

## Improving 13-Year-Old Students' English Vocabulary Achievement Using Interactive Whiteboard (IWB) in Jeddah, Saudi Arabia

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**Abstract:** Acquiring vocabulary is a fundamental step in learning languages. Exploring new learning strategies and tools are essential to expand learners' vocabularies. This study aims to explore the effect of learning English vocabulary using an Interactive Whiteboard (IWB) in comparison to traditional boards. The study was conducted at a male Intermediate School in Jeddah, Saudi Arabia, during the academic year 2015–2016. A six-week experimental study, including pre-testing and post-testing, was applied to two classes which were randomly selected as the treatment group and control group which included 50 students in total. The Mean, Standard Deviation and paired t-test were used to analyze and compare the results using SPSS. The results showed that there was a significant increase in students' English vocabulary achievement in the treatment group. The conclusion is that IWB provides a potential vocabulary-learning strategy. It is recommended that the additional strategy of integrating different technology into language classes be employed.

**Key words:** student learning, English vocabulary achievement, IWB, experimental study

### 1. Introduction

Vocabulary is considered to be a central factor in language learning and the main element of second language knowledge for learners as well as the foundation of English language learning (Meschyan & Hernandez, 2002). According to Mayer (2001), vocabulary plays a significant role in keeping conversation and communication smooth and understandable, therefore, people can convey their ideas and develop their four skills (listening, reading, speaking and writing). The English language has a large vocabulary bank (Crystal, 2002), and the best way to master a language is to learn as much vocabulary as one can because it is considered as the fundamental mechanism and process in achieving a better learning outcome of a new language (Schmitt, 2008).

However, nowadays, Information and Communication Technology (ICT) has become an inevitable tool in teaching and learning; one kind of ICT is the Interactive Whiteboard (IWB) (Glover, Miller, Averis & Door, 2005). Using the IWB to learn vocabulary has positive outcomes for learners because it utilizes a variety of features, which make teaching and learning easier and more interesting. BECTA (2003) defines the IWB as an instructional touch-sensitive board tool that users can connect to computers to display images onto a board (by using it to a digital projector). There has been a considerable growth in installing and using the tool in schools worldwide because of its diversity of features and functions to link between technology and pedagogy (Sedita, 2005). As a

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result, the IWB has become a common feature in many classrooms and some writers may also claim a strong link between such technology and successful educational outcomes (Glover et al., 2005). Previous research suggests that the IWB can support learning, by incorporating learners in interaction and collaboration activities, encouraging the development of a more successful learning environment (Glover et al., 2005).

## **2. Research Problem and Research Question**

The majority of Saudi teachers and students are familiar with using technology in everyday life, and it would be interesting to find out if regular use of the IWB in teaching and learning English vocabulary would improve students' vocabulary achievement. Therefore, this paper aims to determine if the IWB has a strong impact on improving students' ability to learn English vocabulary. To find out an answer, the following question was used: Are there any substantial effects of using IWB for learning English vocabulary?

## **3. Methodology**

This study was undertaken in an intermediate school with students aged thirteen in two different classrooms in Jeddah, Saudi Arabia. An experimental study was conducted in two classrooms, which were selected randomly; they comprised 25 male students in each classroom and 50 students in total. The experimental study comprised of pre- and post-tests, which were used to determine if the IWB has any effect on 13-year-old students' vocabulary achievement. A vocabulary test included 30 items of vocabulary from the English curriculum, which includes six chapters. The researcher selected five questions from each chapter at the beginning of the first term of the academic year 2015–2016 in order to do the pre-test for the two groups. Six weeks later the post-test was undertaken and the vocabulary was chosen from the six chapters. A traditional board was used in the control group and an IWB was used in the treatment (experimental) group. In the treatment group, the teacher used the IWB regularly, whereas in the control group the teacher used the whiteboard. The vocabulary achievement was checked by the pre-test and then a comparison between the vocabulary pre-test and post-test results were made to determine whether the use of the IWB had any effect on the students' vocabulary achievement or not.

## **4. Data Analysis**

To analyze the data the Statistical Package for the Social Sciences (SPSS) program was used wherein the mean, standard deviation and t-test were undertaken. To test the difference between the pre-test and post-test means of treatment and control groups, an independent group t-test was used. After collecting the data, they were entered into SPSS for statistical analysis. Mean, Standard Deviation (SD), Paired t-test (T) and Significance (Sig) were used for comparing and contrasting the treatment group's achievements in the vocabulary pre-test and post-test.

## **5. Findings**

**Table 1 Mean and SD for Comparing and Contrasting the Two Groups' Vocabulary Achievement**

No.	Group	Mean	Standard Deviation (SD)
1	Control Group/Pre-test	13.02	3.02
	Control Group/Post-test	13.70	3.50
2	Treatment Group/Pre-test	13.70	5.27
	Treatment Group/Post-test	14.96	5.00

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The means of the two groups, as shown in Table 1 above, had increased. The pre-test of the control group (using a traditional board) was 13.02 compared to the post-test score of 13.70, whilst the mean scores of the pre-test of the treatment group (using the IWB) was 13.70 in comparison to the post-test score 14.96. With regards to the SD, the post-test score of the control group (3.50) was higher than that in the pre-test score (3.02). Conversely, the SD of the post-test score in the treatment group (5.00) was lower than that in the pre-test score (5.27). Based on the results above, the vocabulary achievement had improved in the two groups. These results were in agreement with Bakadam & Asiri's (2012), Hüseyin's (2014), and Türel & Johnson's (2012) findings which showed that the use of IWB had a considerable influence on improving learning when it was used wisely and adequately.

A possible explanation for this study's findings might be that the two teachers delivered the lessons appropriately and had good teaching vocabulary strategies. Another possible explanation for this might be that the teacher who taught in the treatment group generated and applied varying teaching vocabulary techniques by using the different features of the IWB. These findings indicated convincing evidence that the IWB could be a useful means to generate better learning and to scaffold vocabulary achievement especially when teachers are competent in ICT skills, and are able to produce myriad teaching strategies.

**Table 2 Paired t-test for Comparing the Control and Treatment Groups' Vocabulary Achievement**

Group	Mean	SD	T	Sig.
Control Group Pre-test/post-test	-.63	1.56	-2.218	.036
Treatment Group Pre-test/post-test	-1.06	4.75	-7.05	.000

Standard Deviation (SD), Paired t-test (T) and Significance (Sig)

Table 2 showed the results of the significance of the progress of the vocabulary achievement and the two paired tests were used to determine whether there were statistically significant results between the two groups. The results of the two groups, as shown in Table 2 above, indicated that there was a significant score regarding the difference between the vocabulary achievement of the control group in the pre-test and post-test (.036 < 0.05). In the same way, the difference between the pre-test and the post-test of the treatment group in terms of vocabulary achievement was significant (.000 < 0.05). In terms of Table 1, the treatment group gained more vocabulary in the post-test than the control group which showed a significant progress regarding vocabulary achievement, as shown in the mean difference. However, there was progress in the means of the treatment and control group with regards to the post-test (14.96 vs. 13.70) respectively. In the same way, the mean of the pre-test in the treatment group was 13.02 while the mean of the post-test was 13.70. What was surprising was that the SD of the post-test in the control group was lower than that in the pre-test score (3.50 vs. 3.02 respectively).

The two groups showed a similar improvement in vocabulary achievement. Even though the treatment and control groups showed a significant improvement, the treatment group made more progress than the control group. These findings were in line with those of previous studies such as Cuthell (2005), Hall & Higgins (2005) and Katwibun (2014), which all showed that the IWB provided more teaching and learning support that results in improved educational outcomes. It would seem possible that these results might be due to a high level of English ability across most of the students and due to the teachers being above average. A note of caution is necessary here, since the study was undertaken over six weeks it could be argued that the positive results cannot be generalized and are limited to short-time periods.

## 6. Conclusion

The present study was designed to determine the effect of using IWB to deliver better vocabulary achievement compared to the traditional whiteboard at a Saudi male intermediate school in Jeddah, Saudi Arabia. The results of the study showed that the treatment and control groups made progress in the post-test but that the former showed a significant progress due to the mean scores. The study showed that the IWB was a useful tool to improve students' vocabulary and that it helped them acquire vocabulary more easily than those students who had been taught using traditional ways.

In addition, the study offered some important insights into the usefulness of using IWB in learning vocabulary and how they were useful for improving vocabulary thanks to their wide range of features and functions. The findings of this study provided further research needs for future; this research should be conducted with all educational levels and ages, and the duration of the study should be no less than ten weeks in order to get more valuable data. Considerably more work will need to be done to determine if an additional strategy of integrating different technology into language classes be employed.

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