The Impact of Blackboards or Whiteboard on Language Learning

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ABSTRACT

A variety of tools can be used in the classroom to support student learning ranging from traditional (blackboard or white board) to high-tech options (computer, projector and DVD-player). Depending on the learning goals, teachers may choose one or several of these tools to enhance teaching and learning in their classrooms. This study investigated language teachers' perceptions of the effectiveness of blackboards or whiteboards compared to high-tech options (smart boards). To achieve the research goal, a school survey was employed. To collect data, four-point Likert scale questionnaires were formulated and sent to various English institutes and schools. A total of 77 questionnaires were collected after a month. Relative importance index was used to rank out data. The results presented showed that priority was given to different tools used in the classroom such as; (1) Blackboard or Whiteboard; (2) Computer; (3) Projector and (4) DVD Player. It is therefore believed that language teachers could benefit from the results of this study in enhancing the quality of learning and teaching.

KEYWORDS: Blackboard/Whiteboard, Computer, Projectors, DVD Player, language learning

Introduction

A variety of tools can be used in the classroom to support student learning, ranging from traditional (blackboard or white board) to high-tech options such as computer, projector and DVD-player and 3 D printing. Depending on the course learning goals and outcomes, teachers may choose to use one or several of these tools to enhance the teaching and learning environment in their classroom. It may be noted that the black board or white board is a

traditional useful tool in helping to manage the learning environment especially while giving instructions. The ability to be able to write down the procedure for a given activity prevents the need to repeat instructions and saves presentation time in the learning process. Outlining homework assignments and displaying reminders during group activities are just some of the ways the board can help a teacher to manage classroom activities.   Board has been valued by teachers for decades because of their availability, flexibility, and adaptability as teaching tools. It can also be used in all activities such as presenting new information about the lecture, engaging students in problem-solving, eliciting students' ideas, providing opportunities to increase students' motivation, promoting confidence in the class, as well as activities in higher education such as lectures, seminars, and classes by both teachers and students.

Literature review

Traditional boards

Black tables were used in Indian schools in the 11th century as mentioned in Alberuni's India written in the early 11th century (Edward, 1910). Students had to write upon them along the long side, with a white material from the left to the right. The first classroom uses of large blackboards are difficult to date, but they were used for music education and composition in Europe as far back as the Sixteenth century (Owens, 1998). According to Scrivener (2011), a resources that every teacher has is a board, whether it is a small board, a wide chalk board, a pin board or an interactive computer board. Research by Richard (2003), states that students learn better by having information presented through multiple modalities, especially through visual means and boards are perhaps the simplest visual teaching tool.

High-tech options (Smartboards)

In recent years, teachers have replaced traditional boards in favor of high-tech options. Study by Shallcross (2007) indicates that there does not seem to be a significant difference in learning outcomes when the same information is presented in power point rather than handwritten on boards. According to Sultan (2013), when a teacher presents content on power point and also elaborated on the content via the chalkboard, students were more active and spent more time asking questions than when teachers only used one of the tools. This study underscores a core function for boards of any kind. They can be easily utilized to encourage active learning in the classroom. Teachers can also use boards to engage students individually and via groups with problem-solving and brain-storming activities. Additionally, to date, interactive white board (IWBs) seem to present more complications for classroom integration than enhanced learning outcomes, and their potential for active learning is still under study (Thierry 2016). It may be noted that in recent years, there has been significant development of methods that high-tech option could be replaced traditional board, but there are still other problems such as availability and cost of equipment to be set up in the classroom. It is therefore, necessary for properly evaluating the performance of the existing practices to identify its advantages and disadvantages so that proper ways of using tools may be made.

This study investigates language teachers' perceptions of the effectiveness of traditional boards (blackboard or whiteboards) compared with smart boards (computer, projector, & DVD Player). The research questions were proposed as follows:

1. What are the language teachers' perceptions of using traditional boards in their language classes?
2. What are the language teachers' perceptions of smart boards in their language classes?

Methodology

To answer the research questions survey method and purposive sampling were employed.

Participants

The participants of the present research were selected purposefully. They were 77 teachers from English institutes and government schools, 61 females and 16 males. Their age ranged from 22 to above 50.

Research Instrument

A four-point Likert Scale questionnaire was developed to explore the perception of teachers their perception of using traditional boards (blackboards/whiteboards) and high-tech options or smart boards (computer, projector and DVD-player). The questionnaire was divided into three parts. The first part requested background information about the respondents. The second part of the questionnaire focused on their perceptions of using blackboard/whiteboard and smart boards. For the third part, the respondents were asked to give more details about their opinions or any other suggestions.

Data Collection

To collect data, 100 sets of questionnaires were distributed to different institute and schools. Within this, 60 were sent to private English institute and 40 to government schools. 77 questionnaires were collected after a month. 43 sets were returned from private English institute and 34 were sets from government schools. The response rate of about 78 % is above the statistical confidence rate of 25%.

Data Analysis

Relative importance index (RII) was used to rank out data with perceptions of the teachers on their use of backboard/whiteboard or smart boards in their classes. It is most commonly used because of the ease of calculation as no complicated equations are used; yet it is a very accurate measurement as seen in many researches. In this study within various groups (i.e. backboard/whiteboard and smart boards), a four point scale ranged from 1 (not important) to 4 (extremely important) was adopted. Relative importance index RII was found by (1).

Relative Importance Index. $RII = \frac{\Sigma W}{A \times N}$ (1)

Where,
W is the weighting given to each factor by the respondents (ranging from 1 to 4)
A is the highest weight (i.e. 4 in this case)
N is the total number of respondents

Results

The survey feedback includes two groups of data, the use of traditional boards compared to high-tech options or smart boards. Table 1 below shows the breakdown of respondents at English language institute and government schools who have helped to fill up the questionnaire. Most of the respondents are in 30s, and above with a percentage of about 82.64 %. For years of experience, a majority of respondents have an experience of 6 years and above. As for the field of specialization, most of the teachers from the English language institute holding B.A, MA and PhD. English with a percentage of 74.41%. This is good because the respondents are much more knowledgeable and the opinion from the respondents is very crucial to come out with accurate data.

Table 1. Demographic information of the respondents

Demographic Characteristics	English language institute		Government schools	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Teacher Age				
20-29	15	34.88	0	0
30-39	19	44.18	1	2.94
40-49	6	13.95	21	61.96
Above 50	3	6.97	12	35.29
Sex				
Male	16	37.20	0	0
Female	27	62.79	34	100.00
Years of Experience				
Less than 2	4	9.30	0	0
2-5	10	23.25	0	0
6-10	18	41.86	0	0
Above 10	11	25.58	34	100.00
Type of Organisation				
Government	11	25.58	26	76.47
Private	32	74.41	8	23.52
Degree/Fields of Specialisation				
BA English	22	51.16	0	0
MA English	9	20.93	0	0
PhD. English	1	2.32	0	0
Others	11	25.58	34	100.00
Student Age				
2-6	2	4.65	0	0
7-11	3	6.97	6	17.64
11-15	13	30.23	9	26.47
Above 15	25	58.13	19	55.88

Table 2 and 3 show the respondents' level of agreement using different tools in the classrooms. A four-point scale ranging from 1 (not important) to 4 (extremely important) was adopted for

rating the effects of blackboard/whiteboard and smart boards in the learning process. From Tables 2 and 3, the total number of teachers rated 4 (extremely important) for using blackboard/whiteboard are 21 and 24 respectively with total respondents of 45. Similarly, the total respondents giving a rate of 4 for using a computer, projector and DVD player are 18, 22 and 15 respectively.The two tables are summarised below in Figure 1 which shows the simplified diagram for the breakdown of ratings of individual tools. The Y-axis shows the frequency of each rating (1-4) whereas the X-axis shows the different tools with each rating given a specific bar.

Table 2. Respondents' level of agreement using different tools at English language institute

	Frequency				
Rating	**1**	**2**	**3**	**4**	**Total Respondents**
1. Blackboard /Whiteboard	0	11	11	21	43
2. Computer	2	13	14	10	39
3. Projector	2	8	16	13	39
4. DVD Player	7	7	16	8	38

Table 3. Respondents' level of agreement using different tools at government schools

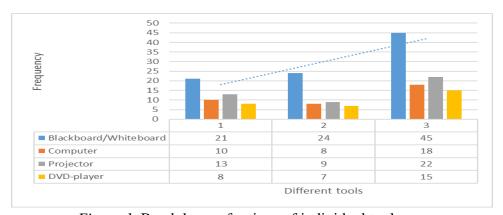|	Frequency				
Rating	**1**	**2**	**3**	**4**	**Total Respondents**
1. Blackboard /Whiteboard	1	1	8	24	34
2. Computer	2	9	12	8	31
3. Projector	2	9	11	9	31
4. DVD Player	2	7	11	7	27

Figure 1. Breakdown of ratings of individual tools

A ranking can be generated using the RII method with respect to perceptions of the teachers on their use of blackboard/whiteboard or smart boards in their classes. Top priority will be

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assigned to higher relative importance index of different tools which indicates higher value of different tool used by the teachers in the class rooms.

Table 4 and 5 show the relative importance of different tools at English language institute and government schools respectively and table 6 indicates total respondents' level of agreement using different tools in the classrooms. From the ranking shown in Table 4, top priority given to different tools used in the classroom as stated by the respondents are: (1) Blackboard /Whiteboard; (2) Projector; (3) Computer; and (4) DVD Player.

Table 4. Relative importance of different tools at English language institute

Different tools	Total Respondents	Relative Importance	Ranking
1. Blackboard /Whiteboard	43	80.81	1
2. Computer	39	63.95	3
3. Projector	39	68.60	2
4. DVD Player	38	58.72	4

Table 5. Relative importance of different tools at government schools

Different tools	Total Respondents	Relative Importance	Ranking
1. Blackboard /Whiteboard	34	90.44	1
2. Computer	31	72.05	2
3. Projector	31	65.44	3
4. DVD Player	27	56.61	4

Table 6. Ranking of total respondents using different tools

Different tools	Total Respondents	Ranking
1. Blackboard /Whiteboard	77	1
2. Computer	70	2
3. Projector	70	3
4. DVD Player	65	4

Furthermore, it may be noted that top priority given to different tools as in table 5 and 6 are (1) Blackboard /Whiteboard; (2) Computer; (3) Projector; and (4) DVD Player. The difference in ranking may due to the fact that a computer cannot work without a monitor and are heavy and hard to move around, while a projector is easier to handle and takes the input image and projects it onto another surface. A projector takes an image and alters it in order to view it on a different

medium. It has the ability to enlarge, lengthen, shorten, and alter an image to be projected on another surface.

Discussion

This study was designed to explore language teachers' perceptions of the effectiveness of traditional boards (blackboards or whiteboards) compared with high-tech options or smart boards (computer, projector and DVD-player). To achieve the research goal, a school survey was used. To collect data, four-point Likert scale questionnaires were formulated and sent to various English institutes and government schools. 100 sets of questionnaires were distributed to different institute and schools. With this, 60 were sent to private English institute and 40 to government schools. 77 questionnaires were collected after a month. 43 sets were returned from private English institute and 34 were sets from government schools. The response rate of about 78 % is above the statistical confidence rate of 25%. Relative importance index was used to rank out data. The results presented showed that priority was given to different tools used in the classroom such as (1) Blackboard or Whiteboard; (2) Computer; (3) Projector and (4) DVD Player.

Studies have revealed that blackboards are difficult to date, but they were used for music education and composition in Europe as far back as the Sixteenth century (Owens 1998). According to Scrivener (2011), a resource that every teacher has is a board, whether it is a small board, a wide chalk board, a pin board or high-tech options or smart boards. Research by Richard (2003), states that students learn better by having information presented through multiple modalities, especially through visual means and boards are perhaps the simplest visual teaching tool. However, it may be noted that board has been valued by teachers for decades because of their availability, flexibility, and adaptability as teaching tools. It can be used in lectures, seminars, and classes by both teachers and students. All activities such as presenting and information about the lecture, incorporating new information into the lecture in the classroom already presented, engaging students in problem-solving eliciting students' ideas and providing opportunities for students to increase motivation as well as build confidence in the class.

The whiteboards came into use during the late 1980s. They have a glossy-white surface for writing. Instead of chalk pencils, whiteboard pens were used to write on whiteboards. Considering the health reasons and cost-effectiveness, by 1990s most of the class rooms were replaced with whiteboards instead of blackboards (Concordia University's College of Education, 2012).

Towards the end of 2000, the high-tech options or Smart Board came into existence. It is like a dry-erase board that does not use pens to mark on it. It has a projector that puts the image on the board (Betcher 2009). Research by İstifçi (2018) indicates that data analysis to explore the effectiveness of smart board use in language learning and teaching at the School of Foreign Languages, revealed that both teachers and students found the use of smart boards effective in terms of bringing fun and variety along with better learning to the class. However, when each language skill area is considered individually, it is not rational to reach a clear-cut conclusion due to the time allocated for each session. The teachers' concerns on time constraints and training can help the teachers to lower the time allocated for material preparation and to deal with the technological problems more effectively. Similarly, Giannikas (2016) has shown that language teaching can be enhanced by effective uses of technology. Nonetheless, some teachers are reluctant to integrate technology in their practice. This initiative was not well-

received in either the public or private sector, in the context which this study was carried out, due to the fact that teachers were not provided with any training in how to use high-tech options or smart boards and include them in their teaching. High-tech options or smart boards became intimidating to the language teacher and did not serve their intended purpose in most cases. Nonetheless, there were teachers who were fascinate high-tech options or smart boards and made an effort to apply them. The outcomes of the study were that language teachers have taken charge of their professional growth and take risks in order to help learners benefit from IWBs. However, due to lack of training, teachers and students have not reached the zenith of using high-tech options or smart boards. The teacher could however never write down on the boards by either chalk or markers. The epidiascope and the overhead projectors were the results of that need.

It may be noted that the introduction of blackboard was an innovation that was well accepted by the teachers and it gained popularity across the globe. According to Harmer (2012), before spending time and money, it is necessary to examine if there are better (sometimes older, more effective and cheaper) ways of achieving the same result. Moreover, new technology could be replaced if there were enough training for using it and everyone who needs it has access to it. It is also important to make sure that there is a technical support when things go wrong.

Conclusion

The use of technology in education has come a long way since the earliest times of human civilisation. Teaching tools assist the teacher in teaching a topic and they are controlled and administered by the teacher. These tools consist of many kinds of tools starting from the basic blackboard to the most modern mobile teaching aids. The choice of teaching aid used depends fundamentally on the task to be accomplished. Hence, jumping on aids with advanced technology, teachers need to take full knowledge of the lessons from the past, considering a balance between new methods of teaching and learning while holding on to the principles of education.

Acknowledgement

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