The Influence of Using Interactive Whiteboard on Writings of EFL Students Regarding Adverbs

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Abstract

Since the beginning of teaching English as a foreign language, teaching writing was one of the fields which have been neglected. Mainly traditional approaches are used to teach writing to students in EFL classes. Assessment of their writing showed students had different problems in their writing. One of these crucial problems is the use of adverbs in their writings. The current study wants to determine the influence of using Interactive Whiteboards in teaching writing to EFL students and how it affects on the use of adverbs in their writing. In the other words, the study is a comparison of traditional approaches regarding teaching adverbs and using them in writing versus using CALL devices in teaching adverbs and their use in writing. 80 EFL male students in Iranian Secondary schools comprised the study group which ranged from 12 to 16 years old. They were divided in two groups. A two-phase mixed-method research design was utilized to collect data. First, a traditional approach was applied to study group for teaching adverbs. Then, an Interactive Whiteboard was used for teaching adverbs. Then, the writings of students in both phases were examined in order to understand how much they used adverbs in their writing correctly. The findings of the study indicated students used the adverbs more accurately in their writing when Interactive Whiteboard was used to teach.

Keywords: Interactive Whiteboard; Secondary school; CALL; EFL class

1. Introduction

Technology has brought considerable changes to almost every aspect of people’s lives, including education. Technology has been the undeniable part of education. With the advent of computer, there could be no...
computer-assisted teaching and learning without it. Many innovations of the digital devices—CDs, DVDs, internet—continue to have an effect, both on the way people lead their lives and on the way educators try to teach language.

Technology has a crucial influence on the life and education of children. Since information technologies have permeated the lives of children, is apparent that information computer technology should be an integral part of learning in contemporary schools (Yelland, 2008). Using traditional blackboards as teaching media is no longer suitable for children growing up with computer (Yang, Wang & Kao, 2012). Furthermore, the use of computer-assisted language learning (CALL) devices has been identified to be more motivating and effective in language teaching and learning. (Aydinli & Elaziz, 2010). Email, websites, blogs, podcasts, the Interactive Whiteboards (IWBs) are some of the examples of CALL applications which are being used in educational systems and more specifically in language learning area. In recent years the use of CALL devices is growing worldwide and they have an important position in classrooms in both universities and schools. A recent technology in the realm of education is Interactive White Board (IWB).

IWB is a touch-sensitive presentation device that is used in connection with a computer and a digital projector. The computer images are displayed on the board by digital projector, where they can be seen and manipulated via touching the board, either with your finger, or with an electronic pen/stylus (Schimid, 2006).

Researchers who investigated the field were mostly interested in benefits and drawbacks of IWB. There is a rich literature on the advantages and disadvantages of using IWB in educational context (schmid, 2008). Many of the papers focus on the attitudes of both teachers and students towards the use of this advanced technology in classroom. (Tataroglu & rduran, 2010.). Pedagogical uses of IWB have been studied by expert in the fields of mathematic, physics, etc. However, empirical based research that investigated the use of IWB in teaching English to students and examining its impact is slender.

1.1. Advantages and disadvantages

There are numerous studies that investigated the advantages and disadvantages of Interactive Whiteboard technology from the view point of teachers and students. For example, a research was conducted in Romania by F.Paragina; S.Paragina and Jipa (2010). The method used in the study was a survey of opinion of 28 teachers through open-ended questions. The findings of the research indicated that advantages were more outstanding than disadvantages. 93 %( 27) of those who completed the questions felt that the use of smart board has lead to better training course.

In a study that Gursul and Tomaz (2010) did in order to collect information about teachers’ opinion on the advantages and disadvantages of using smart boards,20 teachers opinion were collected through questionnaire and face-to-face interviews. The results showed that the most important advantages of Interactive Whiteboard are drawing students’ attention by increasing the visuality and providing students with opportunity for active participation. Technical problems and the time spent to prepare the IWB are among the most important disadvantages of IWBs.

In their study, Turel and Demirli (2010), conducted the research examining the design and developmental process of instructional material that can be used via IWB in terms of three important aspects. 80 instructional designers participated in the design project. Materials were developed for various disciplines such as medicine, mathematic. The results of the study revealed that designer benefits from different various teaching methods and techniques either alone or combined with others while designing their IWB-materials.

Another study was done by Euline cutrim Schmid (2008), who discussed some perceived pedagogical benefits of adopting a multimedia-oriented approach in the IWB-based classroom. The study was conducted within an interpretative research paradigm, and data were collected and analysed according to a qualitative approach. The research findings showed that the students perceived the use of multimedia in the IWB technology-based classroom
as facilitating in their language learning. The study mentions improving attention and participation, enhanced motivation and facilitation of learning as the benefits of multimedia use. Also it considers points like students feeling of overwhelmed and teachers’ use of hyperlinks as some of the pedagogical challenges of multimedia.

The other study which is a white paper of SMART Technologies Inc (2004) reports the ways in which Interactive Whiteboards affect learning. They raise the level of student engagement in a classroom, motivate students and promote enthusiasm for learning. The findings of the study show IWB enables effective student retention and review in the following ways: 1) lessons are more memorable because students are more engaged and motivated. 2) several different learning styles are accommodated when learning is delivered with an Interactive Whiteboard. 3) Notes generated on an Interactive Whiteboard can be printed or e-mailed for distribution after class.

1.2. Attitudes and views towards the IWBs

Mostly the papers clear out some of the attitudes and views of both teachers and students towards the use and introduction of the Interactive Whiteboard technology to the learning classrooms, as in the study which was done by Piroska Biro (2011), he presents the opinions of 618 students in connection with the new device. Based on their positive reaction the students appreciate the new equipment since it makes the lesson more interesting, more enjoyable, more fun and easier to understand the material. Also they are more motivated since they will search for information on the internet and internet helps them to enjoy the process of learning. Based on their negative reactions students complain about technical problems when the IWB is not working properly and they mentioned the inadequate skills of teachers to use the IWB as another problem related to the use of IWB technology.

Almost the same study was done with Iranian high-school students by Mehrak Rahimi and S. Fatemeh Hosseini K. (2011). In their study they assess Iranian high-school students’ attitudes towards learning English as a foreign language in CALL environment before and after experiencing some computer-based activities. The findings revealed that students had moderate positive attitudes towards CALL. This was improved after the experiment generally under the influence of computer-based instruction.

Berna Tataroglu and Ayten Erduran determine attitudes and evaluated the views of 10th grade students towards Interactive Whiteboards in mathematic classes under their study (2010). 60 students of the public school covered their lessons using IWB for 5 weeks were the participants. The results of the study showed that at the end of study students’ attitudes towards the use of IWB in mathematic classes was at a medium level and the students saw the IWB as a tool which increases their interest and facilitate learning.

The story of determining attitudes of the students continue within the reviews as we face the paper of Julie Mathews Aydinli and Fatih Elaziz (2010) in the use of Interactive Whiteboards in EFL classroom. They explored the attitudes of students and teachers towards the use of IWBs in a foreign language teaching and learning context in Turkey. 458 students and 82 teachers were participants of the study. The findings of the study showed that both students and teachers have generally positive attitudes toward the use of IWBs in language instruction and are aware of the potential uses of this technology.

In a study Yang, wang and kao (2010) studied how IWB effects student learning effectiveness and their perception towards learning environment. 113 elementary school 6th grade students participated in this research. The results indicated that students in the IWB group learn more effectively than traditional group. Also students in IWB group have more positive attitudes towards learning environment.

Sue Hodge and Bill Anderson (2007) did a study to explore the impact of introducing Interactive Whiteboard technology to a primary school classroom. They used a qualitative methodology for gathering data. The findings of the study showed that introduction of IWB improved engagement and motivation in the students. Also it was shown that the need to control the IWB forced the teacher to investigate ways in which her teaching would
enable students’ use.

1.3. The pedagogical use of IWB in classroom

By examining different papers and studies we find a change in the purpose of the studies which was done in relation to the IWB use in the classroom.

According to Robyn Zevenbergen and Steve Lerman (2008) who focuses on learning environments using Interactive Whiteboards in their study in classrooms which were equipped with IWB technology, the teachers used a restricted approach in their use of IWBs and IWBs were mostly used for quick introduction to lessons and whole class teaching. As the results of the study showed, teachers advance preparation for using the IWB, will not deviate their planning in response to pupils' need.

Albaaly and Higgins (2012) investigate the impact of the IWBs on Egyptian medical students’ achievement in essay writing in English as a second language. A pre-pos essay writing test was developed to assess the impact of the module in both experiment and traditional groups. The results of this study showed that experimental group could get no additional benefit from the use of IWB.

Harlow, Cowie and Heazlewood study (2010) investigated the features of using IWB supported teaching actions and provided potential for developing children “key competency”. Participants were young children ages five to six years. The findings of the study shows that IWB feature allow children to make sense of concept in different way.

In a case study of a teacher that was conducted by Mohon (2008), he investigated how teacher’s pedagogy changes through the use of IWB. A teacher’s experiences recorded in a reflective journal, and the responses of students as recorded in a questionnaire, we set within the context of rhetoric about the value of IWBs. The study concluded that if teacher use appropriate strategy to achieve given object, the change will emerge.

In another study Omer Faruk Sozcu and Ismail Ipek (2012) defined basic dimensions with a framework for using Interactive Whiteboards. The paper defined instructional-pedagogical, psychological and technological approaches as the most important one for the framework. Students attitudes regarding psychological approaches was positive and they mentioned it as interesting and exciting whereas technological approaches they defined it as difficult to use IWB in this approach. Also students believed that it was easy to understand the lessons in an Instructional-pedagogical approach.

1.4. IWB in realm of teaching English language

Campbell and Mechling (2009) used smart board to teach sounds of letter to 3 disable students. In their study they used observational learning to evaluate the effectiveness of program. Their findings indicated that program was effective in teaching letter sounds to 3 students.

Sheena Martin in her study (2007) tries to investigate the use of Interactive Whiteboard technology and interactive talking books in whole-class writing lessons in primary school. The resulting evidence suggests that while some children benefited from the approach, teaching children through examination of professional models of writing in whole class lesson didn't promote the most effective learning even where the text was provided in such an interactive medium. Also Persuasive writing showed greater improvement but on both occasions the writing reflected the abilities of the selected group rather than the apparent impact of intervention. Sheena Martin then refers to some of the advantages of IWB which were reported by the class like: 1) The whiteboard lessons help students to pay attention.2) The pictures on the screen help students to understand and 3) the sounds helps them to understand the lesson.

Regarding the necessity of using IWBs in teaching language skills and the large gap which exists in using
IWBs for teaching language skills in an empirical way, the main focus of this paper is to compare two ways of teaching adverbs to EFL students in secondary school and to examine their effects on students writing. First way is to use traditional way and the second way is to employ IWB.

The focus of whiteboard in this paper is mainly in its function as a tool for teaching writing in Secondary students regarding the use of adverbs. The paper specifically focuses on the following research questions:
1) How much students do use adverbs correctly in their writing when using traditional method to teach?
2) How much students do use adverbs correctly in their writing when using IWB to teach?

2. Methodology

2.1. Participants

Participants in this study were an intact group of 80 Iranian male students, in third grade of secondary school, attending English class at their official school which was part of their school curriculum. Students were between 12-14 years old. The school was located in Qarchak, Tehran, Iran. In an attempt to control outside exposure to target language, students were given an open-ended questionnaire which was written in their mother tongue, Farsi. The data from those who reported having access to target language outside the classroom, were discarded.

2.2. Instruments

In order to control some of the external variables in relation to the study we designed an open-ended questionnaire in students’ native language to find some pedagogical and external information of the participants. This primary questionnaire contains 12 items which tries to examine the necessary information of the participants in order to control the external factors and to improve the internal validity of the study. Item 1-3 is about the full name and background of the students study at school. Providing some basic information regarding previous experience of participants about the English language learning is served in items 4-7. Based on items 8-10, we asked some questions about the family and relatives of the participants whether they have some back ground knowledge or not. Questions 11 and 12 are seeking the information about the ways in which participants improve their English language knowledge.

Besides a pre-test containing of 50 production-based questions was administered to participants both in traditional group and the IWB group one week before the main treatment. The test contained questions about adverbs of Frequency, adverbs of manner, adverbs of time and adverbs of place in which students were going to be taught. The questions were simplified version of some KET test which was administered by Cambridge University. This was done in order to get a clear idea of the current English knowledge of students regarding these adverbs. The results were used in order to be analyzed and discussed in next phases of the study.

Also a post-test was administered to both traditional and IWB group one week after the treatment. The test contained 60 production-based English test covering adverbs of English language which was designed like pre-test based on KET English test. It was done for the sake of identifying the students’ perception of the adverbs after the teaching sessions. All items in two tests were analyzed using the Statistical Package for Social Sciences (SPSS) and basic descriptive statistics were calculated.

The Interactive Whiteboard (IWB) was the necessary instrument for the treatment group which was used to examine its effect on students writing regarding adverbs. The device has the ability of transmitting both sounds and pictures via the integration of computer and video projector. The capability of manipulation of the pictures and text is a feature of IWB which help planning and organizing the presented material.

A web site containing the activities and tasks related to the adverbs of English language was used during teaching in order to make students more familiar with some writing exercises regarding adverbs which were on-line
and they gave immediate feedback to the students.

2.3. Procedure and treatment

2.3.1. Linguistic target

All of students were exposed to the grammatical point of adverbs including adverb of frequency, time, place, and manner.

2.3.2. Procedure of the study

The experimental sequence of the study was carried out around the period of five months. 80 secondary school male students in third grade comprised the study group. Students were taught in two ways, once all students were in traditional blackboard method which is the control group (CG), after the lapse of four months (a semester), IWB was used to teach adverbs to students in treatment group (TG). One week prior to the first training session in CG group, all participants took a pre-test which consist of items designed to elicit grammatical rule in focus in order to assess the learners background knowledge of such forms or adverbs. Then, students were taught in traditional blackboard method for a period of 4 sessions. For instance, adverb of time in one session, adverb of places another session. After instructor’s explanations about the grammatical topic, the learners completed exercises in their books or completed extra exercises that were written on the blackboard by instructor. A post-test followed the teaching session a week later. It is consists of questions about adverbs of English language which students were taught during the four sessions. The post-test was designed in order to examine how much students have learned the grammatical points and rules.

Four months (a semester) lapsed after the traditional phase of study. Participants were given a pre-test again one week before the beginning of treatment. Again the pre-test contained items designed to examine the students’ background of the grammatical point which was in focus. Then adverbs were taught to students in treatment group. Adverbs were taught using PowerPoint slides, animations and more importantly, features of IWB were employed. For the purpose of practicing the relevant grammatical point, a website that was found relevant prior to the treatment was used. Then one week after the treatment sessions a post-test was run in order to determine the effect of using the IWB on students’ writing. The items of the post-test were in relation with the use of adverbs of English language in the writing of students.

3. Results

3.1. Pre-test of the study

The pre-test was given to students to make sure that students enjoy the same level of knowledge regarding the grammatical point under investigation. Table 1 shows the descriptive statistic of the participants’ mean scores on the pre-tests.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG Pre.test</td>
<td>6.82</td>
<td>80</td>
<td>2.209</td>
<td>.247</td>
</tr>
<tr>
<td>TG Pre.test</td>
<td>7.02</td>
<td>80</td>
<td>2.321</td>
<td>.260</td>
</tr>
</tbody>
</table>

It can be seen that the mean scores for two pre-tests are statistically very close (CG: 6.82; TG: 7.02). Therefore, it can be concluded that learners knowledge did not differ greatly. The second pre-test was given to students after 4 months to see how much students remember the adverbs from their previous session. Comparison of
two means indicated that means did not differ greatly, in fact, interval was effective.

3.2. Research question 1

The first research question asked how much students use adverbs correctly in their writing when using traditional method to teach. To investigate this, a paired-sample T-test was run. The T-test was intended to compare the obtained mean scores of participant in the CG on the pre-test and post-test to indicate the effectiveness of treatment. The descriptive statistic, along with the result of the t-test for CG, is presented in table (2):

Paired Samples Statistics Table (2)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pre.1</td>
<td>6.82</td>
<td>80</td>
<td>2.209</td>
<td>.247</td>
</tr>
<tr>
<td>post</td>
<td>9.52</td>
<td>80</td>
<td>4.349</td>
<td>.486</td>
</tr>
</tbody>
</table>

It is significant that the mean scores of students in post-test (9.52) have improved and students showed that they have developed using adverbs in their writings in Traditional approach.

3.3. Research question 2

The second research question asked how much students use adverbs correctly in their writing when IWB was used to teach. The same procedure which was done for first question was run for the second question. The pre-test and post-test were compared in treatment group. Table (3) provided the results.

Paired Samples Statistics Table (3)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
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</thead>
<tbody>
<tr>
<td>TG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pre.2</td>
<td>7.02</td>
<td>80</td>
<td>2.321</td>
<td>.260</td>
</tr>
<tr>
<td>post</td>
<td>14.66</td>
<td>80</td>
<td>3.254</td>
<td>.364</td>
</tr>
</tbody>
</table>

By a closer inspection of table (3), one can concluded that the mean scored obtained in post-test is higher than the mean score of pre-test.

By considering the tables 2 and 3 we can understand that the mean scores of students in post-test in both Control Group and Treatment Group have improved. Although this improvement is minor in Control Group but it is of the most in Treatment Group. We can infer from the tables that the gain score of students in Control Group was less that the gain score of students in Treatment Group. So it shows that the use of IWB had positive effect on the writing of students regarding adverbs.

4. Discussion

This study set out to investigate the influence of using Interactive White Board on writings of EFL students regarding adverbs by two research questions:

1) How much students do use adverbs correctly in their writing when using traditional method to teach?
2) How much students do use adverbs correctly in their writing when using IWB to teach?

In order to answer the two research questions, a number of pre-tests and post-tests were done. Regarding the answer of the first question, we administered a pre-test to our control group in order to find their background knowledge of the adverbs of English language. The results of the pre-test in control group showed that students had
a mean score of 6.82 and Standard Deviation of 2.209. Then the group was under the training for four sessions using a traditional approach of teaching writing. One week after the training sessions a post-test including questions about the grammatical points under investigation was given to the study group. The results of the post-test showed that students gained the mean score of 9.52 and Standard Deviation of 4.349 which showed a minor improvement in using adverbs in writing.

Regarding the answer of second question, after the lapse of a semester we took our treatment group under study through using IWB in teaching the grammatical points under investigation. One week prior to the first treatment session all participants took a pre-test containing of items designed to test students’ background knowledge of the grammatical rule in focus. The results of the pre-test in treatment group showed students had a mean score of 7.02 and standard deviation of 2.321 which was approximately the same as their mean score in control group. Then adverbs were taught using IWB to students. Power point slides, animations and web sites were used as supplementary tools in four sessions of the treatment. Then a post-test related to the grammatical points was run to find the effect of the IWB in writing. Students had a mean score of 14.66 and a standard deviation of 3.254 which showed a great improvement in their writing. The findings reveal that using IWB had a positive impact on the acquisition of adverbs. That is, learners in TG made significant gains in terms of their knowledge of adverbs, as suggested by post-test results.

It can be claimed that IWB, as a new medium for instruction, can promote learners’ motivation and improve their performance. Bearing the finding of this study in mind, it is recommended that teaching language via IWB can be applied more frequently by language teachers. In fact, using IWB to teach language should be extended to other courses and other proficiency levels.

5. Conclusions and recommendations

The results of this study revealed that, students of 3rd grade secondary school would use the adverbs of English language more correctly when they were taught using the IWB technology in classes rather than the traditional blackboard method. Although students in the Control Group (CG) who were taught using a traditional blackboard method had a minor development in their using adverbs in writing and they could develop using adverbs correctly but the students in Treatment Group (TG) had a great development in using adverbs correctly in their writing. In the other words the gain score of students in Treatment Group (TG) was more than the gain score of students in Control Group (CG). It showed that the advantages which students and teachers mentioned in other studies in the Literature would be beneficial for students as they could affect the writings of students. We think that it would be wrong not to use IWB in classes since the results of the study showed a positive effect of using IWB in class.

In the data collected in the pre-tests and post-tests the effect of the IWB can be seen. Different results can be found out in a similar research done on the students who are willing to use IWB in their classroom. In future studies, we recommend that IWB would be used in considering the use of other aspects of parts of speech in writings. Also we would recommend using IWB in teaching other skills like reading or listening in order to understand the effects of it in teaching these skills.

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References