

The Impact of Interactive Whiteboard Use on Teaching Grammar to Grade Seven EFL Learners

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Abstract—This research aims to shed light on the importance of integrating the Interactive Whiteboard in grammar learning. In this line, a qualitative quantitative study was conducted on sixty English as second foreign language seventh-graders over duration of fifteen weeks in grammar lessons. Thirty participants (experimental group) at Saba Zreik School (SZS) benefited from implementing the Interactive Whiteboard in grammar sessions, while thirty students (control group) at Tarbiya Hadith School (THS) did not receive such treatment. The study aims to increase educators' awareness of the efficiency of using the interactive Whiteboard in facilitating the teaching/ learning process and in boosting learners' motivation. For this reason, a grammar pre-test and a grammar post-test were conducted in order to compare and contrast the grammatical proficiency of the control and the experimental groups before and after the treatment period. The results were analyzed by SPSS; hypothesis one correlating Whiteboard usage with students' grammatical recognition level was confirmed; hypothesis two associating the implementation of Whiteboard to better proficiency in grammatical production level was asserted. Furthermore, the questionnaire analysis confirmed the research highlighting the positive role of the Interactive Whiteboard in boosting learners' motivation to learn English. Finally, recommendations for teachers, learners, curriculum designers, and future research have been incorporated.

Index Terms—Interactive White Board (IBW), Grammar recognition level, Grammar production level, Motivation.

I. INTRODUCTION

The learning difficulties that English Language learners confront have become a significant issue in the field of foreign and second language education. Fortunately, with the progress of the education system, many technological inventions have been found to improve the learning and teaching process. Technological advancements in the field of education took Interactive Communication Technology (ICT) into consideration. Interactive Communication Technology is prominent in the world of education because it enhances the exchange of ideas of participants and changes them to active learners within class premises [1]. Interactive Communication Technology introduced several computer-based materials, web-based programs, and

technical tools into the world of education. Those programs, tools, and materials made a revolution in the whole education system and changed it from a monotonously traditional teacher centered approach to a motivating interactive learner based approach [2]. Recently, interactive technology has been implemented in many educational processes. Interactive teaching is established through the “interactive learning object”, that is illustrations are needed for explaining a particular subject. To increase teacher-students interaction, crucial elements are required such as activities presented in charts, texts, pictures, images, videos, graphs. In this realm, the Interactive Whiteboard (IWB) was introduced in the world of education as an interactive communication technology tool. The main trait characterizing interactive white board is the active engagement it imposes on learners which changes them from passive attendants to active participants in the learning process since it embraces fundamentals for interactive learning [3]. Gregory defines the Interactive Whiteboard as “an instructional tool that allows computer images to be displayed onto a board using a digital projector. The instructor can manipulate the elements on the board using his finger as a mouse, directly on the screen. Items can be dragged, clicked and copied, and the user can handwrite notes which can be transformed into text and saved” [4].

Dudeney and Hockly stated that the Interactive Whiteboard creates interaction between the teacher and the students since learners are required to respond to stimuli on the computer screen and complete tasks such as filling in gap texts, matching sentences and doing multiple choice activities on the screen in front of their peers and not individually in their notebooks. This enhances group discussion for details, mistakes, and reasons for their choices made [5].

Turel and Johnson rendered the Interactive Whiteboard as an instructional tool that enhances interactivity and collaborative learning. Since it motivates learners to absorb information via different senses, the IBW promotes creative teaching and targets all learners' styles: visual, auditory, and kinesthetic. Visual learners can benefit from images, diagrams, webs, colors and shapes to highlight texts...; auditory learners can benefit from the sounds, music and audible instructions, and kinesthetic learners have the ability to manipulate the data on board by touch. The combination of all the learning styles presented by the Interactive

Whiteboard aids students to engage more in class, increases their motivation, enthusiasm and supports them with different learning needs [6].

According to Parveen and Rajesh, grammar lessons are presented by power-point, CD-Roms and flash memories rather than chalkboards, pens, and papers when the interactive white board is used. This makes the learning process more interesting since it is based on the technological inventions of the current era [7].

In his studies, Habeeb claimed that the use of Interactive Whiteboard has a positive effect on students' academic performances [8]. The use of the Interactive Whiteboard in English as a foreign language (EFL) and English as a second language (ESL) classes enhances interaction between teachers and students. Moreover, since auditory, visual, and kinesthetic styles are part of the interactive whiteboard, all learning styles are addressed. Consequently, the idea of integrating Interactive Whiteboard in teaching English as a foreign language emerged in schools and universities. Teaching a foreign or a second language encompasses skills defined in terms of listening, speaking, reading, and writing. The production of correct spelling and writing necessitates the adequate command of accurate grammatical structures. According to Fernández grammar is "the underlying, implicit, and abstract knowledge that humans have in their minds regarding the morphology and syntactic rules of language(s)" [9]. Recently, Geeslin and Long rendered grammar as an understanding of variation of forms, or an, "appropriateness" of forms that are context-dependent and such forms are essential language skills [10]. Grammatical proficiency, according to Scrivener can be attained by two skills: recognizing grammatical forms and producing correct ones. In the light of the above, grammar is a branch of linguistics dealing with morphology, structure and combination of words to make sentences (syntax) [11].

In an aim to ensure learners' ability to recognize precise grammatical structures and to produce accurate ones in a motivated learning atmosphere, the Interactive Whiteboard was introduced in grammar lessons. This research investigates the effectiveness of implementing the interactive whiteboard technology in enhancing the grammatical awareness of seventh graders, in a public school, on the recognition and production levels and on their motivation to learn English.

II. LITERATURE REVIEW

"Grammar is the structural foundation of our ability to communicate ourselves, the more we understand how it works, the better we can stay on top of the meaning and effectiveness of the language and other use" [12]. According to Merriam-Webster Dictionary, grammar" is the study of the classes of words, their inflections, and their functions and relations in the sentence" [13]. The Oxford Dictionary defines grammar as "the whole system and structure of a language or of languages in general, usually taken as consisting of syntax and morphology (including inflections) and sometimes also phonology and semantics" [14]. Based on these

definitions, grammar is the way words are distributed to form a meaningful sentence. Each language has its own grammatical structure without which mastery of the language is impossible.

In his studies, Brown asserted that children learning English as a first language passed through strikingly similar stages in acquiring grammatical structures, and that, contrary to expectations, there was no relationship between the order in which items were acquired and the frequency with which they were used by their parents [15]. The rules of how words change their forms and combine to express our own thoughts and clarifications are the key in understanding any idea expressed by others [16]. These rules are only learned by perceiving the grammatical rules of a language and here lies the importance of teaching grammar to foreign and second language learners.

The importance of grammar in learning English is elaborated on by Pienemann and Johnston as follows: students first learn isolated words and phrases, and then practice the 'standard' word order of subject + verb + object, for example: 'I like rice', 'I go home'. Then comes the stage in which the learners add an element to the 'core' structure, for example 'yesterday, I went home'. After this, comes a sequence of stages in which the learner can develop the ability to rearrange internal words from the core structure for example, 'can you swim?' Here 'can' is moved from the middle of the structure to the beginning. After that, learners will be able to carry out more complex rearrangements, producing structures like 'where are you going tonight?' Each stage builds on the one preceding it. Therefore, learning the grammatical forms of a language aids in communicating via this language [17].

Rutherford in building his case for consciousness raising (CR), explicitly rejects the 'traditional' beliefs that language is constructed out of discrete entities and that language learning consists of the gradual accumulation of these entities. He also rejects the notion that grammatical rules can be directly imparted to the learner through teaching because of the complexity of many rules, and because of the interrelationships between them. According to Rutherford, classroom activities must facilitate the learning process by providing data through which learners may form and test hypotheses, and also by helping learners link the new concepts with what they already perceived. Thus, learning the grammar of a language does not take place when a learner memorizes the structures of a language but rather when he learns the language in context [18].

In the light of the above, two perspectives in teaching grammar became popular: grammar taught as rules and forms and grammar taught in context. Linguists' attention in teaching a foreign language shifted from teaching the structures to teaching contexts where such structures occur, but the dilemma of accurate grammar acquisition was not completely resolved.

Sessom investigated the role of Interactive Whiteboard on enhancing learning a foreign language for third year university students in Tokyo University. After implementing the treatment for a period of one semester,

the researcher conducted a post-test and scores showed improvement compared to pre-test scores especially in grammatical accuracy criteria [19].

Smith examined students' perspective to interactive white board based instruction by conducting a research to evaluate the effectiveness of integrating Interactive Whiteboard into the international program at Oklahoma State University. He, further, discussed the benefits of Interactive Whiteboard in courses addressing foreign students, or international students, as they were referred to in the study. The participants of the study were 72 EFL students of different nationalities and gender in the ENG 003 class. The results revealed a positive correlation between students' proficiency skills, including speaking, grammatical precision and Interactive Whiteboard based instruction [20].

Karsenti's conducted a study on 11,683 students and 1,131 Teachers in the Canadian K-12 system, and the results led him to propose, "for the great majority of teachers, a simple electronic projector would be more suitable for teaching purposes, at far less cost and with a much larger screen" [21].

Tezer and Denize investigated the effects of integrating Interactive Whiteboard on the development of Iranian EFL learners' grammatical accuracy skills. A sample of 52 upper-intermediate Iranian learners were selected based on a placement test and were also distributed randomly into two groups; the control and the experimental one. Results of the T-test indicated that there were remarkable effects of Interactive Whiteboard integration on the development of grammatical accuracy skills of the experimental group. Results offered pedagogical implications for integrating Interactive Whiteboard in acquisition of first and second languages [22].

Higgins investigated the impact of using the Interactive Whiteboard on teachers in a public school in England. Data from structured interviews were collected from sixty-eight teachers. It was determined that the teachers felt that the Interactive Whiteboard helped them to achieve their teaching aims and cited a number of factors such as the wealth of resources available, the stimulating nature of the presentation, and the flexibility that the technology offered. The majority of the sample interviewed believed that using the Interactive Whiteboard in lessons improved students' motivation to learn and consequently ameliorate students' academic progress [23].

Beeland conducted a research on 20 students who were asked to answer open-ended questions seeking to measure their attitude toward the use of the Interactive Whiteboard. Students claimed that they learn better because they see everything clearly on the board. Moreover, recognition and memory abilities are sharpened by the Interactive Whiteboard [24].

In its turn, Newcastle University carried out a two-year study on the effect of using the interactive white board on students' performance in SAT exams. The results of the exam did not show any variance in the control and experimental group due to the integration of

the Interactive Whiteboard in lessons. The results cast doubt on the way that the Interactive Whiteboard was used in class.

Moss carried out one-year study on the impact of Interactive Whiteboard on the teaching of three core curriculum subjects in a secondary school in London. The researcher found that explaining lessons with the interactive white board took less time than with the traditional method. Students', who were instructed via the white board, achieved better in results too in their exams especially when the question was related to visual retrieval of information. However, "although the newness of the technology was initially welcomed by pupils any boost in motivation seemed short lived". Moss commented that the capacity of the Interactive Whiteboard to motivate pupils to learn diminished quite quickly, "especially with a generation less easily "wow-ed" by technological innovation" [25].

Bush investigated the impact of Interactive Whiteboard on teaching grammar in Lancaster Girls' Grammar School in UK. The study was conducted via a questionnaire on 128 girls, and the results showed the learners' preference for Interactive Whiteboard in learning the elements of language, particularly grammar. The questionnaire tackled pupils' perception of language learning before and after using the Interactive Whiteboard [26]. Accordingly, learning objectives as well as learners' enthusiasm towards learning grammar, which was perceived as a boring subject changed after the Interactive Whiteboard was used. The results recommended teachers' training on how to use the Interactive Whiteboard in language departments and to transfer this device to other teaching areas.

III. METHODOLOGY OF RESEARCH

The subjects of this study consist of sixty intermediate seventh-graders EFL learners (aged between 11 and 12 years old) divided into two groups: the experimental and the control group. The experimental group (30 participants), who are seventh graders at a public High School, benefited from integrating the Interactive Whiteboard in grammar lessons, while the control group (30 participants), who are seventh-graders at a public school, were not exposed to Interactive Whiteboard integration and received grammar in the traditional way (both schools are in Tripoli- Lebanon). The participants receive seven sessions of English weekly, two of which are grammar lessons; the participants are all native Arabs: Arabic is their first language, and English is their second language.

Students in both groups sat for the grammar pre-test for one hour to test their grammar proficiency. After that, the researcher, who was the teacher of both groups, introduced grammar lessons via the Interactive Whiteboard for the experimental group and via the traditional board, workbooks, books.... for the control group. Therefore, several activities were developed for the experimental group via the use of the Interactive Whiteboard. After the fifteen weeks of grammar instruction to both groups, a grammar post-test was

conducted to examine the students' performance and development after the treatment took place in the grammatical areas. After the treatment period, the scores were recorded and analyzed to check for any significant differences between the experimental and the control group. Additionally, it provided the researcher with a clear idea about the degree of improvement resulting from implementing grammar activities in classrooms using the Interactive Whiteboard.

At the end of the treatment period and after the post-test, the experimental group students were asked to answer a questionnaire adopted from Schmidt, Boraie, & Kassabgy to investigate if the Interactive Whiteboard affected the motivation of the participants to learn English [27]. The target topic was introduced through visual illustrations. Besides the textbook activities, a wide range of inductive grammatical instructions and activities (videos, pictures, dialogues, songs, stories.) were projected on the board to facilitate students' grammatical proficiency skills. Students have had the opportunity to combine their visual and auditory senses in a way that helped them figure out the grammatical rules easier. As the teacher used the Interactive Whiteboard as a reference aid, the classroom was already equipped with the needed tools. The lesson plan was already prepared on a flash memory. At the beginning of each grammar session, the teacher gave a brief idea introducing the topic. Then she used the electronic pen to play a video on the Interactive Whiteboard to illustrate the idea of the grammatical rule. It was noticed that students were enthusiastic about discovering what the video was about, and they got involved quickly. After each visual input, students were divided into six groups and were asked to induce the targeted rules from examples presented on the Interactive Whiteboard. In this way, they were involved in a discussion which indirectly triggered their speaking skills. Besides the textbook activities, the teacher prepared a wide range of activities on the Interactive Whiteboard as supplements. These instructions were implemented to widen students' perceptions and knowledge about the topic under discussion. Students were enthusiastic about the activities applied on the Interactive Whiteboard, which was clear from their positive participation and engagement.

Alternatively, the researcher, who was also the instructor of the control group, started the grammatical session following the lesson plan prepared beforehand using traditional classroom tools such as Whiteboard, textbooks, and paper sheets. In order to stimulate students' attention, the teacher prepared them through pre-reading questions asking about their interests. Then, students practiced the knowledge acquired through solving the activities related to the topic discussed in their textbooks. Ongoing assessments were conducted on a regular basis. Traditional Practices were highly applied, such as direct instruction (a teacher-controlled practice) using the Whiteboard as a means of illustration. Moreover, the teacher gave directions to students when they worked independently or in small groups. The lack

of technological tools decreased students' enthusiasm and involvement because of the absence of the fun elements (games, videos, songs), which were witnessed in the experimental group sessions.

The quantitative results collected from the pre-posttest of both the control and experimental groups were analyzed by the SPSS program and represented in statistical figures to illustrate the investigation reliability. On the other hand, the qualitative results were collected from the students' questionnaire to investigate the motivation level of the participants after the integration of the Interactive Whiteboard.

IV. RESULTS

A. Recognition Level Pre-test

The number of participants is N= 30 in the experimental group, and in the control group.

The mean of the pre-test shows that both the control and the experimental group have the same means.

TABLE I. RECOGNITION LEVEL PRE-TEST GROUP STATISTICS

	GroupType	N	Mean	Std. Deviation	Std. Error Mean
PreTest	Experimental	30	9.00	0.000	0.000
Recognition level	Control	30	9.00	0.500	0.100

TABLE II. T-TEST FOR EQUALITY OF MEANS INDEPENDENT SAMPLES TEST

		PreTest_RecognitionLevel	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F	7.579	
	Sig.	0.008	
t-test for Equality of Means	T	0.000	0.000
	Df	48	24.000
	Sig. (2-tailed)	0.000	1.000
	Mean Difference	0.000	0.000
	Std. Error Difference	0.100	0.100
	95% Confidence Interval of the Difference	Lower 201	-0.206
		Upper 201	0.0206

Table I and Table II show that the experimental and control groups pre-test, have the same means of 9.00. The significance of variances is 0.008, which is less than 0.05, showing significance of the results.

1) Recognition level Post-test

The mean of the experimental group is 11.04, while that of the control is 9.00 in the post-test. A 2.04 difference exists in the means of the post-test of the experimental and the control.

TABLE III. POST-TEST RECOGNITION LEVEL GROUP STATISTICS

	GroupType	N	Mean	Std. Deviation	Std. Error Mean
PostTest	Experimental	30	11.04	2.282	0.456
Recognition Level_Grade	Control	30	9.00	0.645	0.129

Table III and Table IV reveal that for the post-test, the control and experimental groups have different means, 9.00 and 11.04, with a difference of 2.040.

TABLE IV. POST EQUALITY OF MEANS INDEPENDENT SAMPLES TEST

		PostTest_Reognition Level_Grade	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F Sig.	18.610 0.000	
t-test for Equality of Means	T Df Sig. (2-tailed) Mean Difference Std. Error Difference	4.301 48 0.000 2.040 0.474	4.301 27.817 0.000 2.040 0.474
95% Confidence Interval of the Difference		Lower Upper 1.086 2.994	1.068 3.012

The result is significant with significance of variances 0.00. Therefore, a paired t-test for the experimental group is conducted.

T-test between pre-test and post-test in the experimental group:

TABLE V. MEAN PRE AND POST RECOGNITION EXPERIMENTAL PAIRED SAMPLES STATISTICS

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PreTest_recognition _Grade	9.00	30	0.000	0.000
	PostTestrecognition _Grade	11.04	30	2.282	0.456

2) Comparison between Pre-test and Post-test Recognition Level (Experimental Group)

As it is noticed in Table V, the mean score of the experimental group was 9.00 in the recognition part of the pre-test and showed an improvement in the post-test.

TABLE VI. STD. DEVIATION BETWEEN EXPERIMENTAL AND CONTROL PAIRED SAMPLES TEST

		Pair 1	
		PreTestRecognition	PostTest Recognition_Grade
Paired Differences	Mean		-2.040
	Std. Deviation		2.282
	Std. Error Mean		0.456
	95% Confidence Interval of the Difference	Lower	-2.982
		Upper	-1.098
T			-4.470
Df			24
Sig. (2-tailed)			0.000

Table V and Table VI show that the paired t-test for the experimental group reveals an increase in the mean in post-test of 2.040 and the result is significant where $p < 0.05$. Therefore, hypothesis 1, stating that students who benefit from Interactive Whiteboard integration in grammar lessons will demonstrate better grammatical

competence, on the recognition level, than their peers who receive grammatical instruction via the traditional method, is accepted with significant findings.

Table VII shows the mean score of the experimental and the control group in the production part of the pretest.

TABLE VII. MEAN BET CONTROL AND EXPERIMENTAL PRODUCTION LEVEL-GROUP STATISTICS

	Group Type	N	Mean	Std. Deviation	Std. Error Mean
PreTest Production level	Experimental	30	8.92	0.277	0.055
	Control	30	9.04	2.557	.511

TABLE VIII. T-TEST FOR EQUALITY OF MEANS LEXICAL RESOURCE INDEPENDENT SAMPLES TEST

		PreTest_Production level	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F Sig.	51.149 0.000	
t-test for Equality of Means	T Df Sig. (2-tailed) Mean Difference Std. Error Difference	-0.233 48 0.817 -0.120 0.514	-0.233 24.563 0.817 -0.120 0.514
95% Confidence Interval of the Difference		Lower Upper -1.154 0.914	-1.181 0.941

B. Production Level

Table VII and Table VIII show that in the pre-test, the experimental and control group have approximately equal means 8.92 and 9.04, in the production level, with significance of variance 0.00.

TABLE IX. STANDARD DEVIATION PRODUCTION LEVEL GROUP STATISTICS

	GroupType	N	Mean	Std. Deviation	Std. Error Mean
Post-Test Production level	Experimental	30	12.28	3.143	0.629
	Control	30	9.04	0.200	0.040

Table IX shows that the mean score of the experimental part of the grammar post-test after the treatment group improved from 9.04 to 12.28 in the production treatment peperiod and after integrating the Interactive Whiteboard.

TABLE X. PRODUCTION LEVEL EQUALITY OF MEANS INDEPENDENT SAMPLES TEST

		PostTest_Production level	
		Equal variances assumed	Equal variances not assumed
Levene's Test F for Equality of Variances	Sig.	42.770 0.000	

t-test for Equality of Means	T	5.144	5.144
	Df	48	24.194
	Sig. (2-tailed)	0.000	0.000
	Mean Difference	3.240	3.240
	Std. Error Difference	.630	0.630
	95% Confidence Interval of the Difference	Lower 1.974	Upper 1.941
		4.506	4.539

Table IX and Table X confirm that in the post-test, the control and experimental groups have different means of 9.04 and 12.28 respectively with significance. Therefore, a paired t-test for the experimental group is conducted.

1) Comparison between Pretest and Post-test Production Level (Experimental Group):

The conducted t-test on the experimental group reveals the variance in the mean of this group on the production level of the grammar as compared between the pre and the post-tests.

TABLE XI. PAIRED SAMPLES STATISTICS

Experimental group	Mean	N	Std. Deviation	Std. Error Mean
PreTest_ Production level	8.92	30	0.277	0.055
PostTest_ Production Level	12.28	30	3.143	0.629

TABLE XII. PAIRED SAMPLES TEST

	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error mean	95% Confidence Interval of the Difference				
				Lower	Upper			
PreTest production level PostTest Production level	-3.360	3.252	.650	-4.702	2.018	-5.167	24	0.000

Table XI and Table XII of the paired t-test show a 3.36 points increase in the mean and the result is less than 0.05 which makes the finding significant.

Therefore, hypothesis 2, stating that students who benefit from Interactive Whiteboard integration in grammar lessons will demonstrate better grammatical competence, on the production level, than their peers who receive grammatical instruction via the traditional method, is accepted.

C. Questionnaire Analysis

A questionnaire adopted from Schmit, Boraie and Kessabay (1996) was passed to the experimental group to investigate the impact of integrating the Interactive Whiteboard on the motivation level of the students after being exposed to the treatment.

Table XIII and Fig. 1 sum up the data extracted from the questionnaire:

TABLE XIII. MOTIVATION QUESTIONNAIRE

	Yes	No
Did Interactive Whiteboard motivate you to learn more about the language?	92%	8%

Did Interactive Whiteboard change your behavior during the English sessions?	80%	20%
Did your exposure to Interactive Whiteboard encourage you to participate and work in group in English classes?	72%	28%
Did English classes attract you more than before with the incorporation of Interactive Whiteboard tasks?	96%	4%
Did the incorporation of Interactive Whiteboard help you find English classes more fruitful and meaningful?	88%	12%
Were the Interactive Whiteboard tasks well organized?	80%	20%
Can you speak with a better pronunciation after you have participated in Interactive Whiteboard tasks?	74%	12%
Has your vocabulary bank improved after being exposed to Interactive Whiteboard?	80%	20%
Has your grammatical structure improved after exposure to Interactive Whiteboard?	88%	12%
Has your fluency improved via Interactive Whiteboard tasks?	70%	30%

The results of the questionnaire revealed that the majority of the students believe that the Interactive Whiteboard motivated them to study English, and aided them to improve their pronunciation, fluency, accuracy, and vocabulary background which are all rendered as the productive fruit of learning grammatical structures efficiently. Moreover, they asserted their involvement in classes was reinforced

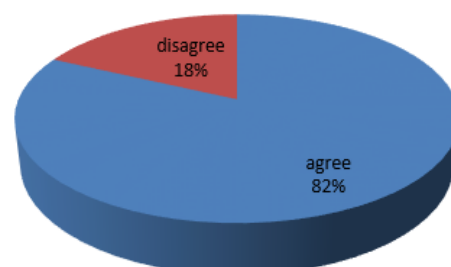


Figure 1. Motivation Questionnaire Percentage

by the Interactive Whiteboard tasks. Being engaged in classes which are usually rendered as boring, rigid, and lacking any creativity, learners usually lose any motivation to take part in grammar lessons since they are full of rules very hard to memorize. However, the integration of the Interactive Whiteboard, as the analysis of the questionnaire reveals, does display that grammar periods did attract the learners' attention as items 3, 4, and 5 of the questionnaire, in Table XIII, present. 80% answered that Interactive Whiteboard changed their behavior during the English sessions; 72% asserted that the Interactive Whiteboard encouraged them to participate and work in groups in the English class; 96% considered that English classes attracted them much more after the incorporation of the Interactive Whiteboard tasks. Fig. 1 demonstrates the total percentile

of learners' agreement to the efficiency of the Interactive Whiteboard tasks.

Does the use of Interactive Whiteboard affect students' motivation to learn grammar?

The qualitative and quantitative analysis of the data proved that experimental group that benefited from integrating the Interactive Whiteboard in grammar lessons have witnessed better peer interaction, productivity and motivation for learning English. With reference to the impact of using Interactive Whiteboard on students' grammatical competence (recognition level), actually the Interactive Whiteboard features such as auditory, visual and storing information among others, met students' different learning styles and needs. The results showed that the average of the experimental group was higher than that of the control group in the recognition level. This indicates the effectiveness of Interactive Whiteboard. On the other hand, the effect of using Interactive Whiteboard on students' grammatical competence (production level), the study revealed that the experimental group showed improvement in producing sentences with precise grammatical structure which exceeded that of the control group. The kinesthetic feature of the Interactive Whiteboard might be the reason behind this. As a matter of fact, when students were given the chance to touch the screen and drag words and phrases to make complete sentences, the structure of the English sentence seemed to adhere better in their minds than when the same lesson was instructed via the traditional board, paper, and pen.

The findings of the research conform to those of Bush and Beeland that the Interactive Whiteboard is effective in boosting learners' motivation to learn a foreign language and contrast with the result of Moss that learners lose the motivation to work on the Interactive Whiteboard soon after its incorporation in classes. On the other hand, the findings go in the same line with those of Smith, Sessoms and Tezer and Denize stating that the Interactive Whiteboard does influence the performance of EFL and ESL learners positively in different linguistic branches where learners who benefited from the treatment showed improved speaking skills, better grammatical accuracy, and higher motivation levels after the treatment period. Based on the findings, the research came up with the following recommendations:

Moreover, it is recommended that teachers decrease the explicit grammatical input in grammar instruction. Students must be allowed to deduce grammatical rules by themselves since this makes them active participants in the learning process. In addition, EFL and ESL teachers should look for tasks that interest students and enhance their free communication and make grammar lessons a fun and an effective approach to learn a language.

Suggestions for further studies include using the Interactive Whiteboard inside the classroom to encourage the students to be enthusiastic learners, and motivate them to be present physically and psychologically in class. Researchers who would be interested in incorporating the Interactive Whiteboard in all classes of learning a foreign or a second language are highly

encouraged to do so. Further elaborated and empirical experiments of the impact of the Interactive Whiteboard in different language domains are highly recommended. Since this study only tackles a sub-skill of language acquisition, which is grammar, other skills of language cannot be undermined, it is recommended That further studies would consider investigating the impact of the Interactive Whiteboard on language comprehension, speaking skills, writing skills which are of much considerable prominence in language acquisition.

V. CONCLUSION

The results of the study clearly show that learners appreciated incorporating Interactive Whiteboard tasks in grammar lessons, which made them excited and involved with enthusiasm in the learning task. It also revealed that the Interactive Whiteboard boosted learners' confidence and Long-term recall of the materials learned.

A qualitative-quantitative study, via three tools: a pre-test, a post-test, and a questionnaire, was conducted to investigate the effectiveness of incorporating the Interactive Whiteboard on developing seventh graders' linguistic competence. Two seven grade sections at two different public schools in Tripoli: Saba Zreik School and Tarbiya Haditha School were selected as population sample for this study. Students at Saba Zreik School were the experimental group that benefited from integrating the Interactive Whiteboard in grammar lessons for fifteen weeks, and students at Tarbiya Haditha School were the control group that received grammar instruction via the traditional method. Before the treatment period, a grammar pre-test consisting of recognition and production level parts was run for both groups; after the treatment period, the two groups sat for a post-test, also with recognition and production parts. The mean scores in both parts of the pre-test and the post-test were compared and contrasted for the control and experimental group. After analyzing the extracted data qualitatively and quantitatively, it becomes clear that integrating the Interactive Whiteboard in grammar lessons does affect the learners' motivation to study English, and students' performance on the recognition and production levels in grammar is positively affected. In the light of the findings, the significance of the two hypotheses was tested, and research questions were analyzed. Hypothesis one stating that students who benefit from Interactive Whiteboard integration in grammar lessons will demonstrate better grammatical competence, on the recognition level, than their peers who receive grammatical instruction via the traditional method is confirmed with significant findings. Moreover, hypothesis two, stating that students who benefit from Interactive Whiteboard integration in grammar lessons will demonstrate better grammatical competence, on the production level, than their peers who receive grammatical instruction via the traditional method, is also confirmed, and the findings are significant too. Besides, hypothesis three, correlating the Interactive Whiteboard with higher motivation level, is confirmed too. Furthermore, the research answered the addressed

questions: the correlation between Interactive Whiteboard and students' motivation and the impact of Interactive Whiteboard on recognition and production levels of linguistic competence. It can be inferred that the Interactive Whiteboard boosted the learners' motivation to learn English; it improved learner's linguistic competence to recognize correct grammatical structures and to produce well-structured sentences.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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