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Views of Primary School Teachers and Students about The Interactive Whiteboard

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Abstract

Aiming to scrutinize interactive boards from various perspectives, this study was conducted in a private school located in Istanbul in the spring semester of 2012. Participants were 1st, 2nd, 3rd, and 5th graders from this school, as well as the class teachers of grades 1, 2, 3, 4 and 5. The study used the qualitative mode, and data was collected by using the interview technique. These interviews were video- and audio-recorded. The data collection tools used in the study were student and teacher forms with semi-structured questions. Data was analyzed by using content analysis; and student and teacher beliefs were presented with an evaluation of the positive and negative implications of using boards.
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*Keywords:*Interactive whiteboards (IWB); students; teachers; primary education.

1. Introduction

Student engagement is critical to student motivation during the learning process. The more students are motivated to learn, the more likely it is that they will be successful in their efforts. Numerous factors influence student motivation including parental involvement, teacher motivation and skills, and effective use of technology. One current method of delivering instruction that may help to engage students in the learning process is the use of interactive whiteboards (Beeland, 2002).Whiteboard technology is computer driven and makes it possible for students to interact with the learning content. This new educational technology is also called “interactive whiteboard” and “electronic whiteboard” or known by manufacturers’ brand names such as Smartboard,

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Promethean, etc.Computer technologies made it possible to process various media such as text, songs, arts and video for use in other settings. The basic advantages of using whiteboard in an educational context are that it provides long-lasting information, time-management, and the improvement of student motivation.

The use of whiteboard has been mostly analyzed in basic education schools, where the following advantages and disadvantages were found. Advantages of the use of whiteboard in educational settings:

- Increases motivation because students actively participate in lessons and this effects academic achievement (Beauchamp and Parkinson, 2005, Bell, 1998; CAST, 2000; Lewin, Somekh and Steadman, 2008; Oleksiw, 2007).
- Greater opportunity for pupils to participate and collaborate (Beauchamp and Parkinson, 2005; Howse, Hamilton and Symons, 2000) .
- Students are able to cope with more complex concepts, gain knowledge about specific concepts, concept development as a result of clearer, more efficient and more dynamic presentations (Beauchamp and Parkinson, 2005; Damcott, Landato and Marsh, 2000; Howse, Hamilton and Symons, 2000; Lewin et al., 2008).
- Multiple means of representation gives learners various ways of acquiring information and knowledge (CAST, 2002).
- Increased capacity to cater for different learning styles (Beauchamp and Parkinson, 2005; Glover, Miller, Averis and Door, 2005, Glover et al., 2007; Weimer, 2001).
- Enables pupils to be more creative when making presentations to fellow pupils.
- Pupils do not have to use a keyboard to engage with the technology, increasing access to younger children and pupils with disabilities.(Beauchamp and Parkinson, 2005).
- It makes it possible for immediate access to sources.
- It supports teaching methods and techniques.
- It supports measurement and assessment methods.

This study attempts to reveal the views of primary school teachers and students on the use of the whiteboard in class. Analysis of the use of this tool in other countries indicates that there is insufficient knowledge as to its effects. The aim of the study is therefore to evaluate the effects of the use of the whiteboard on the process of learning and teaching, based on the views of students and teachers at a private primary school in Turkey.

2. Research Methodology

2.1. Research Design

This is a qualitative study.

2.2. Participant

Teachers and students from a private school in Beykoz, Istanbul, participated in the study. There were thirteen teachers in the school who had been using the whiteboard in their classes since 2008. Students from the first, second, third, fourth and fifth grades were also selected to participate in the study. Interviews were conducted with 9 teachers (6 females and 3 males). The participants were coded with regard to gender, grade level taught, seniorityandduration of working at a private school as follows: T1 (M, 5. grd, 20 year), T2 (M, 5. grd, 4 year), T3 (M, 3. grd, 34-11 year), T4 (M, 2. grd, 5 year), T5 (W, 3. grd), T6 (W, 1. Grd, 37- 12 year), T7 (W, 3. grd, 7- 3 year), T8 (W), T9 (W, 5. grd, 4 year),respectively. Focus group interviews were conducted with 40 students in groups of 8-10 students.

2.3. Data collection tools

Data were collected during the spring semester of the school year 2011-2012. Semi-structured interviews were undertaken with teachers and students about their views on the use of interactive whiteboards in their classrooms.

The interview forms were separately developed for teachers and students. These were reviewed by field specialists prior to administration in their final forms. Interviews were recorded with the permission of the participants.

2.3.1. Teacher Survey

The form used for the teacher survey was comprised of two parts, the first was used to record demographic information and the second their views about the use of the interactive whiteboard. The demographic part included ten items on the characteristics of the teachers. In the second part there were five sections and 12 semi-structured items and one open-ended item. The interviews with teachers took nearly fifty minutes to administer.

2.3.2. Student survey

The form used in the student survey included 6 semi-structured items and one open-ended item. The survey was administered in focus group interviews with 8-10 students and each interview lasted for nearly forty minutes.

2.4. Data analysis

The data collected in the interviews with both groups were analysed using content analysis. The findings were grouped into two as the views about teacher-based characteristics and those about the interactive whiteboard.

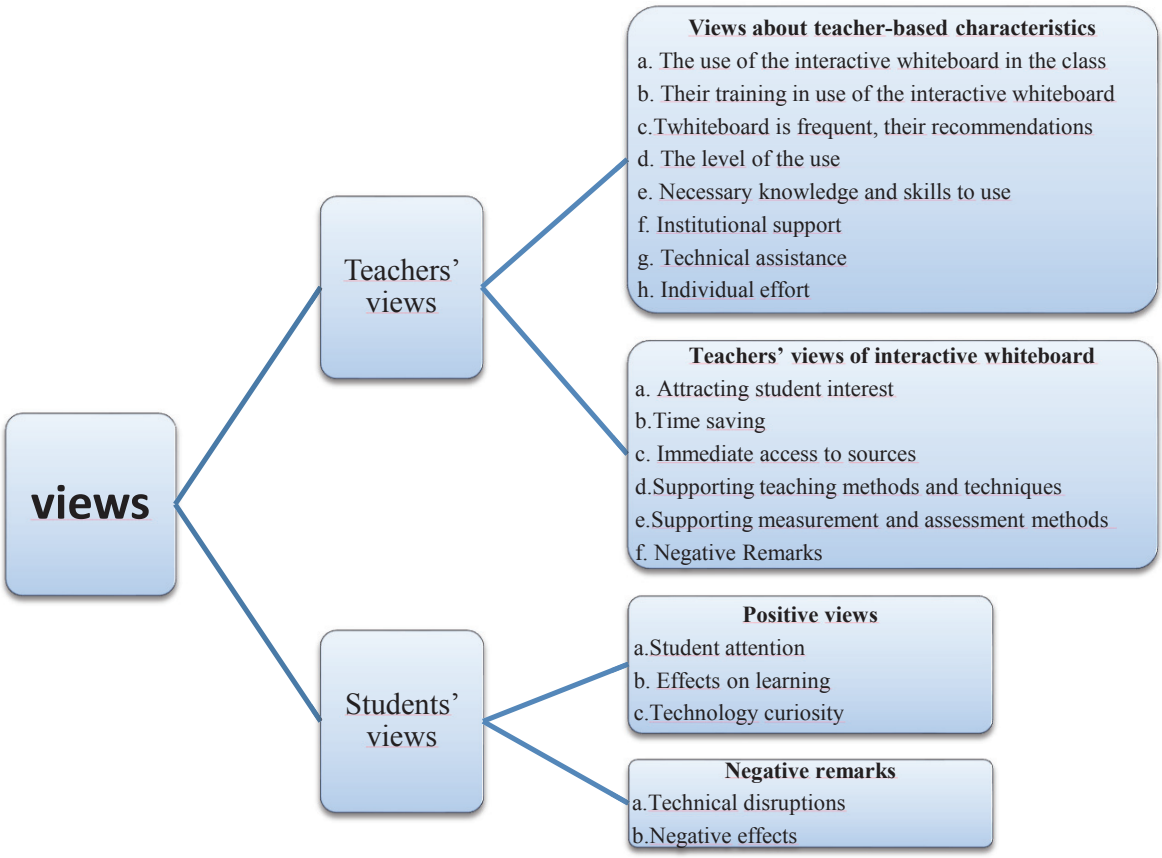


Figure 1:Title of Grouped Findings

3. Results

3.1. Teachers' views

3.1.1. The use of the interactive whiteboard in the class

As can be seen in the following statements, nearly all of the teachers who participated in the study reported that they were actively using the interactive whiteboard in all class:

R: *How frequent do you use the whiteboard per a week?*
T1,T3: *In all courses.*
T7: *In all courses. It means that I am using it in nearly 23-25 class hours.*

3.1.2. Training about the use of the interactive whiteboard

All teachers who participated in the study reported that they were given training on the use of the interactive whiteboard. They also stated that their knowledge was updated regularly through training activities. The communication technology specialists at the school were first informed by the firm and then they trained the teachers. Exemplary statements of the teachers interviewed are as follows:

R: *Have you been trained on the use of the interactive whiteboard?*
T4:*Yes*
R: *How long was it?*
T6: *In the beginning the training was for two week and it was very intensive. More specifically it was between 9:00 am and 12:00 am and between 13:00 pm and 16:00 pm per weekday. It was six hours per day and 60 hours over two weeks…..*

3.1.3. Courses in which the interactive whiteboard was frequently used

Six teachers reported that they mostly used the interactive whiteboard for the science and technology and the mathematics courses. Two teachers stated that they mostly used the interactive whiteboard for the Turkish language and the life sciences courses.

R: *In which courses do you use it mostly?*
T1:*In all courses, but we use it mostly in numerical courses such as mathematics. …*
T3: *I use it mostly in Turkish language and life sciences courses.*

3.1.4. Recommendation

All teachers who participated in the study recommended the use of the interactive whiteboard by other teachers.

R: *Do you recommend other teachers to use the interactive whiteboard?*
T4: *Definitely.*

3.1.5. Level of use

In the interviews the teachers were asked about their level of use of the interactive whiteboard. Six teachers reported that they made more than moderately use of it, one stated that he moderately used it and another that he made only basic use of it.

3.1.6. Necessary knowledge and skills

All teachers reported that basic computer skills are needed to use the interactive whiteboard. In addition, individual effort was also given as a significant requirement.

> ***T9:*** *…being familiar with communication technologies and being able to use materials are needed.*

3.1.7. Institutional support

The teachers who participated in the study reported that they shared their experience with the interactive whiteboard in their meetings and it improved the efficiency of teaching.

> ***T4:*** *We are in interaction with all departments in the school and it is the most significant advantage for us. We, all 5th grade teachers, meet regularly every two weeks. We present the subjects using the* interactive whiteboard. *It provides us with the opportunity to exchange our experience and it is a very rich interactional context.*

3.1.8. Technical assistance

As with other technological tools, during the use of the interactive whiteboard some technical problems may be experienced. Teachers reported that immediate technical support is provided when any such problem occurs.

> ***T4:*** *The most important advantage for us is that there is a high-quality support system in the school. Because we have technical support staff which help us whenever it is needed.*

3.1.9. Individual effort

It can be argued that although necessary training on the use of the interactive whiteboard is given to teachers their individual efforts are also significant in this regard. Seven teachers reported that they individually tried to use the tool.

3.1.10. Support of web-based library

Teachers reported that a web-based library made their work easier. They loaded pdf versions of books, video and other media about the topics onto the interactive whiteboard.

> ***T9:*** *…class hours are limited and we follow a predetermined program. So we use pdf versions of the books, study sheets and other similar work.*

3.2. Views about the interactive whiteboard

3.2.1. Attracting student interest

The teachers who participated in the study reported that the interactive whiteboard attracted student attention, having positive effects on their learning.

> ***T4:*** *...Its most significant advantage is that it covers audio and visual materials attracting the student interest…*
>
> ***T7:*** *...It attracts the student interest. Particularly slides attract their attention. They like*

them because these slides are colorful and appealing.

3.2.2. Time saving

All teachers reported that the use of the interactive whiteboard enhanced their efficiency in terms of time.

> ***T4:*** *Through the use of the interactive whiteboard I can do many things in a short period of time.…*

3.2.3. Immediate access to sources

Seven teachers stated that they can easily and immediately access information through the interactive whiteboard.

> ***T1:*** *Students first guess the meaning of any unfamiliar word. Then we enter into the web page of the Turkish Language Association to use its web-based dictionary. In science courses while dealing with avalanche, earthquake or other natural disasters I can easily show them using the internet.*

3.2.4. Supporting teaching methods and techniques

Teachers reported that the activities they undertake using the interactive whiteboard support their teaching methods and techniques.

> ***T9:*** *It definitely supports the teaching methods and techniques. It targets all types of intelligence…*

3.2.5. Supporting measurement and assessment methods

Teachers reported that the activities undertaken using the interactive whiteboard support their measurement and assessment methods.

> **R**: Are you using the interactive whiteboard in the process of assessment?
>
> ***T9:*** *We also use the interactive whiteboard for assessment purposes. We employ the tests on the internet. After teaching any math procedure students use the interactive whiteboard to practice what they have learnt. They like to volunteer to work with it.*

3.2.6. Negative remarks by teachers

The teachers interviewed also expressed some negative views about the use of the interactive whiteboard. They mostly indicated some technical problems such as freezing, mismatch between the whiteboard and pencil, and the existence of only one pen. There were also teachers complaining about the lack of blackboards in the classrooms.

> ***T7:*** *... When it was not well-planned or if you do not know how to use it time waste may occur.. .. There may be problems with the whiteboard and we must know how to deal with such problems. If technical support staff is not at the school what will I do? I experienced such situations. ….*
>
> ***T8****: I think it is much more useful to have at least two pens, a scanner and a printer. In addition, there is no blackboard in the classroom. I think there should also be a blackboard.*
>
> ***T6****: ... Student writing on the whiteboard is not good. ...*

3.3. Student views

3.3.1. Positive views

3.3.1.1. Student attention

The findings obtained from the interviews showed that at each grade level student attention improved when the materials and activities were given through the interactive whiteboard. Related views are given as follows:

> ***S1 (3. grade):*** *I like whiteboard because I can touch it and it is attractive. When I use a blackboard my hands get dirty so I do not like it. I can more easily learn with a whiteboard because slide shows are provided which are impossible on a blackboard.*

3.3.1.2. Effects on learning

The findings showed that the use of whiteboard has positive effects on the learning of students from the second, third and fifth grades. An exemplary statement is given below:

> ***S3 (3. Grade):*** *I was very excited to show my slide to my teachers and friends. I prepared one about being sensitive. I presented it using the whiteboard. My teacher took it from his email account and put it on the desktop. And I presented it to the class.*

3.3.1.3. Technology curiosity

Students interviewed stated that they regarded the whiteboard as exciting and interesting due to their technology curiosity. The following statement is an example of such views:

> ***A:*** *Why are you so excited about the whiteboard?*
> ***S7 (1. grade):*** *because the tool is electronic.*
> ***S6 (3. Grade):*** *I think it may be totally touch, but I am still pleased with it.*

3.3.2. Negative remarks

3.3.2.1. Technical disruptions

The findings from the interviews with students also showed that technical disruptions occurred during the use of whiteboard in the classrooms which negatively affected order in the class and these events have negative effects on students.

> ***S9 (1.Grade):*** *Once the whiteboard turned down. Then it was repaired by servicemen. During this time there was no order in the classroom because everyone was talking to one another.*

3.3.2.2. Negative effects

The students mention certain negative effects with regard to using the whiteboard. These included excessive eyestrain due to the poor lighting and undesired advertisements that appeared when using the internet.

> ***S4 (5. Grade):*** *My eyes sometimes are tired due to looking at it and it distracts my attention.…*
>
> ***S2 (5.Grade):*** *…When teacher opens a website there appear some ads and disturbing*

websites such as those for social contacts. It distracts my attention.…

4. Discussion and Conclusions

This study considered the views of primary school teachers and students about the use of the whiteboard in class. The key findings of this study are given below along with references to previous research findings that support them.

It was found that teachers:

- frequently use the whiteboard in their classes.
- have prior training in the use of the whiteboard (Türel, 2012)
- recommend the use of the whiteboard in educational contexts.
- stated that they could moderately use the whiteboard (Türel, 2012)
- argued that individual efforts are significant for using the whiteboard.
- argued that institutional support is significant for using the whiteboard
- remarked that the technical assistance should be immediate (Keser and Çetinkaya, 2013).

Interviews with students showed that:

- Interactive boards increase the motivation to learn by attracting students' attention due to their fondness of technology,
- Students find interactive boards exciting and attention-grabbing,
- Allowing students to use the interactive board freely during and between classes and asking them to make presentations increases their motivation to learn;
- Technical difficulties with interactive boards disrupt order in the classroom and affect students negatively;
- When lighting is not adjusted during interactive board use, students experience eye strain,
- Sleep problems are experienced due to lack of light sources, and
- Adverts that appear during Internet use affect students adversely.

If we compare teachers' and students' views about the use of the whiteboard in classrooms it is seen that both groups considered it to be very effective in terms of reducing distractions and improving student attention. However, both groups also indicated that there are some technical problems and other negative aspects associated with the use of the internet. On the other hand, teachers emphasized the educational use of the whiteboard whereas students mostly focused on the whiteboard itself and on the classroom setting. As stated in the introduction the proverb "*tools are only as good as their users*" refers to the fact that when using equipment and technical assistance, curiosity, effort and contexts are of significance. Future studies may deal with the effects of the whiteboard on learning outcomes and technological literacy, with the quality of the software used, and with reasons for teachers making moderate use of it.

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