IOSR Journal of Humanities And Social Science (IOSR-JHSS)
Volume 26, Issue 3, Series 4 (March. 2021) 42-52
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

The Effect of Interactive Whiteboard in Improving the Writing Skill of Students with Learning Disabilities and Their Attitudes Toward It

Lubna Okleh Hasan Alenazi

Abstract
This study aimed atexploring the effect of using an interactive whiteboard on improving the writing skill of students with learning disabilities and their attitudes towards it. The researcher prepared a test in writing skills including seven questions distributed on seven criteria, and an attitude scale consisting of (20) itemsbased ontriple Likert scale. The study sample consisted of (50) male and female studentsin two sections, during(2018/2019) academic year, first semester, chosen by purposive method. one of the sections was chosen randomly as an experimental group , (25) male and female students (12 male and 13 female students) taught using the interactive whiteboard, and the second section as a control group (25) male and female students (12 male and female students) taught through the traditionalmethod. The results of the study showed a statistically significant difference at the level of significance ($\alpha = 0.05$)between the arithmetic means of the two groups' performance on writing skills test (together and separately) and this was ascribed to teaching method variable and in favor of the experimental group performance who studied writing skills through interactive whiteboard compared with the performance of the control group who studied using traditional method where the size effect was also high. The study showed that there were no statistically significant differences at the level of significance ($\alpha = 0.05$) between the arithmetic means of the performance of the members of the two study groups on writing skills test collectively and individually and this attributed to the gender variable, and to the interaction between the variables of the teaching method and gender, The results also showed that the attitudes of the experimental group members towards using the interactive whiteboard were positive .
Key words: interactive whiteboard, writing skill, attitudes, learning disabilities.

Date of Submission: 01-03-2021 Date of Acceptance: 14-03-2021

I. INTRODUCTION

Teaching is one of the greatest profession as it plays a vital role in the future of societies and individuals where teachers seek to introduce knowledge to individuals in all stages from kindergarten to university. However, they often face great challenges represented in increasing passion for learning among students in the different school stages and the various difficulties that students may suffer from.Special education concern was and still is children suffering from many problems - due to various reasons - including educational problems such as reading and writing problems, disturbances in visual and auditory memory.

They are called (Learning Disabled) , educators have realized that there are a number of children suffering from learning difficulties, especially in terms of disability, deficiency or disturbance in the written language, as one of the areas of learning disabilities. the literature indicates that the first interest in writing disabilities was in 1971 AD, when the French doctor James Hinshelwood introduced the first acceptable leaflet describing the causes of disorders and methods of intervention to deal with them (Rashid, 2002).

Therefore, the modern approach of teaching has engaged in making useof the tools of modern technology because of the benefits and facilities as well as added value to the teaching and learning process. Undoubtedly, that technological developments have improve the learning and teaching process, due to their ability to convey the idea to the learner with the great potentials such as sound, image, and video, and their ability to save time and effort, which gives the teacher enough time to help the learner practice what he has learned theoretically into applied practice, This instills the experience or skill, and thus remains in his mind for a longer period of time and where he needs it he can do it correctly (Al-Omari and Al-Momani, 2011).

1.1 The study problem is determined by the following questions:

1. What is the effect of using the interactive whiteboard on improving the writing skill of students with learning disabilities?

2. Are there statistically significant differences at the level of statistical significance (α = 0.05) between the two arithmetic averages of the study individuals 'performance on the writing skills test collectively and individually ascribed to two variables:teachingmethod (traditional, interactive whiteboard), gender, and the interaction betweenthem?
3. What are the attitudes of the experimental group members towards the interactivewhiteboard

1.2Study hypotheses:

1. The first null hypothesis, which states: "There is no statistically significant difference at the level of statistical significance (α = 0.05) between the two arithmetic means of the study members' performance on the writing skills test collectively and individually attributed to the teaching method (traditional, interactive whiteboard)
2. The second null hypothesis, which states: "There is no statistically significant difference at the level of statistical significance (α = 0.05) between the two arithmetic means of the study individuals' performance on the writing skills test, collectively and separately, due to gender
3. The third null hypothesis, which states: "There are no statistically significant differences at the level of statistical significance (α = 0.05) between the arithmetic averages of the study members' performance on the writing skills test collectively and individually due to the interaction between two variables: the teaching method (traditional, interactive whiteboard) and gender

1. 3Study Objectives :

This study aimed to investigate the effect of using the interactive whiteboard on improving the writing skill with its basic standardsfor students with learning disabilities, and identifying the differences between study members according to the method of teaching and gender. It also sought to explore the attitudes of students with learning disabilities towards the interactive whiteboard.

1.4Importance of study:

This study derives its importance in that it is an attempt to know the effect of using the interactive whiteboard in improving the writing skill of students with learning disabilities and their attitudes towards it, and the significance of this study is that:

1. it may add new generalizations and ideas about the effectiveness of using the interactive whiteboard in improving the performance of students, especially students with learning disabilities.
2. It may provide educational guide about the impact of using the interactive whiteboard on education, which may help in tackling the poor performance of students with learning disabilities, especially their weakness in the skill of writing.
3. Teachers may be acquainted with the importance of applying and using the interactive whiteboard in teaching, which may result in the development of teaching methods used in schools in order to improve the performance of students with learning disabilities, especially in writing skill.
4. It may provide knowledge beneficial to teachersforprocedures for implementing lessons using the interactive whiteboard for students of learning disabilities, and how to choose the most effective activities that are expected to provide students with the knowledge, skills and understanding to be achieved.
5. It may help educational supervisors encourage learning disabilities teachers , train them, and guide them to use the interactive whiteboard to be in line with modern learning theories in educational psychology.
6. It may benefit those in charge of planning curricula inlearning disabilities by including student activities that depend on the use of the interactive whiteboard or modern technological tools in general, as provided by the guide prepared by the researcher.

1.5Study limitations:

This study was carried out within the following limits:

1. This study was applied to students with learning disabilities in public schools in their private sections in the governorate of Mafraq, whose schools contain a smart board.
2. The study was implemented in Mafraq Governorate schools in the first and second semesters 2018/2019.
3. The writing skill exercises and activities were selected from the Arabic language textbook in the Reading and Arithmetic Initiative manuals, from the learning disabilities teaching Handbook, and from books and references from theoretical literature collected in a special guide by the researcher.
4. The study tool prepared by the researcher, the interactive whiteboard software to display the written exercises in the special guide, an achievement test to measure the degree of achievement, and a tool to measure students 'attitude towards using the interactive whiteboard.
5.The results of the study are determined according to the validity and reliability of the study tool and the responses of the study members.

II. THEORETICAL LITERATURE:

This chapter shows the theoretical framework and previous studies relevant to the essence of the study:

2.1 Theoretical literature:

Writing is one of the most important means of human communication. It can even be said that it is one of the main outcomes that we seek to achieve through teaching Arabic language. Writing is one of the life skills with which a man serves himself. If a person, in everyday life situations, expresses his thoughts and feelings , there is no need for eloquent speech, but it becomes an urgent need when writing an article for a newspaper or magazine. Written expression has great social values as society needs written expression to record knowledge and science, and to preserve general and private works, but its value is clearly evident in preserving human heritage with its various ancient and modern stages, in addition , it combines the past and present achievements of the peoples, and this value assumes its high position in the hands of those with high talents and who are well versed in writing and who gain respect and appreciation of society which rely on them in different walks of life as propaganda, politics, guidance, and aesthetic writings (Hadeeb, 2003).

The interactive whiteboard is connected to a computer similar to the screen on which it is presented, but it is a touch screen, and the computer is controlled by this whiteboard, which is a desktop computer. It obviates the need for datashow and has the last touches of technological modern alization "(Saraya, 2009, p. 167).

Among the indicators for the existence of learning disabilities, the difficulty of school learning, i.e. learning problems poses the main benchmark of the existence of disability in learning, and the problems that accompany these difficulties are results and not benchmarks, and the lack of consistency in the performance of school assignments in the different curricula . Learning disabilities are represented in the distraction of attention, hyperkinetic behavior, and the problems of basic psychological processes as the defect in the functions of the auditory, visual and motor perception, attention, retention, language, imagination and emotion, etc., and psychological and environmental problems related to the nature of the environment and climate, and in psychological problems relevant to the teacher's weak behavior in the in Class, or his professional level in his major, and the ability to deal with the student's problems in the learning process (Rashid, 2002).

The increasing interest in introducing modern technology in education, due to its benefits and facilities and added value to the teaching and learning process. The interactive whiteboard or interactive whiteboard is among the most important innovations due to its importance and novelty into the teaching-learning process in our schools, through it, learning materials can be presented in an attractive and interactive way (Al-Omari, 2014).

The interactive whiteboard has an important impact on the teaching process, and it also helps teachers to plan before the class through arrangement, organization and addition of some influences and media. The interactive whiteboard also gives learners the opportunity to interact and actively participate in the process and thus the learning effect remains, and the lesson is repeated after Its recording, and it can be showed to the absent students or printed for the class instead of writing. It can also be sent by e-mail. The problem of teacher shortage can be solved by using the interactive whiteboard to overcome the problem of teachers 'shortage in some majors and schools, and it can also be used. In the process of teaching people with special needs. Pictures used through the interactive whiteboard .The pictures used in the interactive whiteboard, for example, and how they are moved will attract the attention of people with special needs and maintain the impact of learning for them, and flexibility in the teaching and learning process (Salem, 2004).

2.2 Previous Studies:

The researcher reviewed many Arab and foreign studies related to the current study variables and its topics, arranged from the earliest to the most recent as follows:

(Ting, Tai & Lin, 2015) conducted a study in Taiwan that aimed to investigate the effect of using the interactive whiteboard inlearning enhancement, vocabularydevelopment, the impact on the level of linguistic competence among basicstage students, and to achieve the study objectives, avocabularytest in was used, a questionnaire to collect data, and interviews to identify the effect of the interactive whiteboard on the level of linguistic competence, the study sample consisted of (134) students and (56) male and female teachers.Thestudy results showed a positive statistically significant effect ofthe interactive whiteboard in enhancing students 'vocabulary learning . It also indicated that the interactive whiteboard had a positive effect on the students' level of linguistic competence.

Hazimeh (2016) conducted a study to identify the effect the interactive whiteboard use on improvingsecond-grade students' writing skill in the United Arab Emirates. The researcher chose 61 male and female students from two sections: the first was a control and the latter an experimental. A pre test was conducted for the two groups toguarantee equivalence between the two groupsand after that, students were trained on writing skills based on the standards adopted in the study, through the use of the interactive whiteboard.The experiment lasted for two months with two lessons per week. After conducting the post test, the

extracted data showed general weakness in second grade students' executive writing skills and there werestatistically significant differences between the performance of the two groups in writing skill according to the intended criteria and in favor of the experimental group trained through the interactive whiteboard.

III. METHODOLOGY:

To achieve the objectives of the study, the quasi-experimental approach was used to identify theimpact of the interactive whiteboard on improving the writing skills of students with learning disabilities in the Directorate of Education in Al Mafraq, through (experimental and control), where the experimental group was taught the educational material through the interactive whiteboard, while the control group was taught the same educational material through the traditionalmethod. a pre- and post-achievement test were used for the two groups to measure the extent to which their writing skill improved, and another measure was used to find out the attitudes of the experimental group students towards using the interactive whiteboard.

3.1The study sample:

The study sample consisted of a group of students with learning disabilities, (50) male and female students – from all Mafraq Directorate of Education schools –who specifically suffer from difficulty in writing skills. They were randomly distributed into two groups. The two study groups were chosen by simple random method as follows:

I. A control group consisting of (25) male and female students, (12 male and 13 female) who were taught through the traditionalmethod.
II. An experimental group consisting of (25) male and female students (12 male and 13 female students) who were taught through the interactive whiteboard.

3.2 Two study tools:

To achieve the objectives of the study, the researcher prepared an educational material on the interactive whiteboard program directed to students of learning disabilities consisting of exercises and exercises to learn writing suitable for all ages from the second grade to the sixth basic grade with levels forstudentto follow gradually through their learning stages.An achievement test for the two groups had been prepared covering all aspects of the educational material to investigate the impact of using the interactive whiteboard on improving the skill of writing. This test consisted of (7) questions covering (7) criteria (Appendix F), and a20 - item questionnaire to measure the attitudes of experimental group students with learning disabilities about theirtendency towards using the interactive whiteboard wasprepared by the researcher (Appendix D).

3.3 Study variables:

Independent variable: teaching method(traditional method, interactive whiteboard) and gender.

Dependent variable: writing skills together and each one alone , students' rating on attitude scale items together.

3.4 Results presentation:

This chapter included a presentation of the study findings, which aimed to investigate the effect of the interactive whiteboard in improving writing skills. The results were presented based on the two study questions. as follows :

The results of the first question,: "Is there a statistically significant difference at the level of statistical significance ($\alpha = 0.05$) between the two arithmetic means of the performance of the study individuals on the writing skills test(together and each skill alone) attributed to two variables: teaching method (traditional, interactive whiteboard), gender, and the interaction between them?

From this question, the following null hypotheses emerged

● **The first null hypothesis**, which states: "There is no statistically significant difference at the level of statistical significance ($\alpha = 0.05$) between the two arithmetic means of the study members' performance on the writing skills test collectively and individually attributed to the teaching method (traditional, interactive whiteboard)

●**The second null hypothesis**, which states: "There is no statistically significant difference at the level of statistical significance ($\alpha = 0.05$) between the two arithmetic means of the study individuals' performance on the writing skills test, collectively and separately, due to gender.

●**The third null hypothesis**, which states: "There are no statistically significant differences at the level of statistical significance ($\alpha = 0.05$) between the arithmetic means of the study members' performance on the writing skills test collectively and individually due to the interaction between two variables: the teaching method (traditional, interactive whiteboard) and gender.

To answer this question and verify its accompanying hypotheses; The arithmetic means and standard deviations of the pre , post and modified post total writing skills test performance of the members of the study were calculated, according to the teaching method, as shown in Table (4).

Table (4): The arithmetic means and standard deviations of the performance of the members of the study, pre, post, and, modified post on the writing skills test together, according to the teaching method .

		Pre performance		**Post performance**			
Teaching Method	**Gender**	**Arithmetic mean**	**Standard deviation**	**Arithmetic mean**	**Standard deviation**	**Modified arithmetic mean**	**Standard error**
Traditional	**Male**	198.15	112.59	313.96	70.81	318.92	12.18
	Female	234.00	101.32	324.63	20.42	325.55	11.33
	Total	216.79	106.19	319.51	50.36	420.80	8.37
Interactive Whiteboard	**Male**	310.40	52.92	530.38	37.29	522.68	12.72
	Female	227.85	60.30	542.35	17.73	543.96	11.36
	Total	267.47	69.81	536.60	28.84	434.75	8.04
Total	**Male**	254.27	103.39	422.17	123.62	318.92	12.18
	Female	230.92	81.75	433.49	112.58	325.55	11.33
	Total	242.13	92.55	428.06	116.93		

Table (4) shows that there was an apparent difference between the pre and post arithmetic mean of the performance of the experimental group members who were taught by the interactive whiteboard on the writing skills testcollectively, where the value of the post arithmetic mean was higher than the pre arithmetic mean, and the apparent difference between the post arithmetic mean of the performance of the members of the control group who was taught by the traditional method, and experimental group taught through the interactive whiteboard, where the value of the post arithmetic mean of the performance of the members of the experimental group was higher than the post arithmetic mean of the performance of the members of the control group. To know the statistical significance of the post apparentdifferences according to the teaching method, after removalof pre differences of the performance of the members of the two study groups on all writing skills test,; ANCOVA was used, as shown in Table (5).

Table (5): The results of ANCOVA of the arithmetic means of the performance of thestudymembers post writing skills test collectively according to the teaching method .

Source of variance	**Sum of squires**	**D.f**	**Mean squire**	**F value**	**Statistical significance**	**Effect size**
Pre test (accompanying)	4288.049	1	4288.049	2.575	0.116	
Teaching method	503579.151	1	503579.151	**302.384*	*0.000*	***0.870***
Gender	2383.017	1	2383.017	1.431	0.238	
Teaching method×gender	592.676	1	592.676	0.356	0.554	
Error	74941.387	45	1665.364			
Modified total	669935.786	49				

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

having looked at the results of the analysis of variance shown in Table (5), it is noted that the value of the statistical significance of the teaching method was (0.000), which is less than the level of statistical significance (α = 0.05). Thus, the first null hypothesis was rejected and the alternative was accepted, which states: "**There was a statistically significant difference at the level of statistical significance (α = 0.05) between the two arithmetic means of the performance of study individuals on all writing skills test that was ascribed to the teaching method (traditional, interactive) whiteboard).** From the table of arithmetic means, it is found that the statistically significant difference was in favor of the performance of the members of the experimental group who were taught through the interactive whiteboard, with an arithmetic mean higher than the modified arithmetic mean of the performance of the members of the control group taught by the traditional method. Effect Size was calculated using Eta Square whose value was (0.870%); This means that (87.0%) of the variance (improvement) in thepost performance of the individuals on all writing skills test was due to the interactive whiteboard.

- The value of the statistical significance of gender was (0.238), which was greater than the level of statistical significance (α = 0.05). Thus, the second null hypothesis was accepted, which states: "**There was no statistically significant difference at the level of statistical significance (α = 0.05) between the two arithmetic means of the study individuals' performance on all writing skills test attributed to gender"**

-The value of the statistical significance of the binary interaction between the two variables: teaching method and gender was (0.554), which was greater than the level of statistical significance (α = 0.05). Thus, the third null hypothesis, which states: "**There were no statistically significant differences at the level of statistical significance (α = 0.05) between the arithmetic means of the study members' performance on all writing skills test due to the binary interaction between the two variables: teaching method and gender"** was accepted. "

With regard to the performance of the study membersaccording to each criterion of the writing skills test; The arithmetic means and standard deviations of the pre, post, and modified post performance of the members of the study were calculated for each criterion of the writing skills test separately, according to the teaching method, as shown in Table (6).

Table (6): The arithmetic means and standard deviations of the pre, post, and modified post performance of the study members for each criterion of the writing skills test separately, according to the teaching method .

Criterion			**Post performance**				**Pre performance**	
	Teaching method	**Gender**	**Standard error**	**Modified arithmetic mean**	**Standard deviation**	**Arithmetic mean**	**Standard deviation**	**Arithmetic mean**
Writing words with long and short vowels (TS = 570)	**traditional**	**Male**	3.64	48.82	20.85	48.96	15.00	39.34
		female	3.15	58.82	10.29	57.52	21.00	47.85
		total	2.35	53.82	16.47	53.41	18.62	43.95
	Interactive whiteboard	**Male**	3.71	67.27	1.41	68.71	8.35	55.60
		female	3.18	68.49	1.55	68.88	10.98	42.08
		total	2.29	67.88	1.45	68.80	11.82	48.57
	total	**Male**	2.34	58.04	17.62	58.83	14.36	47.83
		female	2.20	63.66	9.25	63.20	16.68	44.96
		total			13.94	61.11	15.54	46.31
Writing words containing tied ta (taamarbouta), open taa,(taamaftoha) and haa (TS = 570)	**traditional**	**Male**	3.80	35.01	18.07	36.04	15.15	17.50
		female	3.30	45.76	12.02	43.65	20.67	28.08
		total	2.46	40.39	15.39	40.00	18.65	23.00
	Interactive whiteboard	**Male**	3.87	74.48	9.01	74.79	14.90	41.04
		female	3.32	74.71	2.58	75.77	8.38	24.23
		total	2.40	74.59	6.39	75.30	14.50	32.30
	total	**Male**	2.44	54.75	24.22	55.42	18.99	29.27
		female	2.30	60.24	18.46	59.71	15.58	26.15
		total			21.31	57.65	17.19	27.65
Writing words containing weak and strong L and doubling (TS = 570)	**Traditional**	**Male**	3.02	40.22	15.88	40.42	16.53	18.75
		female	2.62	40.80	8.86	39.23	16.97	18.85
		total	1.96	40.51	12.46	39.80	16.41	18.80
	Interactive whiteboard	**Male**	3.08	74.12	4.87	74.58	14.28	29.17
		female	2.64	73.48	4.27	74.04	10.13	22.69
		total	1.91	73.80	4.48	74.30	12.47	25.80
		Male	1.94	57.17	20.89	57.50	16.01	23.96

Criterion			Post performance				Pre performance	
	Teaching method	Gender	Standard error	Modified arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation	Arithmetic mean
Writing words containing weak and strong L and doubling (TS = 570)	Total	female	1.83	57.14	19.01	56.63	13.83	20.77
		total			19.73	57.05	14.85	22.30
	traditional	Male	2.75	42.07	13.84	40.21	17.52	22.50
		female	2.39	44.48	9.87	43.46	23.95	27.31
		total	1.78	43.28	11.80	41.90	20.82	25.00
	Interactive whiteboard	Male	2.81	74.80	5.98	77.71	15.03	37.08
		female	2.41	79.72	1.58	79.23	10.68	26.54
		total	1.74	77.26	4.27	78.50	13.77	31.60
	Total	Male	1.77	58.44	21.81	58.96	17.61	29.79
		female	1.66	62.10	19.51	61.35	18.17	26.92
		male			20.47	60.20	17.78	28.30
Writing words containing tanweenfathah , damma and kasrah (TS = 570)	traditional	Male	3.41	35.36	10.31	33.75	13.39	17.08
		female	2.95	30.73	6.28	30.38	16.15	22.31
		total	2.20	33.05	8.45	32.00	14.82	19.80
	Interactive whiteboard	Male	3.47	66.59	11.97	68.13	7.75	34.58
		female	2.98	73.27	11.17	72.88	8.51	21.54
		total		69.93	11.58	70.60	10.39	27.80
	Total	Male	2.19	50.98	20.68	50.94	13.94	25.83
		female	2.06	52.00	23.42	51.63	12.66	21.92
		total			21.92	51.30	13.30	23.80
Writing sentences consisting of two or three words (TS = 570)	traditional	Male	2.67	34.24	11.46	33.75	18.63	23.33
		female	2.32	37.73	9.47	36.92	18.54	24.62
		total	1.73	35.98	10.38	35.40	18.20	24.00
	Interactive whiteboard	Male	2.72	72.29	4.32	73.96	15.87	36.25
		female	2.33	74.65	3.93	74.62	12.10	23.85
		total	2.48	73.47	4.05	74.30	15.12	29.80
	Total	Male	1.72	53.27	22.21	53.85	18.16	29.79
		female	1.61	56.19	20.49	55.77	15.34	24.23
		total			21.14	54.85	16.82	26.90
Analyzing sentences into words, words into syllables, and syllables into sounds (TS = 570)	traditional	Male	3.84	79.97	17.43	80.83	34.34	62.92
		female	3.33	73.30	10.49	73.46	29.79	65.00
		total	2.48	76.64	14.43	77.00	31.39	64.00
	Interactive whiteboard	Male	3.91	92.28	8.39	92.50	4.92	76.67
		female	3.36	96.92	5.60	96.92	19.95	66.92
		total	2.42	94.60	7.29	94.80	15.32	71.60

Criterion		Post performance				Pre performance	
Teaching method	Gender	Standard error	Modified arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation	Arithmetic mean
Total	Male	2.47	86.13	14.65	86.67	25.00	69.79
	female	2.32	85.11	14.52	85.19	24.86	65.96
	total			14.45	85.90	24.75	67.80

(TS: the total score of the criterion).

asseen in Table (6), there was an apparent difference between the pre and post arithmetic mean of the performance of the experimental group members taught by the interactive whiteboard on each of the writing skills test criteria separately, where the value of the post arithmetic mean was higher than the pre arithmetic mean, and the existence of aapparent difference between the post arithmetic mean of the performance of the members of the control group taught by the traditional method and experimental group taught by the interactive whiteboard, where the value of the post arithmetic mean of the performance of the experimental group members was higher than the post arithmetic mean of the performance of the control group members. To know the statistical significance of the apparent post differences according to the teaching method, after removalpre differences in the performance of the members of the two study groupsoneach of the writing skills test criteria separately; The accompanying two way analysis of variance (Two Way ANCOVA) was used, as shown in Table (7).

Table (7): The results of the analysis of variance with the arithmetic means of thepost performance of the individuals on each of the criteria for the writing skills test separatelyaccording to the teaching method .

Source of variation	criterion	Statistical significance	F value	Mean squire	d.f	Sum of squares
Accompanying (pre first)	first	0.404	0.712	86.025	1	86.025
	second	0.279	1.208	159.363	1	159.363
	third	0.010	7.401	618.139	1	618.139
	fourth	0.106	2.740	189.594	1	189.594
	fifth	0.247	1.381	146.321	1	146.321
	sixth	0.483	0.501	32.642	1	32.642
	seventh	0.494	0.477	64.168	1	64.168
Accompanying (pre second)	first	0.956	0.003	0.371	1	0.371
	second	0.441	0.608	80.143	1	80.143
	third	0.395	0.741	61.924	1	61.924
	fourth	0.021	5.762	398.730	1	398.730
	fifth	0.571	0.327	34.632	1	34.632
	sixth	0.839	0.042	2.717	1	2.717
	seventh	0.508	0.447	60.199	1	60.199
Accompanying (pre third)	first	0.532	0.399	48.188	1	48.188
	second	0.020	5.909	779.293	1	779.293
	third	0.326	0.989	82.572	1	82.572
	fourth	0.615	0.257	17.762	1	17.762
	fifth	0.420	0.665	70.438	1	70.438
	sixth	0.370	0.823	53.579	1	53.579
	seventh	0.354	0.879	118.339	1	118.339
Accompanying (pre fourth)	first	0.879	0.023	2.825	1	2.825
	second	0.083	3.173	418.516	1	418.516
	third	0.287	1.166	97.416	1	97.416
	fourth	0.840	0.041	2.842	1	2.842
	fifth	0.634	0.230	24.343	1	24.343
	sixth	0.813	0.057	3.714	1	3.714

Source of variation	criterion	Statistical significance	F value	Mean squire	d.f	Sum of squares
Accompanying (pre fifth)	seventh	0.790	0.072	9.681	1	9.681
	first	0.654	0.203	24.599	1	24.599
	second	0.147	2.189	288.723	1	288.723
	third	0.375	0.804	67.166	1	67.166
	fourth	0.785	0.076	5.237	1	5.237
	fifth	0.086	3.105	329.079	1	329.079
	sixth	0.327	0.986	64.226	1	64.226
Accompanying (pre sixth)	seventh	0.439	0.612	82.400	1	82.400
	first	0.504	0.454	54.943	1	54.943
	second	0.893	0.018	2.430	1	2.430
	third	0.476	0.517	43.215	1	43.215
	fourth	0.671	0.183	12.678	1	12.678
	fifth	0.970	0.001	0.150	1	0.150
	sixth	0.644	0.217	14.127	1	14.127
Accompanying (pre seventh)	seventh	0.919	0.010	1.413	1	1.413
	first	0.007	8.105	979.847	1	979.847
	second	0.603	0.275	36.332	1	36.332
	third	0.708	0.142	11.860	1	11.860
	fourth	0.368	0.831	57.518	1	57.518
	fifth	0.615	0.257	27.247	1	27.247
	sixth	0.936	0.007	0.431	1	0.431
Teaching strategy Hotelling's Trace=11.140 Statistical =significance 0.000*	seventh	0.383	0.780	105.017	1	105.017
	first	*0.000*	**16.938*	2047.684	1	2047.684
	second	*0.000*	**91.828*	12111.543	1	12111.543
	third	*0.000*	**137.340*	11470.580	1	11470.580
	fourth	*0.000*	**172.756*	11954.822	1	11954.822
	fifth	*0.000*	**132.856*	14079.985	1	14079.985
	sixth	*0.000*	**223.380*	14544.892	1	14544.892
	seventh	*0.000*	**24.805*	3339.966	1	3339.966
gender Hotelling's Trace=0.265 Statistical significance = 0.326	first	0.094	2.951	356.788	1	356.788
	second	0.116	2.591	341.691	1	341.691
	third	0.991	0.000	0.010	1	0.010
	fourth	0.146	2.202	152.365	1	152.365
	fifth	0.739	0.112	11.891	1	11.891
	sixth	0.231	1.484	96.639	1	96.639
	seventh	0.770	0.086	11.624	1	11.624
Teaching strategy ×gender Wilks' Lmbda=0.736 Statistical significance = 0.160	first	0.261	1.302	157.354	1	157.354
	second	0.198	1.713	225.980	1	225.980
	third	0.849	0.037	3.060	1	3.060
	fourth	0.668	0.187	12.938	1	12.938
	fifth	0.125	2.462	260.904	1	260.904
	sixth	0.841	0.041	2.642	1	2.642
	seventh	0.172	1.941	261.318	1	261.318
Error	first			120.895	38	4594.006
	second			131.893	38	5011.951
	third			83.520	38	3173.751
	fourth			69.201	38	2629.628
	fifth			105.979	38	4027.206
	sixth			65.113	38	2474.287
	seventh			134.648	38	5116.611

Source of variation	criterion	Statistical significance	F value	Mean squire	d.f	Sum of squares
	first				48	9494.793
	Second				48	21828.316
	Third				48	18587.500
modified total	**Fourth**				48	19875.000
	Fifth				48	22847.194
	Sixth				48	21585.459
	Seventh				48	10150.000

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

Having looked at the results of the analysis of variance shown in Table (7), it is noted that:

-The value of statistical significance for the teaching strategy for all criteria is less than the level of statistical significance (α = 0.05). Thus, the first null hypothesis was rejected, and the alternative, which states: "**There was a statistically significant difference at the level of statistical significance (α = 0.05) between the two arithmetic means of theperformance of study members' on each of the criteria of writing skills test separatelyascribed to the teaching method (traditional, Interactive whiteboard) "**was accepted. From the table of arithmetic averages, it was found that the statistically significant difference was in favor of the performance of the members of the experimental group taught by the interactive whiteboard, with an arithmetic mean higher than the modified arithmetic mean of the performance of the members of the control group who were taught by the traditional method..The effect size was calculated using Eta Square, whose value was (0.308, 0.707, 0.783, 0.820, 0.778, 0.855, 0.395). This means that (30.8%, 70.7%, 78.3%, 82.0%, 77.8%, 85.5%, 39.5%) of the variance (improvement) in thepost performance of the members of the study on each criterion of the writing skills test separately was due to the interactive whiteboard.

- The value of the statistical significance of gender of all criteria is greater than the level of statistical significance (α = 0.05). Thus, the second null hypothesis which states: "There was no statistically significant difference at the level of statistical significance (α = 0.05) between the two arithmetic means of the study individuals' performance on each of the criteria for writing skills test individually attributable to gender" was accepted .

-The value of the statistical significance of the binary interaction between the two variables: teaching method and gender for all criteria is greater than the level of statistical significance (α = 0.05). Thus, the third null hypothesis which states: "**There were no statistically significant differences at the level of statistical significance (α = 0.05) between the arithmetic means of the study members' performance on each of the criteria for writing skills test separately attributed to the binary interaction between the variables of teaching method and gender"** was accepted,

The results of the second question, which states: "**What are the attitudes of the experimental group members towards using the interactive whiteboard?**

To answer this question, the arithmetic means and standard deviations of the rating of the members of the experimental group were calculated on each item of the attitude scale separately and together.

3.5 Discussion results :

First: Discussion the results related to the first question: which states, "Was there a statistically significant difference at the level of statistical significance (α = 0.05) between the two arithmetic means of the performance of the study individuals on the writing skills test collectively and separately attributable to two variables: the teaching method (traditional, interactive whiteboard) and gender and the interaction between them?

The results showed that there were statistically significant differences between the arithmetic means of the performance of students with learning disabilities on the writing skillstest collectively and separately in favor of the experimental group i.e. the performance of the students who were exposed to the intended activities using the interactive whiteboard was better than the performance of the students who were taught through the traditional method. The researcher explained : this result was due to theobvious effect the interactive whiteboard has on the development of many language skills in general and the skill of writing, in particular since it depends mainly on attracting attention, motivating and taking into account students' needs and abilities in an organized and interesting way, and this is what the interactive whiteboard may have achieved among students, as it showed students' reactions to that during the study application.This may stems from the multiple characteristics of the interactive whiteboard that attract students' attention and encourage them to do the skills spontaneously, and it is a logical result as writing skills with their various cognitive and performance aspects are based on the writing criteria adopted in the study. This was obvious from the high size effect and accordance with what some studies

have indicated, such as (Al-Asmari (2011); Hazimeh (2016); (Smith, Hardman & Higgins, (2006) which showed that the development of students' performance in the targeted skills depends on practice and training, and this what an interactive whiteboard offers.

Second , discussion of the results related to the second question: What attitudes the experimental group members have towards interactive whiteboard use?

The results showed that experimental group members' attitudes towards interactive whiteboard use was positive, where they emphasized that interactive whiteboard made instruction fun , broke feeling of boredom. The researcher attributed this to the interactive whiteboard characteristics in that it attracts attention and triggers motivation by combining sound, image and motion to showcase the educational material with the possibility of auditory and kinesthetic interaction on the part of learners. During study conducting, The researcher also felt the difference in the extent of entertainment and suspense the students experienced . Their reactions reflected desire to use interactive whiteboard permanently . Therefore, these results were in accordance with (Mathews &Elaziz, 2010). This emphasized the high effect of interactive whiteboard use on teaching process ,especially for students with learning disabilities compared to the traditional method.

IV. Recommendations:

1. Supporting teachers and raising their awareness to use interactive whiteboard in teaching writing skills to basic stage students and those with learning disabilities .
2. Providing teachers with knowledge and skills related to technological innovations , especially interactive whiteboard and its implementation in teaching process.
3. The necessity of providing interactive whiteboard with all its different accessories in school as possible due to its importance in motivating students and increasing their active interaction with the teaching content and applied activities.
4. Drawing educationalists' attention to the importance of introducing teaching technology to their academic programs and curricula to overcome their problems.
5. Conducting more studies on the use of interactive whiteboard in teaching different subjects in variety of levels and exploring its effect on learning outcomes.

REFERENCES

[1]. Dahlan, Omar (2014). **The effect of using the smart board on academic achievement and the retention of the learning effect among students. The seventh basic grade in the Arabic and their attitudes towards it**. Al-Manara Magazine, Al-Aqsa University, Palestine, 20, (2 / b). 141- 163

[2]. Rashid, Adnan (2002). **The psychology of children with learning disabilities (slow learners)**. Amman: Wael Publishing House

[3]. Salem, Ahmad (2004). **Education and e-learning technology**. Riyadh: Al-Rashed Library

[4]. Saraya, Adel (2009). **Technology of Education and E-Learning Resources: Theoretical Concepts and Practical Applications**, Part Two. Riyadh: Al-Rashed Library.

[5]. Al Saed, Al Saed , (2003). **Learning difficulties and visual perception - diagnosis and treatment**. Cairo: darelfikrelarabi

[6]. Al-Omari, Muhammad (2014). **E-learning and its modern technologies**. Irbid: Publications of the Deanship of Scientific Research and Postgraduate Studies - Yarmouk University.

[7]. Al-Omari, Muhammad and Al-Momani, Muhammad (2011). **Innovations in the teaching and learning process and a step-by-step guide to their use**. Irbid: The Modern World of Books.

[8]. El-Far, Ibrahim (2004). **Computer Teaching Methods**. Amman: Dar Al-Fikr for printing, publishing and distribution.

[9]. Hadeeb, Musa (2003). **Encyclopedia of Alshamel in writing and spelling**. Amman: Osama Dar for Publishing and Distribution.

[10]. Hazimeh, Sami (2016). The effect of using a smart board in improving the skill of writing performance among second-grade students in the United Arab Emirates.**Al-Manara Journal for Research and Studies**, Aal Al-Bayt University - Jordan, 23 (3) 175-220.

[11]. Mathews-Aydinli, J. &Elaziz, F. (2010**) Turkish student's and Teacher's Attitudes toward the Use of Interactive Whiteboards in EFL classrooms**.Computer Assisted Language Learning, 23(3), 235-252.

[12]. Smith, F .Hardman, F.& Higgins, s.(2006). The impact of interactive whiteboard on teacher – pupil interaction in national literacy and numeracy strategies**, British Education Research Journal**, 32(3),PP433-457.

[13]. Ting.Y., Tai, Y. & Lin, H. (2015). The Use of Interactive Whiteboard in English Vocabulary Acquisition and Learning Effect on Students with Different Proficiency Level. **International Journal of Information and Communication Technology Education**, 11 (20), 41-56.