The Belief of Teachers and Students on Interactive Board Usage in Secondary Schools: A Case Study of a Private Educational Institution Operating in Albania

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Abstract

The advancements in technology were breathtaking during the last decades while all our surroundings were covered with an application of technology. Simultaneously information and communication technology (ICT) has been covered all stages of businesses, social life and education. It was inevitable to take place in our learning teaching environments. The Interactive board (IB) also is one of the most important elements of above-mentioned advanced technology. This study aims to expose the attitudes and perceptions of 10th grade students and belief of teachers in the “SEMA FOUNDATION” educational institutions schools operating in Albania, regarding the role of active board usage on learning during the lessons hours. In order to accomplish this goal, a survey was administered.

Keywords: Interactive Board, Information Technology (IT), Information and Communication Technology (ICT), Education.

1. Introduction

During the last century, one of the most tremendous advancements was seen in microcomputers, from room size bulky devices to the palm size gadgets, and their usage. It also affected drastically changed our daily life regarding production, government, health, education etc. Mass production to mass education it was inevitable to make use of technology and its advancements and it became an essential instrument for instruction in our world (Nejem & Muhanna, 2014). Educational technology evolved from clay tablets to electronic interactive tablets. Traditional instruction was one directional, from teacher to students using books, blackboards etc. But after the incredibly advances of technology, it has become a need to use it in education as any other field, and it has changed the classical approach to the education (Ateş, 2010). The new technology in education is at point were the students are at point in between where they learn from to where they learn with. It is an undeniable reality that the educational tools, which the teachers dealt with to educate generation, are very important in 21st century’s growing world. So the opportunities of the new technological materials, which are used by both teacher while they teach and students while they learn, brought a new approach to the education (Ateş, 2010).

As cited in Nejem and Muhanna (2014), Principles (2000) mentioned the standards, and how it makes easier regarding the problem solving in math, communication, reasoning and proof. As Niess (2006) mentioned students can also find different descriptions and variety of ideas of connecting subjects with different topics (Nejem & Muhanna, 2014). There also some other proofs in literature that students become more effective in visualizing subjects, engaging with active learning strategies, showing positive attitudes, and becoming self-confident in their abilities with the use of technology as well as interactive boards in the class hours (Kersaint, 2007). These days interactive boards (IB) are one of the most essential new technological improvement which is broadly available in our classes (Knezek, Christensen, Bell, & Bull, 2006). The
interactivity of the IBs and its potentials diverting students’ attention to the content of instruction. It seems that the investment of active board in education is needed because it helps the students engage learning especially in technical subjects that teachers sometimes can struggle in how to help students engage and accomplish (Torff & Tirotta, 2010).

Interactive boards are one of the learning technology which involves students interactively shared experiences for all classes even distance learning where the followings can be listed as examples (Bell, 2002b):

- The interactive electronic whiteboard is great for demonstrations;
- The interactive electronic whiteboard is a colorful tool;
- The board can accommodate different learning styles;
- All ages of students respond favorably to board use;
- Distance learning is an excellent setting for interactive whiteboard use;
- One-computer classrooms can maximize the use of limited computer access by using the whiteboard;
- The interactive whiteboard is an excellent tool for the constructivist educator;
- The boards are clean and attractive tools;
- Students with limited motor skills can enjoy board use;
- It is interactive;
- It can interface well with other peripherals;
- The board is great for meetings are lessons where the participants need printed copies of the proceedings;
- It is a kid magnet!

Educational organizations are driven by the need for integration of Information and Communication Technologies (ICT) to offer learning environments equipped with latest advancements in technology. Instructors are also being encouraged to facilitate these technology in their learning environments such as computer, internet or tablet pc in their classroom (Hsu, 2010). England, Spain, and Turkey are the countries which are investing in IB regarding the integration of ICT in the classrooms (Holmes, 2009) (Türel & Johnson, 2012). The highest integration rate is 73% held by England, in 2010, Denmark and USA have integration rates of 50% and 35% respectively where it is still less than 2% in Asia (McIntyre-Brown, 2011). Current researches revealed that instruction benefits from the facilitation of IB while its popularity and attractiveness increases.

2. Objectives of the Study

Instructors are using IB to retain attention of students, to stimulate them and to focus them into the topic. It provides students with a very new interactive learning environment; they can share their ideas, information, images, and animations through the audio or video that can be supported by Interactive Board. This new technology also provides different teaching methods available to the instructors. As a result of this, inevitably, the use of IB increased amazingly during last years (Preston & Mowbray, 2008). On the other hand, the use in Albania is so rare. The study aims to reveal the role of using IB in teaching and learning in secondary schools towards attitudes of students and their perception, and to analyze whether the IB is a necessity for teaching and learning. Keeping this in mind the research questions can be listed as follows:

Does IB usage have an important role in teaching and learning in secondary schools?

Does the IB help students learn subjects more effectively?

Does the IB affect positively students’ ability to understand complex concepts?

Does the IB help teachers during the lesson?

3. Literature Review

During the last decade as there is increase in implementation of IB in the classrooms the literature is also on the increase regarding implementation of IB and the classroom management (Glover, Miller, Averis, & Door, 2005). Now as well as researchers, also teachers are aware about the potential of IB and how they enhance learning environments. (Glover et al., 2005).
IB become central idea in changing teachers’ approaches regarding the use of IB and how they change the pedagogy and teachers are also aware how to maximize the advantages of the technology (Glover et al., 2005).

Whilst most researchers report on pedagogic gains, there is recognition that unless the board is only to be used as an illustrative feature for traditional, and often didactic, approaches, teaching practice has to change. This may affect the organisation of whole-class and group activities, differentiation and the use of associated textbooks (Glover et al., 2005).

As IB are exposed they become desirable to be used in learning environment and teachers are willing to enhance the learning experience with the use of IB(Glover et al., 2005).

The researchers have found different facilitation factors about Interactive Board usage according to the innovation type(Swanson, 1994). Consequently, the development of earlier researches about adoption of IBs not straightforward process, because IB introduces its own feature. In this regard, there is a need to review the mentioned factors from within the research of pedagogy. Studies have shown that the technology has become an important factor within the educational institutions. Many researchers say that school admins think that, to use technology in education is a critical experience for students (Baek, Jung, & Kim, 2008)(Brush & Bannon, 1998)(Oigara & Wallace, 2012).

Case-study evidence points to the specific gains from enhanced presentation and the enhancement of pupil motivation. There are, however, some aspects of IWB technology that are described in the promotional literature offered by suppliers but that appear still to be awaiting research investigation. These include aspects of storage and retrieval of data and lesson plans; the potential gains from printing materials from the board for group or individual use; and the differing perceptions of the IWB by boys and girls (Glover et al., 2005).

Moreover, technological tools can provide new methods for teaching and learning in education. The student’s motivation for schoolwork may increase by educational technology; it provides students with opportunities to build meaning and present subjects in meaningful ways to their teachers. Technology can provide the students a grate access to information and resources, empowering them to make meaningful learning experiences exclusive of traditional classical learning, support them to become free agent learners(Oigara & Wallace, 2012)(Bell, 2002a).Researches about the relationship between use of Interactive Board and student achievement have revealed mixed findings. Interactive Board affects students’ ability positively to understand complex concepts, on the other hand teachers claim that a multidirectional technological presentation helps students who have difficulties in developing complicated concepts in their imagine (Kennewell, 2006)(Manny-Ikan, Dagan, Tikochinski, & Zorman, 2011).

The research regarding this new technology and its usage is newly starting but more than £50 million assigned for the IB to be used in primary and secondary school in the UK(Armstrong et al., 2005). In a study conducted in UK Lewin, Somekh, &Steadmen (2008)(Lewin, Somekh, & Steadman, 2008) obtained that there is a positive correlation between elementary school students’ success in different subject with IBs. They have found that the students attained highest scores in national tests after they use the IB. In another study Lee, & Boyle (2004)(Lee & Boyle, 2004) have found similar findings in Australia. Many researchers have found positive teachers attitudes by working with IBs, they think that the IB helps them renew their knowledge(Miller, Glover, & Averis, 2004). The researchers examined in various studies, say that teachers find very easy to work with IB, it supports greater students motivation and concentration, provide various learning styles that can be easily updated for students’ changing abilities, and a clear preparation of a good presentation for a better lecturing (Miller et al., 2004).

In a study conducted in the United States Zittle (2004) revealed that the use of IB were effective on students’ geometry achievement. When the geometry scores of two groups of students where one group thought with IB and the other without IB compared, there were significant difference between them favoring the group which had been taught with IB. Dhindsa and Emran (2006) also found similar results, they compared college students in chemistry lessons with Interactive Board learning and without Interactive Board learning, also in that study they found significant differences between the groups, so the group, which learned with Interactive Board, has achieved higher scores. In variety of researches they found similar findings related to positive effects of Interactive Board learning, also in other subjects such as math, literacy, science etc.
so the use of Interactive Board in classroom brings a meaningful pedagogical change to the classical classroom learning (Lewin et al., 2008).

Davison & Pratt (2003) advised the following scenarios in an order to change students’ and teachers’ participation in learning environments (as cited in Glover et al., 2005):

- teacher led visual only
- teacher led with kinaesthetic affordances
- pupil use with mainly visual affordances
- pupil participation that makes use of the kinaesthetic affordances

through:
- being immersed in the activity
- theatrical tension and causal linking.

4. The Interactive Board Concept

There are different types of Interactive Boards or in different word interactive white boards (IWB), but it usually consists of a touch screen board that works with a computer and a projector. Teachers and students can control applications by touching or writing with a non-ink pen or a wireless device can be integrated in the Interactive Board to allow users control the applications. It can be integrated with amplification system for voice-related points as well. They have different sizes and can be mobile or mounted on a wall. On the other hand (Sani, 2007) and (Nejem & Muhanna, 2014) explain Interactive Boards as a system that consist of a computer with Interactive Board software, an interactive white board and a projector. It has its own control pen to touch the screen and maintain; students can control applications, use the Internet, write, erase, and move and save content. Interactive Board technology provides students to perform a range of functions. They can write, drop and drag images or text on the touch sensitive surface. This technology enables its users to engage with educational multimedia activities, simulation can be watched, or graphs can be viewed, and many other functions that make teaching attractive and increase the student attention during the lesson (Preston & Mowbray, 2008).

Prior to start using interactive boards following skills can be learned on PCs (Beauchamp, 2004):

- navigate the operating system;
- save and open files;
- file management;
- click and drag;
- minimizing and maximizing windows and switching between open programs;
- use of imported existing graphics (clip art, pictures, etc.) from within programs and on other sources, especially the Internet;
- imported use of scanned images;
- ability to use a search engine on the Internet;
- ability to organize Internet pages into Favorites folders (see also file management);
- use of hyperlinks and hypertext within and between programs and external resources – e.g. websites, moving between other pages within a file or hyperlinks from spelling lists and word banks.

5. Methodology and Data Description

During the study, a survey has been carried out with 10th grade students and their teachers, who currently continue their education, in secondary schools of “SEMA FOUNDATION educational institutions”, in five different cities of Albania. The foundation has five successful high schools in different cities of Albania and one University in capital city of the country, Tirana. In each school, they have students from all over the country, including students from Kosovo, Macedonia, Montenegro, and Turkey. These schools are selected because they offer good standards of education to their students. In the survey, it is aimed to find out the perception of students about Interactive Board usage in their lesson. A five-point Likert-scale was used in the survey. Which (1) represent strongly agree, (2) represent agree, (3) represent neutral, (4) represent disagree, and (5) represent strongly disagree. Out of 180 distributed surveys 168 received, 12 students were not present
due to different reasons. The questionnaire was structured based on the literature review in the field and reviewed by experts. It was consisted of nine expressions divided into two sections, where the first section was to measure the respondents’ perceptions and their attitudes about IB learning, whereas the second section was comprised of negative expressions to reveal whether they have any negative thought about the Interactive Board learning in their education.

6. Results and Discussions

In Table 1, it is seen that the students’ perceptions and attitudes related to Interactive Board learning are positive. As it is shown in table, high percentage of students are either agree or strongly agree with the expressions of the first two parts of the survey, which was arranged to measure their positive perceptions and attitudes about learning with Interactive Board. The most preferable expression is; the lesson is more enjoyable with Interactive Board learning. A total of 85.7% of the students have selected agree and strongly agree. Whereas the less favorable expression is also in that category, which asking about fast learning with Interactive Board. The students have selected Agree and strongly agree with a total of 68.5%.

In addition, they have also agreed with the terms, which were arranged to measure their understanding, motivation and focusing on the topic with Interactive Board learning. The findings reveal that the students have agreed that, they can understand and motivate better with Interactive Board learning. Previous researches are also consistent with the findings of the study. Kaya and Aydin(2011) in their study, discovered that students state that the Interactive Board helps them comprehend better the subjects, and they add that with boost of the IB they can concentrate more on the topic, and it increases their motivation. Additionally the Interactive Board has a positive effect on learning, it takes students’ attention to the topic and makes them to be more focused (Kaya & Aydın, 2011). Based on the responses of the students, the learning with IB is pleasurable, interesting, efficient, and understandable (Manny-Iikan et al., 2011). It has positive effect on students’ success, and recalling, they feel comfortable in the lesson that the teacher use IB (Nejem & Muhanna, 2014).

Table 1: Students’ perceptions and attitudes about Interactive Board.

<table>
<thead>
<tr>
<th>Expression</th>
<th>Count</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I prefer the lessons that teachers use smart board.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Row N %</td>
<td>104</td>
<td>81%</td>
<td>55%</td>
<td>18%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>I learn faster with smart board during the lessons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>104</td>
<td>66%</td>
<td>49%</td>
<td>37%</td>
<td>11%</td>
<td>5%</td>
</tr>
<tr>
<td>Row N %</td>
<td>104</td>
<td>39.3%</td>
<td>29.2%</td>
<td>22.0%</td>
<td>6.5%</td>
<td>3.0%</td>
</tr>
<tr>
<td>The lesson is more enjoyable with smart board learning.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>104</td>
<td>111%</td>
<td>33%</td>
<td>15%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>Row N %</td>
<td>104</td>
<td>66.1%</td>
<td>19.6%</td>
<td>8.9%</td>
<td>3.0%</td>
<td>2.4%</td>
</tr>
<tr>
<td>I can motivate better to the subject, when the teacher use smart board in the lesson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>104</td>
<td>87%</td>
<td>45%</td>
<td>21%</td>
<td>11%</td>
<td>4%</td>
</tr>
<tr>
<td>Row N %</td>
<td>104</td>
<td>51.8%</td>
<td>26.8%</td>
<td>12.5%</td>
<td>6.5%</td>
<td>2.4%</td>
</tr>
<tr>
<td>I can focus on the topic more when the teacher uses smart board in the lesson.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>104</td>
<td>89%</td>
<td>54%</td>
<td>16%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>Row N %</td>
<td>104</td>
<td>53.0%</td>
<td>32.1%</td>
<td>9.5%</td>
<td>3.0%</td>
<td>2.4%</td>
</tr>
<tr>
<td>I understand better, when the teacher use smart board in lesson.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>104</td>
<td>90%</td>
<td>60%</td>
<td>10%</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>Row N %</td>
<td>104</td>
<td>53.6%</td>
<td>35.7%</td>
<td>6.0%</td>
<td>3.0%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

Table 2 shows the students negative attitudes and thoughts related to Interactive Board usage. In this part, the respondents were asked to reveal whether they have any negative thoughts or attitudes related to Interactive Board usage.

As it is seen in the above table 2, a high percentage of the students have no negative thoughts or attitudes about IB usage in lessons. They say that they are comfortable when the lessons done with IB. On the other hand, they also agree that the IB is a necessary tool for doing the lesson, by adding that the IB has a meaningful difference with a classical blackboard. These findings are also supported by previous researches. Students think that the IB makes the lessons to be done different
from classical methods, and it becomes a need for modern education (Ateş, 2010; Smith, Higgins, Wall, & Miller, 2005; Tataroğlu & Erduran, 2010).

Table 2: Students’ negative attitudes or thoughts about smart board usage.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not feel comfortable in when lessons done with smart board.</td>
<td>Count</td>
<td>9</td>
<td>4</td>
<td>10</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Row N %</td>
<td>5.4%</td>
<td>2.4%</td>
<td>6.0%</td>
<td>31.0%</td>
</tr>
<tr>
<td>It is not necessary to use a smart board in lessons</td>
<td>Count</td>
<td>3</td>
<td>15</td>
<td>21</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>Row N %</td>
<td>1.8%</td>
<td>8.9%</td>
<td>12.5%</td>
<td>37.5%</td>
</tr>
<tr>
<td>I think there is no meaningful difference between smart board and a classical blackboard.</td>
<td>Count</td>
<td>9</td>
<td>14</td>
<td>28</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Row N %</td>
<td>5.4%</td>
<td>8.3%</td>
<td>16.7%</td>
<td>38.7%</td>
</tr>
</tbody>
</table>

Twenty-four teachers claimed that they use IB in their learning environments out of 29 (Table 3). Almost one third of the instructors claimed that they use IB more than three hours in a week and 23% use around one hour. Teachers confident when they use IB while they think it is easy to use and useful. More than half of the teachers mentioned that using IB is increasing time used in topics rather than writing the content on the board. They also believe that it is taking attention and increasing their motivation and while making lessons interesting also more interactive and they participate more. While they think that they can increase their skills, regarding IB they also mentioned that training would help them to build skills.

Table 3: Teachers’ perceptions and attitudes about Interactive Board.

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>One hour</th>
<th>1-3 hours</th>
<th>More than 3 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>How Often do you use Smart Board in your class</td>
<td>Coun</td>
<td>4</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Row</td>
<td>15%</td>
<td>23%</td>
<td>31%</td>
</tr>
<tr>
<td>I feel myself more confident while I am using the smart board.</td>
<td>Coun</td>
<td>9</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Row</td>
<td>32%</td>
<td>61%</td>
<td>0%</td>
</tr>
<tr>
<td>Teaching with smart board is quite easy and useful.</td>
<td>Coun</td>
<td>8</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Row</td>
<td>29%</td>
<td>43%</td>
<td>18%</td>
</tr>
<tr>
<td>My skills related to smart board usage increase during the time that I am using</td>
<td>Coun</td>
<td>15</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Row</td>
<td>52%</td>
<td>31%</td>
<td>10%</td>
</tr>
<tr>
<td>Teaching with smart board decrease my time spent to writing, and I can spend</td>
<td>Coun</td>
<td>17</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Row</td>
<td>59%</td>
<td>28%</td>
<td>7%</td>
</tr>
<tr>
<td>Teaching is more effective and efficient when I use smart board.</td>
<td>Coun</td>
<td>5</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Row</td>
<td>17%</td>
<td>59%</td>
<td>14%</td>
</tr>
<tr>
<td>Teaching with Smart board takes attention of the students.</td>
<td>Coun</td>
<td>12</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Row</td>
<td>43%</td>
<td>39%</td>
<td>4%</td>
</tr>
<tr>
<td>When I use smart board in teaching the students’ motivation is increase.</td>
<td>Coun</td>
<td>5</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Row</td>
<td>17%</td>
<td>48%</td>
<td>24%</td>
</tr>
</tbody>
</table>
### 7. Conclusion

This study provides a good example of IB integration and its role on the teaching and learning process. The findings from this study reveal the key characteristics and strategic requirements of effective IB use through the attitudes and perceptions of students and teachers, who actively engaged with IB learning in their school environment. Parallel with previous studies, this study also has revealed that the IB is an important tool for modern education. In general, respondents were satisfied with the IB use and they accepted it as an important practical technology for their learning and motivation. It is a key factor for making the lesson more attractive and takes attention of the students throughout the teaching hours. The study also reveals that most of the teachers and students have no negative thoughts or attitudes about IB usage in the lesson. It means that the IB as an information technology always has a positive role on modern education. Additionally to improve the students learning in the classroom or to make the lessons more attractive for them it is needed to use IB in education.

Furthermore, it is expected that the findings of this study may help the researchers for further researches on IB usage and its integration with effective learning and teaching.

### References


