

# The Effectiveness of Using Smart Board Technology in Teaching English as a Foreign Language to Preparatory Year Students at Tabuk University

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**Abstract:** The goal of this research is to investigate the contribution of using smart board technology in teaching English as a foreign language to preparatory year students at a university in Saudi Arabia. In order to achieve the objectives of the study, the researcher used a multiple choice test comprising of 20 items, as well as a questionnaire covering different areas. The sample of the study included 36 preparatory year students, selected randomly, from a Saudi university. The participants of the study were distributed over the control and experimental groups randomly. The experimental group was taught English using the smart board, whilst the control group was taught using conventional methods. Pre-and post questionnaires were distributed to the experimental and control groups after teaching the tenses. The findings of the study showed that there is a statistical significance level of (0,05) for the mean scores on the achievement tests, in favour of the experimental group who were taught using the smart board. Also, the findings of the study showed that the use of the smart board resulted in a statistical significance level of (0,05) in the improvement of preparatory year students' attitudes toward English. Hence, this research recommends that smart boards be used in teaching all subjects because of the positive effect it has on both student achievement scores and the improvement of student attitudes toward English.

**Keywords:** Smart Board, Achievement, Attitudes, English as a Foreign Language

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## 1. Introduction

Recent advances in many different fields have significantly impacted on teaching, particularly in terms of the application and use of technology and communication (Al Qusaibi, 2009). This have rendered conventional methods, which formed the basis of teaching at secondary school level, inadequate in getting students involved and engaged in their education. These methods were highly dependent on rote learning and focused basically on the theoretical aspects rather than the practical ones. This was seen as being insufficient in teaching English, particularly to beginner and elementary learners, who depended mainly on both the practical and theoretical aspects of language learning (Abdulhadi, 2003).

In light of the above, students were compelled to seek out other sources of learning and education due to the inadequacies of above mentioned rote learning curricula. Rote

learning has been proven to be an inappropriate method for improving students' critical thinking and creative skills.

According to Abdulhadi (2003), the current educational system has become extremely dependent on computers, mainly due to advances that have revolutionised the field of humanities. Depending merely on computers as the only teaching method is not adequate. It should be used in conjunction with current teaching methods, as well as utilize computerized programs that suit the specific educational level of the student. Based on this, the need for developing state-of-the-art technological programs, that meet the demands of all disciplines in general and English in particular, have become a necessity.

It is well known that all current algorithms and programs, which depend mainly on multimedia, are the basis of the teaching process. Consequently, scientists and educationists should pay more attention to these aspects at educational institutes, considering that modern teaching methods are student oriented that help students to be active participants in

their own learning. These methods provide the students with the opportunity to have a greater say in the process of both gaining knowledge and acquiring creative thinking skills (Al Qusaibi, 2009).

Furthermore, Abulenain (2011) states that the focus on information technology at educational institutes, whether schools or universities, has become the concern of every learner due to its positive effect on the learning process. The effective use of information technology thus leads to improved teaching and learning, as well as the enhancement of students' critical thinking skills and creativity. Abulenain (2011) adds that, one of the most important educational technologies used in the classroom is the "Smart Board". Smart boards have a lot of useful features which make them different from other educational technologies and thus suitable for different subjects, particularly English.

This century has witnessed great advances in the field of education, particularly in the area of English language learning, which has become an essential skill in coping with the demands and challenges of this day and age (Thatha, 1999). According to Al Rasheed (2007) the main goal of education is development and growth. Education is not regarded as a preparation stage for life, it is life itself. That is, with the fast development of internet, it is essential to improve and advance education, training programs and learners' skills. This is why many countries around the world have called for the intensification of efforts to connect all academic institutions through internet and web-sites technology.

For example, countries like USA and China observed an excessive growth in e-learning programmes at both universities and schools levels (Al Far, 2002). As far as internet and computer use are concerned in education in the Middle East, Al Rasheed (2007) argues that there are diverse international initiatives to encourage these countries to integrate computer and e-Learning in the education sector. An example of this is the United Nations Development Program which was initiated to facilitate Arab countries by bringing about development in their computer mediated learning systems to attain growth. Likewise, the Egyptian Minister of Education emphasized that e-Learning and computer mediated programs would be used to meet the demands of the country in terms of making education more advanced and up to date (Al Far, 2002). However, e-Learning and computer mediated educational programs have developed into one of the most significant topics of debate in the educational profession (Al Rasheed, 2007).

The operational definition and the educational policy of e-Learning and computer mediated programs may vary from one place to another. e-Learning and computers will not just be providing new technology for learning and teaching, but it will also offer a modern method of learning which requires specific standards. For example, the preparation and training of the academic staff and making them aware of e-Learning and computer based programs through orienting them about the concepts and prospective advantages of its use (Al Mugheera, 1997).

## 2. Literature Review

Research on technology collaboration in English Language Teaching (ELT) has been carried out in international contexts (e.g., Arkoudis, 2003, 2006; Creese, 2005, 2006; Davison, 2006; Gardner, 2006; York-Barr et al., 2007), and one central argument in the discussion of technology collaboration in ELT is the belief that the collaboration between native English speaking teachers (NESTs) and non-native English speaking teachers (NNESTs) might make a unique contribution to English language education.

Many researchers and educationists emphasize the need for changing and modifying the teaching curriculum in order to meet the demands of the current technological era, as well as the needs of the learners. However, there is not any specific agreement between these scholars and educationists over the nature and amount of changes that should be made. Introducing changes and modifications of the current teaching and learning materials is seen by many parents and academics as a new challenge to overcome in this technological age.

This suggests that bringing about modifications in the teaching materials through the use and application of computers in education is the only way to cope with ever changing and constant improvements in the field. Thus, the use of computers in education is one of the up-to-date ways that ensures progress and development of the learner, not only in the field of humanities but even in the science fields (AlRwadia, 2011). Previous research and past literature found that computer based education is far better and more developed as compared to conventional teaching methods (Al Far, 2002).

Due to the fast pace of development in network technologies, new terminology has been introduced to e-Learning such as: Web-Based Learning: WBL, Web-Based Instruction-WBI, Web-Based Training-WBT, Internet-Based Training-IBT, Distributed Learning-DL, Advanced Distributed Learning- ADL, On-line Learning-OL, Mobile or m-Learning, Nomadic Learning, Remote Learning, Off-site learning, and a-learning: anytime, anyplace, anywhere learning (Al Far, 2002). Furthermore, Al Rasheed (2007) argues that e-Learning consists of the following terms: *distance education, distance teaching, distance learning, online learning, online education, web-enabled education, distributed learning*. Also, terms like *electronic-learning* are used at the present time.

It generally refers to the effective integration of a range of support to traditional teaching and learning which can be utilized in halls of universities, from home and at the work place, thus not limited to one place. With regards to these definitions, it can be proposed that there are many definitions of e-Learning and the most common feature is that it is a type of teaching method that implements the mechanisms of modern communication, computer networks, multiple modes of voice and picture, drawings, and electronic libraries, as well as internet portals, either remote or in the classroom.

Moreover, Sykes (2013: 34) suggests, 'integration can

include, for example, the use of game content as pre-writing content for a writing task or as an impetus for a classroom debate'. Digital games offer learners a lot of benefits, but too many games especially violence games can be problematic. Characters, game narratives, context of play are very beneficial for the second language learners. It is supported by communication technology such as television, videotape, computers, e-mail, and mail. It relies upon the Internet /World Wide Web. It can be both informal and formal and can be used for teaching and professional development via any electronic methods, and thus not limited to the internet, CD-Rom, videotape, and DVD. Therefore, e-Learning enables students to learn whenever and wherever they want. Moreover, Houcine (2011: 1) suggests that "the effective use of the Internet and the Hypermedia brings valuable resources to both teachers and learners". It provides access to the teaching materials at the learners' convenience. Based on the above it is thus important to explore the potential advantages of e-Learning in detail.

E-learning is very helpful for both learners and teachers. It can provide beginners with the necessary skills to read texts, explore pictures, listen to explanations and even interact with the teachers. For instance, using e-learning can help learners memorize 10% of the information taught within a classroom and 20% to 40 % of what they see or listen to (Guckel and Ziemer, 2002).

### 3. Statement of Problem

The role of preparatory year teachers has changed, where knowledge and information technology is concerned. The focus now is on providing the student with the opportunity to participate in the learning process (Guckel and Ziemer, 2002). Furthermore, the focus is also on getting students to become independent learners by equipping them with the necessary skills to utilize and apply multimedia and communication technology in the learning process. In addition, information technology provides students with the necessary self-search skills needed to successfully obtain information on the web (Al Rewadia, 2011).

It has thus become necessary to use modern teaching methods in order to achieve the educational objective of improving and enhancing conventional educational techniques practiced in the preparatory year. This should be the primary goal, not mainly focusing on academic achievements. Also, using state-of-the-art multimedia and modern teaching techniques should help the teacher improvise the natural teaching-learning process. That is, changing the quality of education through the use of multimedia and modern teaching techniques such as smart board (Al Rasheed, 2007). However, students studying English as a foreign language in the preparatory year face difficulties when they attempt to use multimedia in the process of language learning such as smart board. That is, they do not possess the ability and skills to use and implement smart board to learn English as a foreign language. The main problems with English students in Saudi are those associated with students' inability to use and

implement smart board effectively when attempting to interact with the lessons or the teacher.

## 4. Research Questions

In order to achieve the objectives of the research, this study addresses the following research questions:

Q1: What is the effect of using a smart board on teaching English as a foreign language to preparatory year students?

Q2: Does the use of smart boards in the classroom effect the of students' attitudes and perceptions of learning English as a foreign language?

## 5. Objectives

This research is to investigate the effectiveness of using smart board technology in teaching English as a foreign language to preparatory year students at a Saudi university.

## 6. Research Methods and Procedures

The data was generated from questionnaires completed by 36 male students of the preparatory year at a university in Saudi Arabia. The researcher used random sample procedures in the selection process of the participants. The study comprised of 36 male students randomly divided into two groups (the control and experimental groups). The researcher was a teacher at this particular university and is thus well familiar with the students' backgrounds. The selection of the preparatory year students was motivated by the fact that some of them had used smart boards during their university days. All the students selected for the study were bilingual, knowing both English and Arabic language.

Preparatory year students at the universities generally come from different cities and towns in Saudi Arabia. The population represents almost all of the existing socio-economic classes in the country, since students' social-class background has a profound effect on students' performance. The students are all male ranging in age from 18-19 years old. They are also homogenous with regard to nationality, native language (Arabic), language proficiency and educational background. This is a quasi-experimental study. It included two groups, the experimental and control groups. The participants in the groups were selected randomly. The control group was taught using conventional methods of teaching English and the experimental group was taught using the smart board.

In order to achieve reliability and validity of the research study, it was necessary to use a quasi-experimental approach. The approach is relevant to the objectives of this research. This approach is used to exclusively investigate the effectiveness of using smart boards by elementary students studying in the preparatory year at a Saudi university. The researcher used two research methods, namely:

- a) An Active Inspire
- b) A Questionnaire Survey.

Some percentages were placed to learn EFL with

appropriate consideration to the achievement of the following: The researcher conducted an achievement test including the periodic table unit selected from the English book for preparatory year students (American Curriculum). The test included a number of multiple choice items, consisting of 25 items and paragraphs. The test was judged by a panel of experts who are specialized in the area in order to achieve the validity and reliability of the test. Some modifications and changes were made based on the panel's decision, namely to minimize the number of items in the test to 20 paragraphs. The objective of this test was to achieve the following to measure the difference in the achievement test for both the experimental and control groups in the English as a foreign language.

In order to achieve the objectives of the research study, the researcher designed a questionnaire including 15 items. The questionnaire items were validated by the judgment panel after the above mentioned modifications were made and applied. The final version of the questionnaire consisted of 12 paragraphs divided into four subjects. The researcher followed a number of procedures to carry out the achievement test, namely: The sample of the study was selected intentionally and randomly

divided into a control group and experimental group. The two groups were taught using the educational program 'Active Inspire' smart board. Thereafter, an achievement test was conducted and the statistical analyses of the participants responses. In conjunction with the achievement test, the researcher conducted a survey using questionnaires presented to the participants. The questionnaires were distributed to the two groups to find out the similarities and differences between them.

After having taught the tenses to the experimental and control groups, the post-questionnaire was distributed to the participants. Thereafter, the researcher conducted the statistical analyses. The researcher analyzed the elicited data using SPSS (Statistical Package for Social Sciences) program.

## 7. Discussion and Findings

The findings of the first hypothesis showed that there are no statistically individual differences at (0,05) level due to the use of interactive board. In this regard, the findings of the analysis of the independent t.test are discussed as follow in Table 1.1 below:

**Table 1.** *The Findings of the T. Test Differences between the Control and Experimental Groups.*

Groups	Mean	Standard Deviation	The Difference between the Two Groups		T. Test Value	T. Test Periodic Value	Temperature	Level
Control	14.1	5.18	Mean	Standard Deviation	3.08	2.03	34	0.000
Experimental	18.1	1.81	4	3.37				

As illustrated in Table 1.1 above, the findings of the tests showed that the means of the results for the experimental group was 18.1 with a standard deviation of 1.81. The means for control group was 14.1 with a standard deviation of 5.18. Also, the findings indicated that the statistical difference for the two means of the experimental and control group is 4 and the difference for the standard deviations of the two groups is 3.37 at level (0.05) . Consequently, the t-test value was 3.08 at level (0.00) and the t-test periodic value was 2.03. This supports the results to be in favor of the experimental group. As a result, the researcher rejects the null-hypothesis category and takes the substitute in which there is a statistical difference at 0.05 in the achievement scores of the students.

In order to test the second hypothesis which states that there is no statistical difference in the attitudes of preparatory year students towards English, subject to 0.05, the researcher concluded the means and standard deviations for the items of

the questionnaire as depicted in Table 1.1 and 1.2 in the next section. The findings illustrated in Tables: 1.1 and 1.2 shows that the mean values of the experimental group's responses to the questionnaire ranges from between 1.6 to 1, whilst, with the control group, it ranges from between 2.61 to 1.3 with a standard deviation value of 0.94-0.51. The experimental group's standard deviation values ranged between 0.69 - 0. This indicates that there is a statistical difference and effect brought about by the use of smart boards, on improving the attitudes of preparatory year students towards studying English. Also, the t. test independent findings showed that there is an effect because the t. test value was 3.08 at level 0.00. This confirms the rejection of the null-hypothesis and accepting the substitute which states that "there is an effect with statistical differences in improving the attitudes of English students to use the smart board.

**Table 2.** *Attitude Toward English Lessons Scale for the Experimental Group.*

Standard Deviation	mean	Item	Subscale Item
Like English theory lessons			
0.69	1.61	I like English more than any other university subject.	Section 1
0.47	1.11	English lessons are interesting.	
0	1	English is one of my favorite subjects.	
Like English laboratory work			
0.47	1.11	I like to do English lab activities.	Section 2
0.51	1.16	When I am working in the English lab, I feel I am doing something important.	
0.23	1.05	Conducting English experiments in university is fun.	

Standard Deviation	mean	Item	Subscale Item
Evaluative beliefs about university English			
0.46	1.27	English is useful for solving everyday problems	Section 3
0.23	1.05	People must understand English because it affects their lives	
0	1	English is one of the most important subjects for people to study	
Behavioral tendencies to learn English			
0.68	1.66	I am willing to spend more time reading English books	Section 4
0.51	1.66	I like trying to solve new problems in English	
0.57	1.27	If I had a chance, I would do a project in English	

Table 3. Attitude Towards English Lessons Scale for the Control Group.

Standard Deviation	Mean	Item	Subscale Item
Like English theory lessons			
0.70	2.5	I like English more than any other university subject.	Section 1
0.94	1.78	English lessons are interesting.	
0.80	2.22	English is one of my favorite subjects.	
Like English laboratory work			
0.51	1.16	I like to do English experiments.	Section 2
0.77	1.38	When I am working in the English lab, I feel I am doing something important.	
0.78	1.44	Conducting English experiments in university is fun.	
Evaluative beliefs about university English			
0.75	2.11	university is useful for solving everyday problems	Section 3
0.84	1.61	People must understand English because it affects their lives	
0.90	1.88	English is one of the most important subjects for people to study	
Behavioral tendencies to learn English			
0.60	2.61	I am willing to spend more time reading English books	Section 4
0.93	1.94	I like trying to solve new problems faced in English	
0.90	1.66	If I had a chance, I would do a project in English	

## 8. Conclusion

The findings of the first research hypothesis showed that there are statistical differences in the achievement test scores of preparatory year students in favor of the experimental group who were taught the periodic table in the English (the American Curriculum), using a smart board. This shows that the use of smart board increases the achievement scores of students as demonstrated by the experimental group who achieved better scores as opposed to the control group students. Also, the findings showed that the students were less tense during their test when using the smart board. This may be as a result of the audio-visual feature of smart boards, which stimulates interest and facilitates recalling information. To be more specific, English is a colorful and visual subject and the use of smart boards helps the students interact with the material in a real life manner. It also helps the teachers save time, effort and space, by making use of the smart boards' video features.

The findings of the second research hypothesis indicated that the use of smart boards does affect preparatory year students' attitudes towards learning English. It also showed that there are differences in the responses of the students to the questionnaire items in favor of the experimental group. The researcher deduced these differences by comparing the means of both the control and the experimental groups, taking into account the standard deviations related to the questionnaire items. This was also confirmed by the

findings of the independent t.test. This may be due to the use of the smart board and its effect in attracting the students by facilitating the learning process through the use of its audio-visual features and ability to freely move around in the classroom. This study recommends that further research be conducted in this filed.

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