
EVHS is vulnerable to the problem described by Gray, Hagger-Vaughan, Pilkington and Tomkins (2005, p44), where the potential of the IWB will remain unfulfilled unless teachers are given more time to discover and equip themselves to properly and fully utilise the IWB. Currently teachers at EVHS with IWB classrooms are given initial training by the suppliers and then left to discover its use by ‘trial and error’. The maximization of potential relies on the computer skills of the individual teacher. In NSW schools there is no extra allocated preparation or planning time in the teachers timetables for IWB classes, this opposes the suggestion by Gray et al. (2005) and BECTA (2003).

5.3 Costs

5.3.1 Cost of Interactive Whiteboards
The financial commitment towards the further purchase of IWBs involves a large cost of approximately $6622.91 per classroom (See Appendix A). The requirements regarding the allocated “digital revolution” funds from the Government is that expenditure must be strictly on computers, making funds unavailable for purchasing IWBs. The equipment involved in the set up of an IWB classroom also involves potential high running and maintenance costs.
5.3.2 Security
EVHS is located in a socio-economically disadvantaged community. Burglary attempts in the past has created a great issue concerning the protection of high cost hardware such as IWBs. The cost of security measures such as; bolts on classroom doors, cages for the projectors and steel boxes for the computers are further cost to the already expensive IWB packages.

6 Possible Solutions

6.1 Extreme Investment
Extreme investment would involve purchasing many IWBs to provide for all classrooms in the school, similar to the method of Dubbo South School (Moses, 2007). This would allow every student and teacher to have access to an IWB and be exposed to the previously discussed benefits. Purchases in bulk may provide large discounts, and allow for corporate training.

6.2 Gradual Investment
Gradual investment would support the motion towards greater implementation, however at a rate considering current expenditure budgets. With the view to gradually increase the number of IWB classrooms, this proposal is long term focused and would introduce a phasing in of this new technology. Although not all students and teachers will have access to an IWB immediately; in the long run, the potential of IWBs will be realised by the entire school body.

6.3 Other Alternatives
Taking into account the high financial commitment of IWBs across purchase, installation, maintenance and security, the decision to avoid further purchases of IWBs and continue with current methods of communication in the classroom is a possibility. However, the benefits of IWBs would be missed. Gage (2006) suggests a possible alternative to be the purchase of a portable data projector that can be displayed on the installed projector screens or porcelain whiteboards and moved around as needed.
7 Conclusions

International research involving many case studies has proven IWBs to be beneficial to educational institutions. Eagle Vale High School prides itself on being committed to providing a stimulating learning environment where all students may achieve their full potential. The IWB offers the modern age stimulation for this digital generation (Schuck et al. 2007). However EVHS’ current IWB implementation results in insufficient access to IWBs for the majority of the school body. IWBs have been proven beneficial and further implementation is recommended.

8 Recommendations

Being aware of the financial situation of the school, and restriction to spending on current funds, the solution of extreme investment is not practical at the present time. However, standing on EVHS purpose to provide stimulating learning, there is a need for EVHS to invest in the future of classroom interaction. Gradual investment within the availability of funds and a focus on long term implementation is a good direction. A thorough budget plan should be developed to provide for future purchases, and a report be produced on possible security solutions. It is also suggested further training be developed to fully utilise IWB classrooms and that the Parent and Community committee be informed for possible fund raising strategies.
9 Bibliography


Appendix A – Quotation for an IWB Classroom Setup

KOOKABURRA Educational Resources
A Division of Kookaburra Education Resources Pty Ltd
ABN: 32 087 735 966
"Proud to be serving education"

QUOTATION 989868
Quotation Date: 12- MAY-08

EAGLE VALE HIGH SCHOOL
PO BOX 5987
M NTO DC NSW

Invoice Number:
Page: 1
Ref.: 989868 Whse: KKEM
Area Agent: MARK REILLY
Code: EAGLE001

Deliver to:
EAGLE VALE HIGH
DRYSDALE ROAD
EAGLEVALE NSW

Your Reference: K CERVANTES-STUDENT
Order Date: 12- MAY-08

2558

AUD

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Instructions:
ALL PRICES SUBJECT TO CHANGE.
PRICES VALID AT TIME OF QUOTE.
AUTHORIZED RETURNS MUST BE RECEIVED WITHIN 60 DAYS OF INVOICE DATE - RESTOCKING FEE MAY APPLY - SOME ITEMS ARE FIRM SALE

Shipping & Handling: 0.00
Goods Total: 6020.82
Plus GST: 602.09
Quotation Total: 6622.91