

The Effect of using Smart board in the achievement of seventh grade students in the basic education stage in Gedaref Locality

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Abstract: The objective of the study was to discover the effect of using the smart board in the achievement of the seventh grade students in the basic education stage in Gedaref locality in the technical education subject. To achieve the objectives of the study, Where a sample was chosen to represent the students of seventh grade in the school of talented boys and girls in locality of Gedaref, number (80) students, were divided into two experimental groups taught by using the technology of smart board and tow control groups taught by using classical method , The researcher used the achievement test of the study groups. He also used a number of statistical methods, including Pearson correlation coefficient, arithmetic mean, standard deviation, and T test. The experiment was applied in the academic year 2017/2018.

According to the main study question, the study results were as follows:

The students who studied the course using the smart board were more positive and effective than those who studied the course in the classical method. There were statistically significant differences at(0.5) between the control group of boys (Traditional method) and the experimental group o f boy (Smart board), in favor of the experimental groups. There were statistically significant differences at (0.5) between the control group of girls (the classical method) and the experimental group of girls (the smart board) in favor of the experimental group. There were statistically significant differences at (0.5) between the tow control groups (boys & girls) and the two experimental groups(boys & girls) in favor of the two experimental groups together (boys and girls).

The study recommended the use of technological innovations, the most important of which is the smart board, providing the smart board in all the basic schools, in addition to the importance of providing the requirements of using the smart board. The study also recommended conducting future studies to detect the impact of using Smart board in education.

Keywords: smart board; educational achievement; technical education

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1- Introduction

The present era is the age of scientific progress, which has become the main aspect of all aspects of life. Technology and technological innovations are one of the forms of scientific progress that has hit all aspects of life. Technology is defined by scientists as the application of organized scientific knowledge, including agriculture, industry, food, construction, and education. The use of technology in teaching and learning process has resulted in many positive effects, which have been reflected in the change of the philosophy of education, the role of the teacher and learner, in the curriculum and teaching and evaluation strategies. The technological innovations can be categorized into: innovations in educational devices such as multimedia projectors and smart phones, innovations in educational programs such as multimedia programs, and innovations in teaching methods such as E-learning, integrated education, inverted education, distance education and virtual education. Among these innovations is the smart or interactive blackboard, which has caused a great technological breakthrough in education, because of the many data to replace the traditional blackboard and other display boards.

Classroom teachers should understand how technology has changed the way students learn in the classroom. Many children today are exposed to computer technology at an early age at home. Most parents have computer at home and they teach their children how to use the technology for their benefit. Many young children are already playing computer games over the internet or other technology devices even before they enter the classroom on the first day of school.

Hence the study to examine the importance of smart board and how to use it in education.

The study Problem:

The problem of this study is in several aspects, most notably:

1 - The researcher noted through his direct contact with education that the size of the space occupied by technological innovations in general and the computer in particular is not proportional to its role and importance in this era as the key to transition from traditional teaching to effective modern teaching and meets the challenges of scientific and cultural globalization.

2 - General observation in the application of traditional teaching method in general education schools and primary schools in particular, which led to low level of educational achievement of students.

So the study problem can therefore be identified in the following main question: What is the effect of the use of smart board on academic achievement in the course of technical education for the seventh grade students in the basic education stage in the gifted schools in Gedaref locality?

Study hypotheses:

To answer the main research question, the researcher formulated the following hypotheses:

1-There were no statistically significant differences at the level of (0.05) between the mean scores of the experimental group of boys and the control group of boys in the educational achievement in the technical education subject in the post-test.

2-There were no statistically significant differences at the level of (0.5) between the average scores of students of the experimental group of girls and the control group of girls in the achievement in the technical education subject in the post-test.

3-There were no statistically significant differences at the level of (0.5) between the averages of the two experimental groups and the two control groups of boys and girls in the educational achievement in the technical education course in the post-test.

The importance of the study:

The importance of this study is the importance of the subject that is addressed in the study, which is the use of smart board and its importance as a modern technology in education

at the basic stage, and the realization of the principle of total quality. The importance of the study is summarized in:

1. This study comes in response to the recommendations of many conferences that called for the importance of using the Smart board and its use in the educational process.
- 2 - The need of the current schools at the basic stage to develop teaching methods through the use of technological innovations and keep pace with scientific progress, and make a cultural leap through the improvement of inputs, processes and outputs of effective teaching, the smart board can help.
- 3 - Provide a teacher with a basic theoretical framework helps them to use the smart board in teaching.
- 4 - This study may open the door for further studies in the future in the use of smart board in public education and university education in Sudan.
- 5- Scarcity of research and previous studies - according to the researcher - dealt with the use of smart board in education at the base stage in Gedaref locality.
6. This study is important in terms of the objectives it seeks to achieve.

Purpose of the study:

The study aims to achieve the following objectives:

- 1- To understand the concept of the smart board, its features and characteristics.
- 2 - Identify the requirements for the use of smart board in education at the base stage.
- 3 - Development of teaching methods and the use of technological innovations in education at the base stage.
- 4 - Detection of the impact of the use of smart board in the educational achievement of students in the base stage.
5. The effect of using the smart board as a teaching tool make it effective in lesson delivery.
- 6 - To make recommendations and proposals for future studies and research on the smart board and its role in achieving the quality of effective teaching.

The limits of the study:

The current study is limited to:

- 1 - Spatial limits: The study was conducted in Gedaref locality, Gedaref state Basic gifted schools (boys and girls).
2. Time Limits: This study was conducted in the 2017-2018 academic year.
3. Human limits: The society and sample of the study was limited to seventh grade students in the basic school of gifted (boys and girls) in Gedaref locality.
- 4 - Substantive limits: the subject of technical education (units of engineering education and computer).

Terminology of the study:

To achieve the objectives of the study, the following terms have been set:

1-Smart board:

Elmyahi(2007, 6)defined It as a panel connected to the laptop or desktop computer. The electronic pen is used in the explanation. It provides various options for explaining and clarifying it. It can be written on it, displaying the explanatory lessons, and all the files with sound, image and motion and interacting with all of them.

2-Academic achievement:

Al-Laqani (1996, 47) defines it as the extent to which students have absorbed the experience they have gained through subjects and is measured by the degree which the students obtained in the achievement tests prepared for this purpose.

of smart board measured by the degrees they obtained in the test prepared for this purpose and used in the current study"

3-Traditional Method: The researcher defines it as a traditional method of teaching which is always used in teaching in the basic stage and is mainly based on spelling and explanation.

4 - Basic Education: Known by Abu Shanab (1993, 3) as a stage that extends for eight years for the age group from the age of six to fourteenth, one stage integrated with the primary stage and the previous intermediate stage.

5-Technical Education: The first book in the series of technical education for the seventh grade in the basic stage of 2017/2018 (National Curriculum Center, 2001)

2- Theoretical framework and previous studies:

Since the beginning of the schools, the educational blackboard has been the primary educational tool used by teachers in teaching and learning process, in almost all stages of education, from kindergartens to university education. It is an important means of almost any classroom, lab or hall.

Quality of education and increase its efficiency (Al-Quds Open University, 2008, 25)

There were attempts to improve the work of chalkboard with all scientific and technological progress. There were attempts to work more than a chalkboard in the classroom to save writing time, and then the light board appeared as an alternative to the chalkboard to address the problem of poor handwriting and the inability of the education suffered by most teachers. Other educational boards to improve the work of the chalkboard, such as the Sinus Plate, the Magnetic Plate, the Plate, the Electric Plate, and the whiteboard marker. This evolution of the educational board continued until it reached what is now known as the Smart or interactive board. What is it? What are its educational benefits? How does it work?

1.1- Evolution of Smart board:

After a long series of research and technological experiments and the thought of finding a sophisticated technical alternative to traditional display boards and screens, Nancy Knowlton and her husband, David Martin, who worked for one of the leading educational technology companies in the United States, managed to reach a central idea in the mid of 1980 - It is about the possibility of connecting the computer to a sensitive screen that works as an alternative to the computer screen but without the use of the mouse and the keyboard where the touch is used in navigation (Adel, 2009, 19). The actual production of the first smart board and its appearance by Smart company was in the beginning of 1991 and was known as interactive white board.

Saraya and Abu Al-Enein (1989, 89) identified a variety of labels launched by the company that distribute the smart board:

- Smart Board
- Interactive Board.
- Electronic Board
- Digital Board

1.2- Smart board Concept:

Al-Jowair (2009, 106) defined it as an electronic device connected to the computer, where pictures and video clips from the computer are displayed on the board. The board is used in an interactive manner. It can also add notes, highlight points of interest, the program in the manner desired by the user, and also print these notes and other computer or save them for future reference.

While Saraya (2009, 167) saw it as: a sensitive white display screen that is manipulated with the touch of a finger or a pen and connected to a computer projector and a video projector, Campbell (2010) stated that it is a large white screen connected to a computer that is touched or written on by a special pen and can be used in a presentation on the computer screen clearly for all students.

As Swedan (2008, 46) refers to: blackboard, which is handled by touch and pen and is written on electronically, and can be used and display on the computer screen of various applications. Hawze et al (2000, 13) defines it as: computerized writing boards through which new ideas can be recorded, saved, retrieved and integrated to complement other information and improve students' learning processes.

1.3- Smart board requirements:

In order to operate and use the smart white board, we basically need (Saraya and Adel, 2009, 34):

- Computer hardware.
- Data show connected to the computer.

- Special wire to connect the blackboard and the computer.
- The Smart board program is loaded on the computer.
- There are also some non-core requirements but their presence supports the functions of the smart white board such as camera, audio system and printer.

1.4- Technical Specifications of Smart board:

Miller (1996, 20) points out that the technical blackboard specification is as follows:

- White space for writing 80 inches (100 mm * 1900 cm).
- The surface of the blackboard is scratch resistant.
- Compatible with known computer programs.
- The surface of the blackboard does not reflect the external lighting.
- Install ability by wheels.
- Fixing the installation on the wall.
- High concentration (2000 * 2000 laziness).

1.5- Advantages of Smart Board(Gynzy, 2014) :

Smart Board have many advantages in the classroom, First of all; there are many benefits of smart board for students in the classroom, This electronic whiteboard is interactive and great for demonstrations, Students would enjoy the smart board lesson because the subject would come alive and bring really into the classroom, Smart boards provide a means of learning for all students , including students with different learning styles,

Interact and share:

The smart board offers learners an opportunity to share and participate in instructional process, Interactivity provides a platform for students to demonstrate their grasp of the subject through touching, drawing, and writing, Every learner has an opportunity to participate or contribute to the presentation and discussion, In addition the board provide for rapid assessment whereby learners can receive immediate feedback.

Access to online information;

Smart board allow learners to easily access a rich database of online resources, Teachers can use the wide variety of online information sources such as knowledge database, online video and news items to reinforce their lesson, Learners can also quickly access the wide range of powerful tools and resources to conduct research and supplement their usual study material.

Technology Integration;

Smart board allow for integration of various technology in order to improve the learning experience, for instance, it is possible to attach tools such as microscopes, document cameras, camera or video cameras to a smart board to aid in instruction. It is also possible to integrate the interactive learning tools with a wide range of software application.

Overall, incorporating Smart board to the class room environment is likely to change the way teachers impart knowledge to students and at the same time simply the learning process for students, students will find it easy to engage with lesson and gain a better understanding of the overall lesson ([http:// rise- edu.com](http://rise-edu.com))

Smart board defects:

Despite the advantages of the Smart White board, there are some disadvantages related to the material aspect identified by both Algosaibi (2009, 50) and Zidane, and Shouki (2008, 102)

- 1 - high price and maintenance costs.
- 2 - lack of maintenance centers that provide maintenance services tools and accessories of Smart board.
- 3 - There are some problems in the Arabization of Smart board program.
- 4 - inability to deal with some languages, for example: the lack of the conversion of Arabic handwriting into digital writing.
- 5 - It needs a high level training so that the teacher can use them effectively.
- 6 - Focus on the cognitive side more than the skill side.

1.2- Previous studies:

The researcher was briefed on a number of previous studies related to the current study, in terms of subject matter, methodology, and procedures. The following is a presentation of some of these studies arranged chronologically from modern to old.

Camtour and Badawi study (2016): Objective of the research was to identify the effect of the use of smart board technology in the achievement of eighth grade students in Khartoum district in the science course in our lives, the study was applied to a sample of (36) students (male & female) from Abdoun Hammad school for gifted, divided to experimental and control groups, the experimental group studied the unit of living organisms using the smart blackboard technology. While the control group studied the same course in the traditional way, the researchers prepared a test consisting of six questions.

There were statistically significant differences between the mean scores of the collection of the experimental group using the smart board and the average of the control group scores for the benefit of the experimental group.

- There were no statistically significant differences between the average scores of the experimental group in the post-test to the gender variable.

Jubilee Study (2014): The study was designed to identify the effectiveness of the integration between the use of smart board and the skills of thinking beyond the knowledge in the achievement of students of learning technology for knowledge related to the skills of the production of educational software. The sample of the study consisted of (50) students from the level of Bachelor of Education Technology In the Jordanian University of Jadra', where two random groups of students were selected to give educational software, to be the experimental group, and another to be a control group. The experimental group included (25) students who used the smart board and used the skills of thinking beyond the knowledge And after the implementation of the study, which lasted six weeks applied achievement test for students of all groups and the results indicated that the superiority of the experimental group students to the control group students

Abu Hamada study (2013) The study aimed to discover the effect of employing Smart board in teaching of geography on the development of geographical concepts and the skill of maps among ninth graders in Gaza Governorate, The researcher used the experimental method for two groups experimental and control. the control group was taught by the traditional way, while the experimental group taught by the smart board technology The study was conducted on a sample of (63) students of the ninth grade. The study found the following results:

There are statistically significant differences between the mean of the experimental group and the mean of the control group on the post-measurement of the geographical concepts and the mapping skills in favor of the experimental group.

There are statistically significant differences between the mean scores of the experimental group's students on the pre and post measurements of the geographical concepts and the mapping skills in favor of the post measurement.

Abu Elba study (2012): The objective of the study was to find out the effect of the smart blackboard program in the development of practical skills in the electrical drawings of ninth grade students in Gaza, The study applied to (62) students (male and female) from the ninth grade at Al-Fakhoura Preparatory School for Refugees in northern Gaza, which were divided into two equal groups experimental and control. The important results of the study were:

- There are statistically significant differences between the average score of the experimental group students and the control group students in terms of knowledge and practical skills in favor of the experimental group. The program that describes the smart board is highly effective in the development of practical skills in the electric schemes of the students of the experimental group.

Abu Rizk study (2012): The study aimed at investigating the effect of the interactive white board in developing the planning skill of teaching Arabic language and their attitudes towards it and the problems encountered during its use as an educational tool. The study applied to a sample of (53) students (male and female) from teacher- students enrolled in the professional

diploma department In teaching at Al Ain University for Science and Technology were randomized to two experimental and control groups,

- To achieve the objectives of the study, the researcher prepared a performance test to measure the improvement in the skill of planning in the sample members in addition to the preparation of a measure of trends to determine the attitudes of teachers towards the smart board and the problems of use, the study concluded the results of which: There are differences of statistical significance in the performance of the sample in daily planning and the total of daily and annual planning signs together for the performance of the experimental group,

- There are no statistically significant differences in the annual planning among the students of the experimental and the control group.

- The study showed that the teachers students have a positive trend towards using interactive whiteboard as an educational tool with some problems and obstacles.

Abu Al-Enein Study (2011): The aim of the study was to identify the effect of the interactive white board on the achievement of non-native foreign students in the Arabic language for the beginning level in the intermediate stage compared to the traditional method. The study was applied to a sample of (60) students (male and female) from Dubai American Academy in the United Arab Emirates During 2010/2011 academic year, they were divided into two equal groups, experimental and control. The study used the interactive white board mainly with the experimental group and the traditional method with the control group .the researcher prepared an achievement test in Arabic language. The results showed that there were statistically significant differences at (0.05) in the performance of the study sample on the achievement test and for the benefit of the experimental group.

Riska Study (2010): The study aimed at understanding the effect of smart board technology on increasing the growth in sports performance of gifted students and its effect on the performance of students in the international standardized tests in the United States. The study used the experimental method. The study sample was gifted students of fourth grade in the province of North Carolina, where it consisted of (175) students from six primary schools and were divided into experimental and control group. The results indicated that there were no statistically significant differences between the level of the students of the experimental group who were educated by using the technical blackboard and other students in the control group. The researcher attributed this to that the sample of the study was a small group and a limited group of gifted students, who had not received their education using smart board technology in the same province.

Bickens Study (2008): The study aimed to find out whether integrating the Smart board into collaborative sessions will enhance the mathematical concept of problem solving, motivate students to become critical thinkers, and create a learning environment for seventh graders in mathematics in Georgia, The issue of graphs created using the success formula "Success Makerk" to determine the speed of progress before and during the integration of interactive white board, The researcher used the analytical descriptive and experimental methods. The sample of the study was of the seventh grade students in mathematics and by observing the grades in the evaluation program and the standardized competency test referred to as CRCT to compare the rate of change in the performance of the experimental group and the control group. The smart blackboard on the lower classes and levels of students, through the noticeable increase in the categories of students and their grades and preparation, while no changes and significant effects at the higher levels.

Swan& Emran Study(2008): The aim of the study was to investigate whether the use of Smart Blackboard improves student achievement in English and mathematics. Performance tests in reading and mathematics were used in Ohio, USA to compare achievement scores of Students from the third to eighth grade in basic education in a school the study was attended by dozens of students whose teachers used smart blackboard and students whose teachers did not use the smart blackboard. The results showed a slightly higher performance for students who used the smart board especially for fourth and fifth grade students. The study

recommended further studies to make sure the impact of the smart whiteboard is clear and stronger.

Dhindsa & Emran Study (2006): The purpose of this study was to investigate the effect of the use of the smart board on students' achievement in chemistry in Bernawi. The study sample consisted of (150) male and female students from the secondary stage between the ages of 16-19 years, which were distributed in two groups. The control group, which consisted of 25 male and 33 female, studied by lecture method and the experimental group consisted (23) male and (34) female studied by using the smart board. The results showed that there were statistically significant differences in the average achievement of students in chemistry for the benefit of the students of the experimental group in the total test, as well as in the test sections. , The results did not show statistically significant differences in the sex factor in the experimental group, while the differences were statistically significant in the achievement due to the sex factor in the control group.

Zittle, Study (2004): The study aimed to investigate the effect of using smart board on the academic achievement of the third and fourth grade students in mathematics. The study sample consisted of (92) students divided into two groups: the first, (53) male and female students as a control group studied using computer desk and the second (39) male and female students as an experimental group studied using the smart board, The results showed that there were statistically significant differences in the average achievement of students in mathematics for the students in favor of the experimental group. The classroom observations and interviews with the teachers who participated in the study confirmed that students who learned with the smart board interacted and cooperated with each other in more and more spontaneous way.

2- Method and Tools:

The researcher followed a number of procedures required by the nature of the study and its objectives and hypotheses as follows:

Study Methodology: The researcher used the experimental research method in terms of testing and verifying hypotheses and the descriptive research method was used in relation to the theoretical framework of the study.

Experimental Design:

Allawi and Kamel point to several categories of experimental design. The most common is the division proposed by Donald Camille and Julian Stanley; who classified the experimental design into four types, including experimentation for one group only, experimentation of alternating groups, design of comparison using experimental groups and control groups, The researcher chose the comparison design because it is appropriate to the subject of the study and its objectives and test hypotheses, which contains the experimental group and control group and then apply the achievement test before and after the experiment.

population and Sample of the study:

The study population was the seventh graders represent the basic education stage in Gedaref State (Gedaref locality).

Sample of the study: The sample is described as part of the original population, carries the same characteristics and represents it the best representation. To apply the experiment, the gifted school in Gedaref locality (The only school in the state that equipped with the smart board technology) was chosen purposively, as it is possible to achieve the objectives of the study.

The seventh grade students were chosen as the study sample. They were 80 gifted male and female students from school of gifted in Gedaref. They were divided into two experimental groups and two control groups, where a pre-test was applied and then taught using the Smart board and applied a post-test.

Study Tools:

1- Electronic educational program designed for the course of technical education (engineering and computer units) for the seventh grade students for the year 2017/2018.

2 - Building the achievement test:

- In the development of the achievement test, the cognitive learning objectives of Benjamin Bloom's field of knowledge were included, which consist of six levels: knowledge, memory, comprehension, application, analysis, composition, assessment.

The test consists of four main questions. In developing the test vocabulary, the following principles were taken into account:

1. These vocabulary measures the six cognitive domains.
2. Questions should be clear and linked to educational objectives
3. Each paragraph should measure a specific educational product and be included in the specification table.
4. Questions should take account of individual differences among students.
5. Questions should be inclusive of the specific syllabus.
6. The time should be appropriate for the number of questions.
7. When the number of test vocabulary was determined, the conditions mentioned by the specialists in educational measurement were complied with. Warner stated that the higher the number of questions assigned to each skill than the test, the greater the accuracy of the test (Abdel Aziz al-Aqili: 44: 1995) . Wardbub said. "To get a constant assessment of a skill, we should use between 8-10 questions, On this basis, the vocabulary of each level of the cognitive domain ranged from 10 to 20 words.

8-The test questions were formulated in their preliminary form and applied to the study sample. The objective of this experiment was to calculate the coefficient of ease and difficulty of the test questions and the calculation of the validity and stability of the test.

9. After correcting the test, the coefficient of ease was calculated by the

Equation: $Y / Y + X$

10-3 = r = correct answers 11 - Kh = Incorrect answers.

The validity of the test: it has been presented to a number of arbitrators in the curriculum and measurement and evaluation, has been taking their observations in terms of deletion or addition or amendment.

- **Stability of the test:** It was adopted in the calculation of the stability coefficient the same re-test method on the same subjects twice (one month) interval and the calculation of the stability factor according to the Pearson Law and it was 96.6%, which indicates a high degree of stability and this supports confidence in the use of the test to measure student achievement.

The final test consists of 20 words of the correct phrase type or error, 20 of the multiple choice mode, 10 of the odd word type, and 10 of the complete pattern to measure the cognitive field levels of the educational objectives, knowledge, understanding, application, analysis, structure and evaluation.

Experiment control:

The experimental setting is the attempt to remove any effect that may occur for any variable other than the independent variable that can affect the dependent variable. The following extraneous variables have been set to control the experiment:

Academic level:

To assess the equivalence of the experimental and control groups in the technical education course, the researcher prepared the study and taught it to the sample members in the different groups, and after that they sat for the achievement test. After correcting and conducting the statistical analysis it is verified for the equivalence of the groups, using (T - test).

The following table illustrates this procedure:

Table (1): The test summary (T) shows the significance of the difference between the mean scores of the study groups in the pre-test

Groups	Size of the	Mean	standard deviation	Value (T)	Degree of	Level of significance	Tabular value	result
Control group (boys)	18	66.2	11.1	0.175	38	2.20	0.024	There are no statistically significant differences
Experimental group (boys)	20	67.05	13.38		38			
The control group (girls)	21	68.34	13.40	1.185	38	2.20	0.024	There are no statistically significant differences
Experimental group (girls)	21	76.53	13.74		38			

The results of Table (1) indicate that the value of (t) calculated is less than the tabular value (t) at (0.05). This is not statistically significant, meaning that there are no statistically significant differences in the educational achievement of the technical education course for the control groups end experimental, indicating the equivalence of groups at the academic level.

Conduct the experiment: Experimented with the following design:

Table (2):

Experimental group (boys)	Pre-test	teaching using a smart whiteboard	Post - test
Control group (boys)	Pre-test	Teaching using the traditional way	Post - test
Experimental group (girls)	Pre-test	teaching using a smart white board	Post - test
Control group (girls)	Pre-test	Teaching using the traditional way	Post - test

3- Results and Discussion

To discuss the main question: Is it effective to use the smart board on the achievement of students (boys and girls) of the basic stage in the curriculum of technical education? The main question can be answered by discussing the following hypotheses:

There were no statistically significant differences at the level of (0.05) between the mean scores of the experimental group of boys and the control group of boys in the educational achievement in the technical education course in the post-test.

Table (3): The results of T-test for the significance of differences between the control group of boys and the experimental group of boys in the post- test

The group	sample size	Mean	standard deviation	N	(t) test	Tabular value	result
Control group (boys)	18	1062.2	21.63	18	4.877	0.000	There are statistically significant differences
Experimental group (boys)	20	1991.8	14.53				

Table (3) shows that the probability value of T test for two independent samples is less than (0.5) indicating that there are statistically significant differences between the control group of boys and the experimental group of boys in the experimental test in favor of the experimental group because their arithmetic mean is the largest and therefore The size of the impact of learning using the smart board technology on the achievement of male students

effective and positive, and therefore reject the researcher zero hypothesis and accept the alternative hypothesis, and the result of this hypothesis is consistent with the results of some previous studies such as (Camtour and Badawi, 2016)

study and (Bickens, 2018) . The researcher explains this result to the data that characterizes the smart board of voice, image, movement and color, which had the effect in motivation Pupils to learn using the smart board.

1. There are no statistically significant differences at (0.5) between the average scores of the students of the experimental group of girls and the control group of girls in the achievement in the technical education course in the post-test.

Table (4): The results of the T-test for the significance of differences between the control group and the experimental group of girls in the post-test of achievement in the primary gifted girls school

The group	sample size	Mean	standard deviation	N	(t) test	Tabular value	Result
Control group (girls)	20	1061.2	22.62	19	47.5	0.000	There are statistically significant differences
Experimental group (girls)	20	586.1	38.58				

Table (4) shows that the probability value of T test for two independent samples is less than the value (0.5) indicating that there are statistically significant differences between the control group of girls and the experimental group of girls in the post-test of academic achievement, is the largest, and then the size of the impact of learning using the smart board on the collection of students effective and positive, and therefore reject the researcher zero hypothesis and accept the alternative hypothesis, and the result of this hypothesis is consistent with the results of some previous studies such as the study of Abu Al-Enein (2009) and Abu Hamada study (2008) Swan (2008) to this researcher The result is also the advantages of the smart board including its tools and effects.

There were no statistically significant differences in the level of (0.5) between the averages of the experimental groups and the two control groups of boys and girls in the educational achievement in the technical education course in the post-test

Table (5): The results of T-test show the differences between students of the two control groups and the two experimental groups (boys + girls) in the post-test of educational achievement

The group	sample size	Mean	standard deviation	N	(t) test	Tabular value	result
Control group (girls+boys)	40	1091.9	14.54	38	61.9	0.000	There are statistically significant differences
Experimental group (girls+boys)	40	597.2	32.68				

Table (5) shows that the probability value of T test for two independent samples is less than (0.5) indicating statistically significant differences between the two control groups (boys + girls) and the two experimental groups (boys + girls) in the post-test In favor of the experimental groups (boys + girls) because the arithmetic mean is the largest , so the size of the impact of learning using the smart board on the achievement of boys and girls together who studied using the smart board is effective. And therefore reject the researcher zero hypothesis and accept the alternative hypothesis, and attributed the researcher to the

technology of smart blackboard and the interaction of students and students with lessons and use of the smart board. And the result of this hypothesis is consistent with the results of some studies such as: the study of Camtor and Badawi (2016) and the study of Riska (2019) and study Zittle (2006).

4- Conclusion

After discussing the research hypotheses, the study reached the following results:

- The students(boys and girls) who studied the course using the Smart board were more positive and effective than those who studied the course in the traditional way.
- There are significant differences at the level (0.5) between the control group of boys (traditional method) and the experimental group of boys (Smart board), in favor of the experimental group.
- There are significant differences at the level (0.5) between the control group of girls (traditional method) and the experimental group of girls (Smart board) for the benefit of the experimental group.
- There are statistically significant differences at the level (0.5) between the two control groups together (boys and girls) and the tow experimental groups together (boys and girls) in favor of the two experimental groups together (boys and girls)

Recommendations and proposals:

In light of the results of the study, the researcher recommends the following:

- The need to take advantage of technological innovations, especially smart board and its use in the educational process.
- The need to provide smart board technology in all schools in the state, especially Gedaref locality.
- The need to train teachers in all stages on the skills of computer and smart board and how to use it in teaching.
- Providing the material and technical resources for the production of suitable educational materials for the smart board in many educational institutions.
- The allocation of separate private classrooms where the smart board is put to use in all subjects..

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