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THE EFFECTIVENESS OF THE SMART BOARD IN RAISING THE ACHIEVEMENT OF UNDERACHIEVERS OF BASIC ELEMENTARY STAGE

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ABSTRACT: *This study aimed to determine Effectiveness of the Smart Board in Raising the Achievement of Underachievers of Basic Elementary Stage. The study sample consisted of (70) students, divided into two groups, (33) students in the experimental group, and (37) students in the control group. To achieve the objectives of the study, the researcher used an achievement test, after confirmations of the validity and reliability. The study finds a statistically significant difference on the paragraphs of the test raise achievement for weak students combined between the performances of members of the two groups of the study, and for the performance of the experimental group, who has undergone to teach by using the smart board. Also, there is a statistically significant difference on the paragraphs of raising achievement for weak students combined between the performance of members of the two groups of the study, and in favor of male performance, and the lack of differences statistically significant at the level of statistical significance (α=0.05) between the averages of the performance of members of the study dimensional clauses test lift achievement of weak students combined due to the duo interaction between the two variables: the control group, and experimental, and Gender.*

KEYWORDS: Smart Board, Achievement, Weak Students, Basic Elementary Stages.

INTRODUCTION

The development of all sciences in the scientific cultural and social fields in the current time represented a significant cultural transfer in our communities; because of the increase of the amount of knowledge, number of students, and the community awareness of the importance of education in schools and universities. Thus, it was important for us as educators to look at science from another angle focusing on the scientific development of our curricula, instruction methods, teaching aids and the suitable classroom environment using computers and the Internet in education to the emergence of the learning technology, which relies on the use of modern technology to provide an instructional content to the learner in an appropriate and effective way at the same time.

One of the modern instructional methods in the field of the education technology is the interactive smart board, a sensitive screen operating in compliance with computers and data display device transferring it to an effective tool for education (Abdullah and Abd Al-Amir, 2014).

Depending on the traditional blackboards, those using the chalk or the white boards and the light board (projector) have started to decrease especially with the using of electronic board connected with a PC device or a laptop (Fathallah, 2010, p. 222). Accordingly, now most schools have replaced their traditional instructional boards with the smart and interactive

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boards of various kinds, so it is essential that everyone who works in education should be familiar with using the smart board because of its instructional values and features.

The name (board) comes due to using it as a traditional white board where the teacher can write by using special pens and erase what has been written. “Interactive” means that the information paths in this device move in two directions; writing is not done by a traditional ink, nor by a chalk, but through touching where the teacher uses a pen from the instrument panel, and writes on the surface of the device, accompanied with special sensors and then the device sends the data to a special program in the computer that the points that have been touched are transferred into a color that is displayed by a data display device; data is moving from the interactive white board to the computer, and then from the computer into the data display device to be shown again on the board (Sabri, 2008).

The use of smart board in the classroom contributes to providing many advantages of using control means of texts, photos and drawings, taking advantage of the Internet, the ability to store and retrieve instruction materials, providing opportunities to provide feedback, using the computer software and designing the computerized instructional activities, which help increase the effectiveness and participation of students during the class (Schuck & Keaney, 2007).

The teacher can explain the instructional material through the smart board with its pen and the properties relating to changing the font color, or size according to the desire of the teacher, which is commensurate with the instructional material to be provided to students. The board provides the diversity attribute in using the font to simplify the material. Smart boards are also used in teaching Arabic through employing the pictures indicating vocabulary and sentences as well as many subjects with the possibility of deleting, editing and adding any form, or photo through dragging. Teachers can also prepare many enrichment activitiesor puzzles related to the curriculum to be employed in the classroom by involving students in an instructional atmosphere of excitement, interaction and competition among students. Smart boards also allowregistering, saving, printing lessons as well as saving them for students to avoid writing or employing this feature in other specific areas of study materials (Zaytoon, 2007).

The smart board consists of a white screen, four digital pens, digital eraser, a button to show the on-screen keyboard, right mouse button, the help button, a software through which the computer programs are operated interacted with, in addition to special programs for the production of interactive lessons that can be used through a smart board (Khamis, 2006).

There are many definitions for the smart board and they agree that the smart board is one of the modern technology tools. (Saraya, 2009: 167) defined it as an electronic and delicate display white screen which is dealt with by touching either with a finger or a digital pen and it is connected to a computer device, LCD device and a printer that all instructional programs either on computer or internet are displayed. (Abu Jweir 2009: p. 106) defined it as: "an electronic device connected with a computer where the photos and video clips in the computer can be displayed on the board and it is used in an interactive manner that allow adding notes, focusing on the points of interest, controlling the programs as desired by the user, and printing these notes and drawings from the computer or saving them for the future."

(Al-Tawalbeh et al. ,2010) stated the features of smart boards in facilitating the preparation process for learners such as a large amount of pictures, pens, textsfor display, the possibility

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of saving and printing all that has been presented to the smart board, ease of getting back to points as well as the feedback because of the cognitive content, enjoyment of teaching, interaction with using the smart board through integrating images, pens, and sounds, getting access to the Internet easily,the possibility of writing with the digital pens above the photos, the possibility of transmitting the information on the blackboard by e-mail, and the possibility of using them in learning at distance through the video conference or the net meeting, which enables us to present some instructional workshops, and conferences between different countries through the Internet.

However, there are some flaws related to the smart boards including high costs and high costs of maintenance, lack of maintenance centers that provide maintenance services for the tools and requirements of smart boards, the existence of some problems in the Arabization program, which needs to have a specialist on an ongoing basis, especially in the early stages of training, and lack of material and technical potential to produce the education materials (Dahlan, 2014).

Study Problem:

Some studies suggest a weakness for the students of the basic elementary stages in the reading and writing skills due to some reasons including the fact that the teaching methods are limited with the traditional instruction, technological devices are not available at schools and that teachers do not use technological devices in teaching reading and writing. Some blame teachers, school curriculum or the instruction methods used in teaching the Arabic language; students' underachievement increases with moving forward to the next levels. Accordingly, it was necessary to find new ways to address this weakness in addition to the smart boards' high potential in presenting the instructional material and ability to interact with students and stir their motivations; it is possible to use the smart board in teaching reading and writing skills for underachievers. Therefore, the problem of the study is determined by the underachievement of students in reading and writing, and the effectiveness of smart board in addressing it. Accordingly, this study was to determine the effectiveness of the smart board in raising the achievement of underachievers of basic elementary stages. Thestudy answered the following question:

- Is there a statistically significant difference at the level of statistical significance ($\alpha = 0.05$) between the arithmetic means of the performance of the members of the study (basic elementary stages) on the items of the test to raise the achievement ofunderachievers due to the variables of: the group (control: whose members studied through the ordinary blackboard, and the experimental: whose members studied through the smart board), sex and the interaction between them. "

Study Objectives:

The study aims to explore the effectiveness of the smart board in raising the achievement of underachievers of basic elementary stages and detect the differences in the average scores depending on the variablesof the method, sex, and the interaction between them.

Study Importance:

The importance of this study is emerged in shedding light on the role of the smart board in raising the academic achievement of learners, maintaining the impact of learning, drawing the attention of those in charge of the instructional process to the effective role of smart boards,

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and benefittingteachers of basic elementary stages in developing instruction methods and evaluation. Furthermore, smart boards are important for teachers in saving time that they can write lessons in advance and add comments and observations during the time of the explanation; they are useful also in eliminating students' fear from technology motivating them to use them in their lives. This study is in line with the modern trends in education represented in makingthe optimum use of the technological innovations in the instructionalprocess; smart boards also open up new horizons for researchers to conduct future studies in the use of new technological innovations in the instructional process in various instruction stages and various materials. The researcher also hopes that this study benefits those in charge of the Ministry of Education in order to develop plans and strategies appropriate for the success of employing smart boards.

Study Limitations: -

The study is limited to the underachievers who suffer from underachievement in reading and writing in the basic elementary stages in Bani Kinana Directorate of Education for the academic year of 2015/2016 and Samar elementary mixed school and Al-Quds elementary mixed school in the Directorate of Bani Kinana. The search tool is limited to an achievement test consisting of (20) items which were answered by the students in both the experimental and control groups.

Study Procedural Terms:

- **Smart Board**: a special type of boards or interactive whiteboards handled by touch; it is used as a replacement of a computer screen in displaying various applications and programs and it is used in the classroom displaying the lessons and activities for underachievers in reading and writing. Such lessons are explained through a smart boardpresented in front of the underachievers in the basic elementary stage.

- **Achievement**: a set of information and knowledge gained by underachievers in reading and writing in the basic elementary stages and it is measured by a mark obtained in the achievement test.

- **Weakness**: a shortfall of students, which hinders achieving the goals they seek in all fields of knowledge.

- **Basic elementary stage**: an educational level at schools in which education is compulsory; it includes the first, second and third grades.

Previous Studies:

The following is a presentation of these studies:

(Dahlan, 2014) investigated the impact of employing the smart board in the academic achievement and maintaining the impact of learning in the seventh grade students in the Arabic language course and their attitudes towards it. To achieve the objectives of the study, the researcher used a quasi-experimental method and the study tools consisted of an achievement test, and a direction scale, which was applied on a sample of 70 seventh grade students, evenly distributed into two groups: control group and experimental group. The results of the study indicated the presence of statistically significant differences between the average scores of the students of both the experimental group and the control group in the

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achievement test, posttest and the direction scale in favor of the experimental group at the level of (0.01) with the significant impact of (0.87).

Abu Rizk (2012) aimed to explore the impact of using the smart board on developing the planning skills in teaching the Arabic language course for the students-teachers enrolled in the Department of Professional Diploma in Al-Ain University of Science and Technology survey in addition to determine their attitudes. The study tool consisted of a performance test, evaluation criteria, and a direction scale and it was applied to a sample of 32 male and female students, who were randomly distributed into two groups: experimental and control. The results showed statistically significant differences in the performance of the respondents in daily planning and the total grades of daily and annual planning for the benefit of the performance of the experimental group students, no statistically significant differences in the performance of the two samples in the annual planning, and the presence of a positive trend towards using the smart boardas an instruction tool, and with a number of problems and obstacles they face during use.

Abu-Alainayn (2011) aimed to identify the impact of the smart board on the achievement of beginning and organized foreign,non-native students in the Arabic language course for the beginning level in the intermediate level compared to the usual way. To achieve the objectives of the study, the researcher used an experimental approach where the study was applied on a sample of (60) male and female students from the middle school in Dubai American Academy in first-semester of 2010. The results of the study showed statistically significant differences in the performance of the members of the study sample in the test for the benefit of the performance of the experimental group students.

(Al-Asmari, 2011) aimed to compare between the effect of teaching by a smart boardand that by a traditional blackboard in the immediate and delayed achievement of the sixth grade students in the Arabic language grammar. The study sample was divided into two equal groups in terms of number and level. The study found the presence of statistically significant differences in the immediateachievement in favor of the independent variable in the experimental group, which is the smart board, while there were no statistically significant differences in the delayed achievement between the experimental group and the control group.

(Ishtaiwa & Shana, 2011) described the way of using the smart board by students-teachers in teaching the Arabic language course as well as explored their viewpoints about the impact of the smart board on teaching and learning the Arabic language in the classes of the practical education program in the schools of the UAE. The study sample consisted of 179 male and female trainees, who were interviewed and distributed a questionnaire for data collection. The study revealed that only a small number of participants (14.5) used the smart board in teaching Arabic because of some obstacles, such as lack of availability of the smart board in schools, lack of knowledge and skills of usage, and lack of time. The study also confirmed that the use of the interactive whiteboards by students- teachers was modest as they focused on using them as instructional materials instead of using them as integrated instructional toolsleading to radical changes in the process of instruction and learning of the Arabic language.

(Kennewell, 2008) looked at the degree of using the interactive boards by teachers in raising the level of the basic skills in reading, writing and mathematics through focusing on the classroom teaching and the interactive teaching. Teachersoffered reasons for the use of the

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interactive board, such as: flexibility, diversity, multimedia, saving, printing, teaching information and communication technology and efficiency. The study resulted that the interaction between teachers and students is a major feature in the promotion of the education process, encouraging students to ask questions, and establishing a dialogue between teachers and studentsand that there are advantages of using information and communications technology, particularly the interactive board, which should be invested and benefited from by the teachers such as: speed, capacity, interaction, and automaticity.

(Mechling, Gast& Krupa, 2007) studied the impact of the interactive board on reading words visually and learning by observation. The study sample consisted of three students with moderate disabilities. A multi-examination was conducted through three sets of words given to students in order to evaluate the technology of the interactive board in reading words and linking words with images. The study aimed to assess the impact of the technology of the interactive board and the continuous delay of three seconds as a procedure to teach reading words visually by the students with moderate disabilities within the procedures of small groups.The results supported the use of this tool to teach several students at one time, and its impact on the learning by observation. Teaching through an interactive means with specifications such as sound, motion, and video recordings increases motivation, attention and takes advantage of the time during the performance of tasks.

Commenting on Previous Studies:

The previous studies were reviewed to determine the theoretical framework of such studies to identify the current theoretical framework of the study in terms of: goals, importance, selections of the sample, the methodology of the study, determining the statistical methods, and displaying and explaining results. It became clear that such studies agree on the effectiveness of smart boards in the student achievement such as (Al-Asmari, 2011). It is also noted that there is a clear interest in the smart Board being one of the most important technological innovations in instruction and that the experimental method is prevalent in collecting and analyzing such studies. The current study differs from the previous studies in the quality, environment and tools. The present study benefited from the theoretical literature of the previous studies in the construction of the theoretical framework, and the design of the study tool; according to the knowledge of the researcher, there is no study that dealt with the effectiveness of smart boards in raising the achievement of the underachievers of the basic elementary stages.

METHOD AND PROCEDURES

Study Approach:

This study adapted the quasi-experimental approach, which is based on the diagnosis of the current situation and the description of the effectiveness of the smart board in raising the achievement among the underachievers of basic elementary stages to explore the problems where the achievement test was used for.

Study Sample

The study sample consisted of 70 male and female students (33 males and 37 females), who were selected from two schools in Bani Kinana for the basic elementary stages; from each

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school, underachievers were selected and divided into two groups: the experimental method using a smart board and the other one using the usual way.

Study Tools

To achieve the objectives of the study, the researchers prepared the study tool, which is a test consisting of (20) items, which were answered by the underachievers.

Test Validity

The instructional goals have been identified through the content, the specification table was designed, and the test was presented to ten of the university professors in the specialty of curricula and instruction methods, and a number of supervisors, and teachers of the basic elementary stages. Such arbitrators were asked about their comments on the wording of questions, the degree of appropriateness of the level of the underachievers, and coverage of the objectives of lessons and content and questions of the study have been modified in the light of their comments, re-wording of some questions and deleting and modifying others.

Test Reliability

To ensure the reliability of the test, it was applied by the researcher after being amended in light of the views of the arbitrators on a class of (15) male and female students, a sample out of the sample. The test applied on both samples lasted (45) minutes. It was applied again after ten days of applying the first application; the reliability was calculated through Pearson formula by (0.84) and the consistency coefficient was calculated using Cronbach's alpha by (0.89); accordingly, the test has an acceptable validity and reliability.

Instruction method using the smart board and mechanism for implementation

It was agreed with the male and female teachers in both schools to teach students using the smart board after confirming the readiness of teachers in using computers, the smart board and their obtaining of the ICDL, and Intel training sessions. Also, researchers confirmed the readiness of the smart board, discussed the worksheets and activities related to the skills of reading and writing with the executors of the study, ensured its ease of access, ability to print worksheets if necessary, moving between the activities to be performed, ensuring their suitability to the level of the students and observed the patterns of learning in the experimental group students, and finally asking teachers to commit themselves to the implementation of activities using the smart board, regardless of the time the activity takes. The smart boardwas not granted to the students who have studied in accordance with the ordinary way.

Instructional Material

This study was applied on the underachievers in the basic elementary stages and it examined the way of teaching the students' training of the reading and writing skills starting with setting the students' previous experiences about the subject of the lesson to be performed, and displaying the instructional goals and outcomes. Afterwards, the teacher makes a modeling to the activities to be provided to students and makes an oriented-practice from both the students and teachers with a feedback; parents work independently either in groups or individually through displaying the alphabets through the smart board, combing syllables and words to form sentences, and using the technology through a smart board in training students on the

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proper writing, which needed (25) classes in five weeks by five classes per week for each group. The content related to the Arabic language course of the basic elementary stages were used and the lessons were built in a particular pattern and mechanism through recalling the previous experiences of the new lesson. the teacher introduced and executed the previous experience with the help of the students; students' independence is done by students in using the smart board in doing the tasks with the interaction and motivation by both the teacher and students; the lesson requires a preparation of work papers that the students use in answering through the smart board.

Study Variables:

First, the independent variables: the instruction method, and it has two levels: (smart board, instructionthrough the usual way) in addition to sex which has two levels (male and female).

Second: The dependent variable: the direct achievementof the underachievers of the basic elementary stages and it is measured through the total marks obtained by the students in the test prepared for this purpose.

Study Procedures

A program has been prepared for the underachievers through the smart board in addition to an achievement test consisting of (20) items, which was presented to a group of arbitrators. Bani Kinana was addressed for the study applications, and the search sample was chosen and distributed into two groups: control and experimental. Also, Samar Elementary mixed School and Al-Quds Elementary mixed School in Bani Kinana were chosen for the year 2015/2016 and the study sample was tested through a test having the reading and writing skills. The test was then corrected to isolate the underachievers, the results were confirmed from the total grades of the studentsin the schools involved, and finally the data and information were collected and statistically processed.

Statistical Treatment:

To answer the question of the study, the researcher calculated the arithmetic means, pre and post standard deviations for the performance of the members of the study on the items of the test of raising the achievement, two way ANOVA for the arithmetic means of the post-performance of the members of the study on the items of the test of raising the performance, Bonferroni test of post-comparisons between the two amended post arithmetic means for the performance of the study members on all the items of the test of raising the achievement in addition to calculating the effect size through the use of Eta square.

RESULTS

The results of the first question, which stated: "Is there a statistically significant difference at the level of statistical significance ($\alpha = 0.05$) between the arithmetic means of the performance of the members of the study (underachievers of the basic elementary stages) on the items of raising achievement due to the two variables of: the group (control group: which studied through the ordinary blackboard, and the experimental: which studied through the smart board), sex and the interaction between them. "

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To answer this question, the arithmetic means and the pre and post standard deviations of the performance of the members of the study were calculated on the items of raising the achievement according to two variables: the group (control and experimental) and sex; table (1) It shows that.

Table (1): the arithmetic means and the pre and post standard deviations for the performance of the members of the study on the items of raising the achievement according to two variables: the group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board) and sex

Group	sex	pre-performance			post-performance	
		number	arithmetic mean	standard deviation	arithmetic mean	standard deviation
control group: whose members studied through the ordinary blackboard,	male	18	9.00	1.64	10.56	1.72
	female	19	12.58	1.43	14.11	1.10
	total	37	10.84	2.36	12.38	2.29
Experimental group: whose members studied through the smart board	male	15	8.87	1.73	15.33	1.40
	female	18	11.17	2.28	18.00	1.37
	total	33	10.12	2.33	16.79	1.92
total	male	33	8.94	1.66	12.73	2.88
	female	37	11.89	2.00	16.00	2.32
	total	70	10.50	2.36	14.46	3.06

Table (1) shows the existence of differences between the post arithmetic means of the performance of the members of the study on the items of the test of raising the achievement according to two variables: the group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board) and sex. To delete the pre-differences in their performance, and know the statistical significance of that difference according to two variables: control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board), sex and the interaction between them, Two Way ANCOVA was used as it is shown in table (2).

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Table 2: Results of the two- way ANOVA of the arithmetic means of the performance of the members of the study on the items of raising the level of achievement according to two variables: group, sex and the interaction between them.

variance source	sum of squares	degrees of freedom	sum of squares	value of F	statistical significance	effect size
accompanying pre-test	62.680	1	62.680	59.142	.000	.476
Group	374.385	1	374.385	*353.256	.000	.845
Sex	23.316	1	23.316	*22.000	.000	.253
group ×sex	.150	1	.150	.142	.708	.002
Error	68.888	65	1.060			
amended Total	645.371	69				

* Statistically significant at the level of statistical significance (α = 0.05)

Given the results of the analysis of variance in table (2), it is noted that:

- the value of the statistical significance of the variable of the group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board)was (0.000) which is lower than the level of statistical significance (α = 0.05); which indicates the presence of a statistically significant effect at the level of statistical significance (α = 0.05) between the two post arithmetic means of the performance of the members of the study on the items of the test of raising the achievement due to the variable of the group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board), which confirms the presence of an impact of the strategy of the (experimental group : whose members studied through the smart board) in improving the reading and writing underachievement. To determine the value of the statistically significant differences between the arithmetic means of the post-performance of the study members in the reading and writing underachievementaccording to the variable of the group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board)and figure out who benefited from this difference, Bonferroni test of post-comparisons was used where the amended arithmetic means were calculated to isolate the effect of the performance of the members of the two study groups (control and experimental) in the pre-test from their performance in the post-test. Table 3 present the results.

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Table 3: test results of Bonferroni post-comparisons between the two amended post-arithmetic means of the performance of the members of the study on the items of the test of raising the achievement due to the variable of the group after isolating the impact of performance on the pretest

Group	amended average	standard error	the value of the difference between the two arithmetic means
control group: whose members studied through the ordinary blackboard	12.17	0.17	**4.76*
experimental group: whose members studied through the smart board	16.93	0.18	

* Statistically significant at the level of statistical significance (α = 0.05)

The Results shown in Table (3) show that there is a statistically significant difference on the items of the test of raising the performance between the performance of the members of the two groups of the study, and for the benefit of the performance of the experimental group (whose members studied through the smart board). To figure out the effectiveness of the effect size of the group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board) on underachievementin reading and writing according to the effect size through the Eta Square, it has been found - from table (2) – that it equals (0.845): this means that the group variable (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board)explained about (% 84.5) of the variation in the arithmetic mean of the performance of the members of the study in reading and writing underachievement.

- the value of the statistical significance of the variable of sex (male and female) was (0.000) which is lower than the level of statistical significance (α = 0.05); which indicates the presence of a statistically significant difference at the level of statistical significance (α = 0.05) between the two arithmetic means of the post-performance of the study members on the items of the test of raising the achievement due to the variable of sex; this shows the effect of sex in the reading and writing underachievement. To determine the statistically significant value of the difference between the two arithmetic means of the post performance of the members of the study in the reading and writing underachievementdue to the variable of the group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board) and figure out who benefited from such a difference, Bonferroni test of post-comparisons was used where the two amended arithmetic means were calculated to isolate the effect of the performance of the members of the two study groups (control and experimental) in the pre-test on their performance in the post-test as it is shown in the results in table 4.

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Table 4: test results of Bonferroni of post-comparisons between the two post arithmetic means of the performance of the members of the study on the items of the test of raising the achievement according to the variable of sex after isolating the impact of performance on the pretest

sex	amended average	standard error	the value of the difference between the two arithmetic means
male	13.80	0.21	*1.51
female	15.31	0.20	

* Statistically significant at the level of statistical significance (α = 0.05)

Table (4), shows that there is a statistically significant difference on the items of the test of raising the achievement of the performance of the members of the study in favor of the performance of the males. To find the effectiveness of the (effect size) of sex on the reading and writing underachievementaccording to the effect size using an Eta Square, it has been found - from table (2) - that it equals (0.253): This means that the variable of sex explained about (25.3%) of the variance in the arithmetic mean of the performance of the members of the study in the reading and writing underachievement.

- the statistically significant value of the bilateral interaction between the two variables: the group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board) and sex (male and female) was (0.708) which is greater than the level of statistical significance (α = 0.05); this show the absence of statistically significant differences at the level of statistical significance (α = 0.05) between the arithmetic means of the post-performance of the members of the study on the items of the test of raising the achievement due to the bilateral interaction between the two variables: the group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board) and sex (male and female).

RESULTS DISCUSSION

Discussing the findings related to the question of the study, which stated: "Is there a statistically significant difference at the level of statistical significance (α = 0.05) between the arithmetic means of the performance of the members of the study (underachievers of the basic elementary stages) on the items of the test of raising the achievement due to the variables of: group (control group: whose members studied through the ordinary blackboard, and experimental: whose members studied through the smart board), sex and the interaction between them.

The results of the study have indicated:

- The presence of a statistically significant difference on the overall items of the test of raising the achievement between the performances of the members of the two groups of the study for the benefit of the performance of the experimental group (whose members studied through the smart board). The researcher attributed this result to the diversification in the methods of providing information, and changing the routine, which the students used to; the individual differences can be taken into account leading to a greater success through the use

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of smart board. This may be due to the strong desire shown by the experimental group students towards learning through the smart board, which made them excel on the group which studied in the usual way.

This may be attributed to the fact that the students using the smart board deal with the activities of a certain kind of movement which led to the correct understanding of concepts and the best performance on the achievement test. Working on such activities led to the acquisition of the Arabic language skills because the student has to do the tasks after being trained on a variety of exercises and gets an immediate feedback on his performance, which works to improve performance and learn the skills better, which is reflected on the achievement test; furthermore, the use of the smart board allows students to self-learn the activities contained in the course with the teacher enabling them to learn by his speed of absorption, correct his mistakes without feeling ashamed of his colleagues, allow the learner to re-review the instructional material many times without feeling embarrassed and bored, and provide learners with the feedback and reinforcement if his answer was correct and ask him to try again if the answer is wrong; such things increase the motivation of students towards learning to read and write; thus increasing their academic achievement.

This can also be attributed to the fact that using the smart board gives the teacher a greater opportunity to follow the students' work, especially the underachievers leading to increased achievement of students. This study is consistent with most of the previous studies, including (Dahlan, 2014; Abu Rizk, 2012). However, the study differed from (ishtaiwa & shana, 2011), which confirmed that the use of the students- teachers of the interactive whiteboard was modest.

- The results also indicated the presence of a statistically significant difference on the items of the test of raising the achievement between the performances of the members of the two groups of the study in favor of the males.

The researcher attributed the reason to the attention and concern of the female students with the academic achievement, which was compared to a significant concern of the male students in learning through the smart board. The trend of the male students towards e-learning, movement type, sounds and good electronic games increased their achievements, which can be explained to the males' rush and their nature of extra movement making them interact with the smart board inside the classroom; they interact with such activities more than the females, which could affect their achievement. The differences are attributed to the extra concern of the male students with the program and its clear impact on their performance during the implementation of the lessons' activities. Other reasons include high efforts made by the male students to raise their level of achievement, constant encouragement by the female teacher responsible for the program, and the encouragement of the parents who tend to pay attention to males more than females, which had an impact on the males' excellence; the two researchers have not observed that the previous studies have addressed sex as a variable in their studies, which is done here.

- The results also indicated that there were no statistically significant differences at the level of the statistical significance ($\alpha = 0.05$) between the arithmetic means of the performance of the members of the study on the overall items of the test of raising the achievement due to the bilateral interaction between the two variables: the group (control group: whose members studied through the regular blackboard and the experimental group: whose members studied through the smart board) and sex (male and female). This result is attributed by the researcher

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throughthe nature of the material and the activities applied, and the means and procedures, which affected the groups of males and females equallythat they approved the means of instruction used in this program which may be due to the novelty of their use, the convergence of the learning environment in terms of the physical facilities, and the similarity of the social and economic levels for each member of the study sample, especially they are from the same geographical area. The researcher explains this with the equality between the two sexes in having opportunities provided by this study even that they received the same variables and conditions which suit this study. Furthermore, the instruction methods used developed the students' skills and their different abilities regardless of gender, which increases the achievement of students. This can also be explained with the fact that the differences between the performance of the males and females were regular and that the use of both the smart board and the traditional method in teaching suit both males and females at the same level with regards to maintaining learning. The previous studies did not address the interaction between using the interactive whiteboard and sex.

Recommendations

The study recommended the need of training teachers on using the smart boardthrough training courses held under the auspices of the Ministry of Education, providing all basic and secondary schools with smart boards, and conducting further studies on the effectiveness of the smart board in the learning and instruction of students in basic and secondary education stages, and various subjects due to the role of the smart board in raising the achievement of students.

REFERENCES

Abdullah, I. A. & Abd Al-Ameer, S. A. (2014) *Education for Scientific Culture by Interactive Whiteboards from the Perspective of the Faculty Members of the University of Baghdad*. Journal of the Faculty of Education for Girls, 25 (3), 800-814.

Abu Al-Aynain, R. (2011) *The Impact of Smart Board on the Beginning, Fully Attending and Unable to Speak Students in the Arabic Language Course*. Unpublished MA Thesis, Faculty of Arts and Education, Arab Open Academy - Denmark.

Abu Jweir, A. (2009) *The Effect of Using a Multimedia Software Program through the Electronic Board on Teaching Sciences and some Cognitive Thinking Skills and the TrendsTowards themAmong the Students of the Primary Stages*. Unpublished MA Thesis, Princess Nora bent Abd Al- Rahman, Riyadh.

Abu Rizq, I. (2012) *The Impact of Using the Smart Board Technology in Providing the Training Teachers with the Skill of Planning in Teaching the Arabic Language and their Attitudes Towards it as an Instructional Tool*. International Journal of Instructional Research, United Arab Emirates University, (2), 153 -183.

Al-Asmari, T. (2011) *The Impact of Instructionthrough the Smart Board and the Traditional Blackboard on the Direct Achievement and the Continuous Learning Impact for the Sixth Grade Students*. Journal of University Development, 1, an electronic version available on: http://udc.mans.edu.eg/jupd/ar/default.asp

Dahlan. (2014) *The Effect of Using the Interactive Whiteboard in the Academic Achievement and the Continuous Learning Impact for the Students of the Seventh Grade Students in the Arabic Language and their Attitudes Towards it*. Al-ManaraJournal, 20 (2), 141-163.

Print ISSN: 2054-6351 (print), Online ISSN: 2054-636X (online)

Fathallah, M. A. (2010) Education Means and Techniques- Applications, The Second Part, Al-Rushd library, Riyadh, Saudi Arabia.

Ishtaiwa, F. & Shana, Z. (2011) *The use of interactive whiteboard (IWB) by pre-service teachers to enhance Arabic language teaching and learning*. Learning and Teaching in Higher Education: Gulf Perspectives, 8(2), 1-12.

Kennewell, H. Tanner, S. J. & Beauchamp, G. (2008) *Analyzing the use of interactive technology to implement interactive teaching*. Journal of Computer Assisted Learning, 24, 61–73.

Khamis, M. (2006) Learning Sources Introduction Technology. Dar Al- Sahab for Publishing and Distribution, Amman, Jordan

Mechling, L. G. & Krupa, K. (2007) *Impact of SMART Board technology: An Investigation of Sight Word Reading and Observational Learning*, Journal of Autism and Developmental Disorders, 37 (10): 1869-1882.

Sabri, M. I. (2008) From Instruction Aids to Instructional Technology. The first part, the Arab university book series.

Schuck, S., & Kearney, M. (2007) *Exploring pedagogy with interactive whiteboards:* A case study of six schools (Sydney‹ University of Technology Sydney). Retrieved August 8‹ 2011, from:http://www.eddev.uts.edu.au/teachered/ research/iwbproject/pdfs/iwbreport web.pdf

Tawalbeh, H. al. (2010) Visual Aids Technology. Dar Wael for publication, Amman, Jordan.

Zaytoon, H. (2007) The Basics of Instruction Aids and Education Technology. Al-Dar Alsawteya for publishing and distribution, Riyadh, Saudi Arabia.

Print ISSN: 2054-6351 (print), Online ISSN: 2054-636X (online)