

Interactive whiteboards: advantages and disadvantages study



Having personally conducted surveys whilst studying at University in England and Australia, I found at times it was frustrating, time consuming and the strike rate less than 5%.

At other times it was very rewarding with the strike rate at a healthy 30%.

Firstly the paper will take a look at four different papers and what pro and cons they gathered on IWBs

Secondly the paper will contain a model for conducting a large scale research survey.

It will contain:

1. The initial phase to implement the survey
2. The methodology used to collect data
3. The questions used in the survey
4. Analysis of the data

Justification

The research is very important for teachers as it let them know if the IWB improves the pedagogy in teaching and learning. It will also help the teachers understand their weaknesses and strengths using new technology in the teaching and learning environment. They will then be able to plan their lessons so the students are able to get a full understanding of the IWB as a teaching tool and not a plaything.

The teachers may find they have to teach basic computer skills to the students, such as:

1. Terminology (literacy)
2. How to turn their computers on
3. How to log in and out
4. Software use
5. How to access the internet
6. Key board skills

The teachers may say that they do not have time to teach a separate subject as it will encroach on the lessons they are teaching.

Without recognising the weaknesses of the students, in using the IWB, the students may miss out on valuable opportunities that are fundamental in their pedagogy growth

Quotes

According to Sudgen that something, “ as bland as a projected image could be used interactively in this way” (Sudgen 2002). The difficulties he experienced with the IWB showed that there were logging on problems by the students and if the IWB was knocked it had to be re-calibrated (Sudgen 2002)

Other problems encountered were light shining on the IWB caused shadows making it difficult to see the images, the key board only shows lower case letters, making it hard for some students to recognise letters and problems caused by the students resting their hand on the IWB whilst writing (Sudgen 2002)

Even with the difficulties Sudgen encountered during the lesson, he found the students worked with each other on how to find the correct word and its' spelling using the IWB (Sudgen 2002). He also found by the end of the lesson the students had gained confidence in using the IWB even if they put in the wrong answer, they all supported each other by offering alternative answers (Sudgen 2002)

Research by Dorothy Walker at the Royal Docks Community School in 2003 found some surprising results IWBs' had on the pedagogy of the students and how it improved the time teachers spent actually teaching.

With the help of the deputy head, Tom Smith, Walker found that the teachers where getting 20 - 25 per cent more time teaching (Walker 2003)

The school was that impressed with the value of the IWB; they have 54, which are housed in a purpose built building (Walker 2003)

Smith has asked to be benched marked against other schools, but as yet Ofsted " can't find anyone like us" (Walker 2003)

The Docklands school has 1, 200 who speak over 48 languages, this made Smith search for innovative technologies to help the students, whose special needs exceeded 10 times the national average.

When Smith first saw the IWB he knew it would help with literacy, as many of the students are visual learners (Walker 2003)

The students are enthusiastic in helping new teachers use the IWB as well, (the teachers) receive extensive in house training (Walker 2003)

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The students use the IWB to interact with each other's ideas by sharing their work, with over 600 PCs in the school the students can access the IWB to evaluate what they have been presented with in the previous lessons as well as being able to download their homework.

Hull University together with Promethean (the maker of IWBs) and with funding from NESTA carried out research in August 2002, to find out how effective IWBs are in delivering excellence in the teaching and learning environment (Hull University 2002)

The aim of the project over two years, focused on 200 classroom observations in schools and colleges.

During the observations the researchers noted the strengths and weaknesses of the teachers using IWBs in teaching and learning.

The data collected helped them develop digital resources used for research in the learning environment.

The researchers found that teachers have to consider that IWBs can be beneficial for teaching if they make sure the students can see the fonts from all areas of the classroom, they can all hear the IWB and that light entering the room may make the IWB hard to read.

They found that teachers could use wireless technology so they don't have to go back to their computer, also the teachers could use the IWBs technology to save time by saving the WEB sites accessed on the hard drive (Hull University 2002)

Using an interactive whiteboard (IWB)

The research taken out relied on a single researcher observing lessons using an interactive white board and conducting interviews with teachers

The primary school was purposely built for teachers to use ICT and how it would enhance pedagogy in learning and teaching (Beauchamp 2004)

Over the period of two years the teachers where trained on how to use ICT, giving them differing levels of confidence. When they started in the new school the IWB was new to them.

The researcher divided the data collection into four stages:

1. Data collection
2. Validation
3. Interpretation
4. Action (Beauchamp 2004)

The researcher had the consent of the teachers and management to observe seven teachers using the IWB over a two day period (Beauchamp 2004)

During the lesson the researcher took contemporaneous notes and after the lesson the researcher had an unstructured interview with the teacher on any issues they had using ICT and the IWB

During the initial stages the teachers where given plenty of notice by the researcher what lessons would be observed

The researchers noted the amount of skills the teachers had in using ICT, and teachers' pedagogic practices in using ICT.

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It was noted that there was a range of skills and competencies in using ICT.

The researcher categorised the skills and competencies of each teacher by:

1. Black / white board substitute
2. Apprentice user
3. Initiate user
4. Advanced user
5. Synergistic user (Beauchamp 2004)

Validation

After the initial phase of the observation the researcher was able to table the characteristics of the teacher and how they progressed.

The second stage of observation carried out a year later allowed the teachers' time to develop their skills and pedagogy in using ICT

During the second stage of the research, the focus of the observations matched the skills on the framework developed from the data collected from the initial stage.

The interviews conducted with the teachers were taped in order to validate and ground the findings (Beauchamp 2004)

During the second stage interviews the teachers were given the frameworks developed from the first stage. Unlike the initial interviews, the framework provided a structure to the questions asked by the researcher

The research did not take into account the years of experience and age of the teachers, as its' aim was to get an overall representation of all primary school teachers.

This eliminated any variables to ensure a model was developed which represented all teachers (Beauchamp 2004)

Interpretation and Action

A qualitative analysis was used to analyse the data collected by the researcher. The data collected identified common features as well key differences in areas of cognitive and pedagogical development of how teachers used ICT and IWB

The variables noted were:

1. Operating system use
2. Mechanical skills
3. Program variables
4. Classroom management and pedagogy (Beauchamp 2004)

The researcher noted on occasions there where advancements predominantly in the pedagogical and mechanical skills of the teachers.

Difficulties

The research conducted in the primary school looked at how the teachers used and implemented ICT and IWB in the learning and teaching environment.

The research was conducted over two days observing and interviewing the teachers in two stages, with a gap of one year between each stage.

The length of time between each stage may of led to a belief by the teachers that they had plenty of time to improve their skills. The evidence presented by the researcher does not suggest the skills where improved in leaps and bounds over the year.

Seven teachers took part in the research; all had prior knowledge of which lessons would be observed. The small number of teachers used in the research would make it very difficult and probably bias to come to a general consensus.

The interviews in stage one were unstructured, whereas in stage two they were taped and structured. The problems of having an unstructured interview would of made the analysis of the data unreliable and complex in being able to validate the findings.

Stage Two

The initial phase to implement the survey

I would look at getting backing from the Education Department to conduct the survey. This would give the survey credibility and help to get participation from the schools' management and teachers.

The letter to the Department of Education will contain this preamble:

Problem Definition i. e. The use of the Interactive White Board (IWB) in the teaching and learning environment and how it improves pedagogy.

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With the event of new technologies used in the classroom there is a need for the system to be investigated. Increasing the knowledge of teachers in the use of IWB will give them knowledge of its' potential as a tool in the pedagogy process.

If teachers feel more comfortable using the IWB it will benefit them in lesson planning, understanding the needs of their students and how to combat any difficulties their students may have.

The IWB is expensive, but it is here to stay, with the emphasis on using Information Communication Technologies (ICT) in the 21st century classroom.

If a teacher feels incompetent in using the IWB they may not use it in primary schools. This could disadvantage the students when they go to higher education.

The aim is to ask primary schools to participate in a wide scale research project.

Data will be collected by way of:

1. An online questionnaire
2. Interviews
3. Observations

The survey will not contain any personal information on teachers or students.

Note: The preamble would be written as a letter

The letter will include the questionnaire and any other relevant material that will support the proposal.

By way of a bulletin, primary schools will be asked to participate in a large scale research project. The rationale of which is to improve the use of new technologies in teaching and learning.

The schools will be told that the survey will be online and conducted by way of observation and interviews.

They will be able to pick which ones they would be happy to participate in.

The schools will be asked to register at an encrypted WEB site.

After registration the schools that register will be given a registration number.

The schools will be required to provide:

- Size and type of school i. e. private, public, special ed etc
- Subjects taught using IWB
- The range of teachers experience
- Location; city suburban, country

The schools will be then asked to fill in the online questionnaire (below)

The survey:

After collecting the online survey and analysing by way of graphs the second phase of the survey will come into place.

This will entail a suitably qualified person going to schools and conducting the observations and interviews e. g. retired teacher

The observation and interview will be conducted with an arrangement between the teacher and data collector.

The observer will note:

1. The subject being taught.
2. The grade being taught.
3. What the IWB was used for e. g. Internet, research etc.
4. Length of time the teacher used the IWB.
5. Whether it improved pedagogy or complemented it.
6. The competency of the teacher.

During the interview, the observer will ask the teacher:

1. How the IWB complimented their pedagogy.
2. Had they had training on the use of the IWB
3. How long had they been using the IWB
4. Would they like more training
5. Any issues they have with the IWB
6. Any improvements

The interviews should take no longer than five minutes with a tick box sheet and a small comment section.

The data collector will then log into the WEB site and upload all the data

Conclusion

Without large scale research it is very easy to generalise and come to conclusions that the researcher wants.

As we found at Docklands, Smith could not get a benchmark that would help him assess the effectiveness of using the IWB

Other researchers collected data from a small group, compared to the amount of schools, yet they tried to generalise their finding to the overall schools populace.

It seems that IWBs are going to be the future of teaching, therefore the Education Departments and Governments need to make certain data collected on the benefits of IWBs needs to quantitative and qualitative, without which could lead to problems in literacy and pedagogy that will impact on teachers and students alike.

Bibliography

Internet

Druin A, et al, <http://www.blackwell-synergy.com/>, Sydney Australia, 13 May 2006

Beauchamp Gary, <http://www.tandf.co.uk/journals/titles/>, Sydney Australia, 15th May 2006

Hull University et. al, <http://www.thereviewproject.org/about.htm>, Sydney Australia, 27th May 2006

Roschelle J, <http://www.blackwell-synergy.com/>, Sydney Australia 13 May 2006

Sudgen D, <http://ferl.becta.org.uk/>, Sydney Australia, 27th May 2006

Walker D, <http://www.tes.co.uk/>, Sydney Australia, 27th May 2006

The complete addresses

<http://www.blackwell-synergy.com/doi/pdf/10.1046/j.0266-4909.2003.00028.x>

<http://www.tandf.co.uk/journals/titles/1475939x.asp>

<http://ferl.becta.org.uk/display.cfm?resID=2640>

http://www.tes.co.uk/section/story/?section=Archive&_section=Online+Education&story_id=373324&Type=0

<http://www.thereviewproject.org/about.htm>

Bibliography

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Druin A, et al, <http://www.blackwell-synergy.com/>, Sydney Australia 13 May 2006

Beauchamp Gary, <http://www.tandf.co.uk/journals/titles/>, Sydney Australia 15th May 2006

Roschelle J, <http://www.blackwell-synergy.com/>, Sydney Australia 13 May 2006

<https://assignbuster.com/interactive-whiteboards-advantages-and-disadvantages-study/>

The complete addresses

[http://www.blackwell-synergy.com/doi/pdf/10.1046/j.0266-4909.2003.](http://www.blackwell-synergy.com/doi/pdf/10.1046/j.0266-4909.2003.00028.x)

[00028.x](http://www.blackwell-synergy.com/doi/pdf/10.1046/j.0266-4909.2003.00028.x)

<http://www.tandf.co.uk/journals/titles/1475939x.asp>