

# The Effectiveness of Using Adobe Captivate on the Master Degree Students' Achievement in "Educational Technology" at Al al-Bayt University

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## Abstract

The aim of this research was to investigate the impact of using the Adobe Captivate program on the achievement of master degree students "Educational Technology" at Al al-Bayt University, in the first semester of the academic year 2018/2019, their number is (160), including (24) male students, (56) female students in the (experimental group) studied using the computer, (26) male students, and (54) female students (in the control group) ) studied using the traditional way. The members of the two research groups were given an achievement test of a multiple choice type, and the validity and reliability of the test were confirmed (reliability coefficient 0.87). The research reached the following results: There were statistically significant differences attributable to the method of teaching and in favor of the experimental group, and there were no statistically significant differences attributed to the sex of students, or to the interaction between the method of teaching and the sex of students. The researcher reached a number of proposals in light of its results.

**Keywords:** Adobe Captivate, Master Degree Students, Achievement, Educational Technology

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## Introduction

The world has faced in the current era many successive developments in scientific knowledge, information and communication systems, which led to a technological revolution that affected very quickly how to apply scientific knowledge in human life, one of the effects of this revolution in the educational field is changing the perception of educational curricula, increasing interest in the way of thinking and the way in dealing with knowledge, and it has become unacceptable to continue curricula that focus on the structure of knowledge only (Khamis,2007).

Therefore, the interest in education technology has increased, due to the increase and acceleration of knowledge, the increase in the number of learners, and the large role that technology plays in developing the education process, facilitating and acquiring learning with the lowest possible time and lasting it to the maximum extent possible, in search of good quality education (Al-Hila, 2003).

Based on the foregoing, educators in general, and those interested in teaching technology in particular, have sought to use computers in the teaching and learning processes, so that education does not live in islands isolated from a society in which technology has become the basis for its progress in paperwork, and education is a necessary necessity of life, the way in its development, facing its complexities, and why the human being is the active element in this life, and education is concerned with building the human being, and creating knowledge, emotional and skill, because in many countries of the world work has been done to reconsider, improve and develop educational systems, in light of the many calls for the use of technology, including the computer, with its various programs of use in the field of educational work, for several goals and reasons including the change in the teaching methods used, increasing the motivation of learners towards learning, and the development of scientific, logical and critical thinking and the method of solving their problems, which leads to the rise At their cognitive level and educational learning outcomes (Damas, 2009).

Technology curricula have a special nature, in terms of dealing with scientific knowledge. In addition to the structure of knowledge, it is concerned with employing this knowledge in the learner's life, and this places the responsibility of learning on the learner, to conduct experiments, discover phenomena, and solve problems, which makes the teacher in this case directed to the process Learning is not a source for it, and therefore the transition to more effective active learning requires a more diversified address to the learner's multiple senses of interaction and positive participation in the educational process, hence the necessity to respond to recent trends calling for the use of technological developments and innovations in learning Lim, such as computer, multimedia, internet, and virtual reality (Khamis, 2007).

## Adobe Captive

This program initially started as a screen recording program called Flashcam and then gradually became a professional program for interactive content design. He can create presentations for e-learning projects in a

very easy way. And its use does not require much experience in computer and design.

It is a simple, easy-to-use tool. Where you will find all the required tools between your fingers and you will reach them at full speed. You can start building courses and interactive presentations from scratch. There is also the option to transfer power strips to it, combine them, complete their design through the program, and convert them into interactive slides. Also, it can raise the level of interactive presentations through the Automatic Screen Chapter tool, and it builds an interactive explanation by taking pictures from the screen as you explain. The program provides ready-made templates and themes with modern designs that can attract the attention of learners. All of these tools and others you will only find in one program such as Adobe Captivate.

### **Adobe Captivate Features**

1. Intelligent e-learning design: The program provides a more intelligent and attractive interactive content design with minimal errors and what occupies the attention of learners and recipients.
2. Your project fits all devices: You can preview and adjust the way your project is presented in various devices such as computer screens, tablets, and smart phones, so that it suits all learners.
3. Simulation of software explanation: You can create a powerful simulation of the program that you explain by capturing all the procedures on the screen from mouse movement, sound, and keyboard activity.
4. Syncing with Power Point: It is a very smart step to make static slides a part of electronic learning to be more interactive through the inclusion of objects in them, animations, and multimedia to update the content and is simply the process of maintaining power point slides and making them synchronized with the Adobe Captivate program.
5. Create animation effects without programming: Adobe Captivate provides multiple animation effects like "Adobe After Effects" where you can create chain moves for a group of objects or for an individual object in an easy and simple way.
6. Create electronic exams: It is part of the e-learning process, but you can now create it easily through the Adobe Captivate program. The program provides the inclusion of various questions in the exam while providing a random question mode to avoid cheating. In the end, the learner will learn about his results, and a report will come to you with the results of all learners.
7. Multiple publishing means: After completing your project, you can publish it in several ways, such as publishing it on HTML5 sites, or publishing it as a Flash in exe format, or extracting the project in a high-quality video file or uploading it to Adobe's cloud service for the learners to interact with and bring you reports and results.

### **Research Problem and Questions**

The research problem is determined by investigating the effect of using the (Adobe Captive) program on the achievement of Al al-Bayt University students in information technology compared to the traditional method, by answering the following questions:

1. What is the effect of using (Adobe Captive) program on the achievement of Al al-Bayt University students in information technology?
2. What is the effect of the gender variable on Master degree students' achievement in Information Technology at Al al-Bayt University?
3. What is the effect of the interaction between the teaching method and the gender of students on the achievement of master's students in information technology at Al al-Bayt University?

### **The Research Objective**

The aim of this research was to investigate the effect of using the (Adobe Captive) program on the achievement of master's students in information technology at Al al-Bayt University, as well as knowing the effect of both students' gender variable and teaching methods (using Adobe Captive, the traditional method), and the interaction between teaching methods (Adobe Captive, the traditional method) and the gender of the students on their achievement.

### **The Research Importance**

The importance of this research lies in the following:

1. It may show the effect of using Adobe Captive program on learning compared to the traditional way on the achievement of Master students in information technology.
2. It may stress the importance of using the Adobe Captive program in developing the educational process in universities.

3. Using the Adobe Captivate program may be useful in developing teaching methods and strategies that increase the effectiveness of learners' achievement.
4. It may contribute to encouraging the use of the Adobe Captivate program in teaching various subjects in universities.
5. The results of the research may contribute to increasing the awareness of teachers in using Adobe Captivate program as an educational communication tool to support the education of learners in educational situations.

### **Procedural definitions**

**Adobe Captivate:** Is an authoring tool that is used for creating eLearning content such as software demonstrations, software simulations, branched scenarios, and randomized quizzes in Small Web Formats (.swf) and HTML5 formats.

**Academic Achievement:** The set of knowledge, concepts, and terminology that the learner acquires as a result of his passing through experience through the teaching process, and is measured by the total score obtained by the learner in the objective, objective test of a multiple choice type, which the researcher prepared for the purposes of this research.

### **Previous Studies**

Al-Muhammadi (2016) conducted a study aimed to design an adaptive electronic learning environment according to the methods of learning in the computer course and its effect on developing programming skills that can be used by prep students, and to conduct the study the researcher used the descriptive analytical approach and the semi-experimental approach, the sample of the study consisted of (179) female students from the preparatory stage at Ashmoun Center in Menoufia Governorate. To achieve the goal of the study, the study tools were constructed, which is a cognitive achievement test to measure cognitive skills, a performance test to measure the performance skills of programming skills, and a measure of the ability to use an adaptive electronic learning environment in Education, and the study found the effectiveness of the adaptive electronic learning environment according to the learning methods in developing programming skills for prep students, and their usability in education.

Thunabat (2015) conducted a study aimed to build a suggested e-learning environment to develop associated knowledge and performance tasks with some interactive internet applications among the faculty members of Mutah University and their attitudes towards it, and to conduct the study, the researcher used the semi-experimental approach, and the study sample consisted of (37) faculty members at Mutah University, in order to achieve the goal of the study, the study tools were constructed, which are an achievement test, a note card, and a trend scale. The study reached the effectiveness of the proposed electronic learning environment in developing the cognitive and performance tasks of interactive internet applications in post-application for the benefit of the experimental group.

Ismail (2014) conducted a study aimed to identify the effect of designing a participatory e-learning environment in the light of communicative theory on the development of achievement and personal knowledge management skills among students of educational technology, and to conduct the study the researcher used the semi-experimental approach, the sample of the study consisted of (40) male and female students from the third year students, Computer Instructor Division, Department of Educational Technology, and to achieve the goal of the study, the study tools were constructed, which is a test achievement and an e-learning environment, and the study reached the effectiveness of each of the participatory e-learning environment in the light of theory Communicative and the traditional e-learning environment in the development of (cognitive achievement - skill performance - personal knowledge management skills) in favor of post-performance, likewise, the participatory e-learning environment in the light of communicative theory is superior to the traditional e-learning environment in the development of (cognitive achievement - skill performance - production skills of educational sites in the Adobe Dreamweaver CS5 program - the skill of personal knowledge management) among students of educational technology.

Al-Shehri and Obaid (2014) conducted a study aimed to identify the effect of a proposed visualization of an electronic learning environment in the development of the academic achievement of the course of mathematics teaching methods for students of the University of Najran. To conduct the study, the researchers used the semi-experimental approach, to achieve the goal of the study, the study tools were constructed, which are an achievement test and an electronic learning environment that is managed by the electronic content management system, through which the course of mathematics teaching methods is taught to students at the seventh level in the Department of Mathematics at the College of Science and Arts at the University of Najran, and the study has reached the excellence of group students Experimental achievement in the achievement test on students of the control group, which indicates the effectiveness of the e-learning environment in developing the academic achievement of the curriculum of teaching mathematics to students of the University of Najran.

AbdulAziz (2013) conducted a study aimed at designing an electronic learning environment based on computer simulation and measuring its impact on developing some office business skills, especially the skills of operating and maintaining modern office equipment, and improving the degree of depth of learning for commercial high school students, in order to conduct the study, the researcher used the experimental research method, and the study sample consisted of (62) male and female students from the third year students in commercial secondary schools. To achieve the goals of the study, the study tools were represented in a note card and a depth of learning scale to measure the degree of change and improvement in the depth of students' learning in the applied secretarial course, among the most important results of the study are the presence of statistically significant differences between the experimental group and the control group in acquiring the skills of operating office equipment and using and maintaining them for the benefit of the experimental group that adopted computer simulation training, the results also showed a significant and statistically significant improvement in the degree of learning depth of the experimental group compared to the control group, and in light of this result the research presented a set of recommendations to generalize the use of computer simulation in training on practical skills in commercial technical schools and practical scientific disciplines in general.

Hamdi (2013) conducted a study aimed to investigate the effectiveness of a personal e-learning environment to develop educational design skills for learning designers at Mansoura University, and to conduct the study the researcher used the descriptive analytical approach and the semi-experimental approach, and the study sample consisted of (24) educational designers from Mansoura University, and to achieve the objectives of the study, study tools were built Represented by a digital achievement test and a product evaluation form, among the most important results of the study is the presence of a statistically significant difference at the level of significance (0.05) between the average levels of pre and post application in the achievement test, as well as in the technical evaluation card for the e-course due to the e-learning environment in favor of the post application, as the study revealed an effective development in The cognitive achievement of learning designers is not less than (1.2) when measured against the modified ratio of Black's gain.

## **Method and procedures**

### **Research Design**

This research is a quasi-experimental study, according to the following design:

O1 X O2

O1 O2

Whereas, O1 indicates the results of the pre-test achievement in educational technology, The symbol O2 indicates the results of the post-achievement test in educational technology, and the symbol X indicates treatment.

### **Sample of the Study**

The research sample consisted of all students enrolled in information technology at Al al-Bayt University in the first semester of the year 2018/2019, and they are (160) students, it is the same the research population. The researcher divided them into two randomly and experimental control groups, where the control group consisted of (26) students and (54) students who studied in the traditional way, and the experimental group consisted of (24) students and (56) students who studied using the Adobe Captive program.

### **Research Procedures**

The researcher performed the following procedures:

1. Assign the subject to be researched which is information technology in the first semester of 2018/2019.
2. The (160) male and female learners who registered in information technology were randomly divided into two control and experimental groups.
3. The test was validated by presenting it to a number of arbitrators, and its reliability was confirmed according to the Kuder Richardson formula (20 (KR-20) where it was found that the coefficient of reliability = (0.87).
4. A multiple choice achievement test was applied on the two research groups.
5. The statistical package (SPSS) was used to analyze the data statistically using (Adobe Captive).

As for the teaching process according to the two research groups, the researcher has done the following:

1. Teaching using the traditional way:

It was taught by the researcher using the lecture, question and answer method, in the first four weeks of the course's lectures.

2. Teaching using Adobe Captive:

By teaching in this way, the role of the researcher is a mentor, supervisor and a guide. The following procedures were followed in teaching educational technology using Adobe Captive program:

- The researcher met with the students of the experimental group before the first lecture of information technology, where they explained to them the brief description of the course, as well as the quarterly plan.
- Each learner of the experimental group was provided with a disk containing the vocabulary of the IT course, including an introduction to the subject, and it contains instructions such as how to browse the computerized material, and the learner was given freedom to choose the topic he wants to start looking at.
- The pre-test achievement of the experimental and control groups was applied to ensure the equivalence of the two research groups, as the researcher calculated the arithmetic averages and the standard deviations of the two research groups, and Table 1 indicates the mean and standard deviations for the marks of the two research groups on the pre-test according to the two research variables (method of teaching and student gender).

**Table (1): Arithmetic averages and standard deviations for the performance of the two research groups, on the pre-test, according to the method of teaching and the gender of students**

| Gender | Statistics         | Teaching Method |                    | Total |
|--------|--------------------|-----------------|--------------------|-------|
|        |                    | Control group   | Experimental group |       |
| Male   | N                  | 26              | 24                 | 50    |
|        | Mean               | 17.47           | 17.51              | 17.49 |
|        | Standard deviation | 3.10            | 3.24               | 3.10  |
| Female | N                  | 54              | 56                 | 110   |
|        | Mean               | 16.49           | 17.97              | 17.24 |
|        | Standard deviation | 3.43            | 3.87               | 3.70  |
| Total  | N                  | 80              | 80                 | 160   |
|        | Mean               | 16.81           | 17.83              | 17.32 |
|        | Standard deviation | 3.32            | 3.66               | 3.51  |

Table (1) shows that the average male achievement in the experimental group (17.51) is close to the average male achievement in the control group (17.47), and that the average female achievement in the experimental group (17.97) is slightly higher than the average female achievement in the control group (16.49), and these results indicate, in principle, the equality of the two research groups in terms of teaching method and students' gender.

In order to know whether these differences are statistically significant between these averages, a two-factor (2x2) design variance analysis was done for students' marks in the pre-test, and Table (2) shows the two-way analysis of the marks of students of the two research groups in the pre-achievement in the subject of educational technology.

**Table (2): The results of the two-way analysis of the performance of students of the two research groups in the tribal equivalence test**

| Source of variance     | Sum of squares | df | Mean squares | F value | Sig  |
|------------------------|----------------|----|--------------|---------|------|
| Teaching method        | 9.93           | 1  | 9.93         | 0.80    | 0.37 |
| Gender                 | 1.14           | 1  | 1.14         | 0.09    | 0.76 |
| Teaching method*gender | 8.95           | 1  | 8.95         | 0.72    | 0.39 |
| Error                  | 937.93         | 76 | 12.34        |         |      |
| Total                  | 24947.00       | 80 |              |         |      |

It is noted from Table (2) that there is no statistical significance at ( $\alpha \leq 0.05$ ) level due to the effect of the teaching method on students' achievement in educational technology subject, as the value of  $P = 0.80$ , the level of significance = 0.37, and the absence of statistical significance at the level of ( $\alpha \leq 0.05$ ) attributed to the effect of the gender of students on the achievement of tribal students in the subject of educational technology, as the value of  $P = (0.09)$ , the level of significance = (0.76), and the absence of statistical significance at the level ( $\alpha \leq 0.05$ ) is attributed to the effect of the interaction between the method of teaching and the gender of students in the achievement of tribal learners in the subject of educational technology, since the value of  $P = (0.72)$ , and the level of significance = (0.39), These preliminary results show that the two groups of students in the research

sample are statistically equivalent in their mean scores in tribal achievement.

4. The researcher referred to some studies in the English language that were used Adobe Captive program in teaching, because there are no studies in the English language directly in the subject of educational technology and the use of Adobe Captive program in teaching them.

#### **Research Tool Development:**

The researcher prepared an achievement test for the study of the multiple choice type consisting of (30) items in its initial form after referring to theoretical literature and previous studies for the subject of the research (Al-Khawaldeh and Yahya,2004, Al-Jallad,2004), to be the basis for building the test, and a table was prepared Specifications include the three levels of the cognitive domain (knowledge, comprehension, and higher mental levels). The test was corrected by giving one score for each answer a valid question, and zero for the wrong answer. As for the test in its final form, it consists of (25) items only, as five items were excluded because of its difficulty, And because of its weak coefficient of distinction, as will be seen in the validity and reliability of the tool.

#### **Validity and Reliability of the Research Tool**

To ensure the validity of the tool, the researcher presented it to a number of (15) arbitrators from the faculty members of the Faculty of Educational Sciences at Al al-Bayt University with experience and competence in the disciplines of Islamic education curricula, statistics and languages to ensure that the test questions measure the goal that was set For it, in terms of language drafting, clarity of questions, taking into account the difficulty and objectivity of the test, and the correctness and relevance of the information contained therein. Their comments on the test items were taken, as three items were amended in the light of the arbitrators 'opinions. Five items with a distinction of less than (0.18) were deleted, and the test in its final form became composed of (25) items out of (30) items. To ensure the consistency of the test, the internal consistency coefficient of the test was calculated by applying the test to a survey sample consisting of (40) students from Al Al-Bayt University students who had previously studied teaching technology. According to the Koder Richardson equation (KR-20), as its value reached (0.89), which is a parameter that confirms that the test has an acceptable degree of stability for the purposes of this research, and coefficients (0.92) have been calculated and it is an acceptable indicator - the distinction for each item of the test, and ranged between (0. 68) It can be used for research purpose.

#### **Research Variables**

This research included the following variables:

First: The independent variable: teaching method: It has two levels:

The first level: the traditional teaching method.

The second level: the method of teaching using Adobe Captive.

Second: the modified variable

Student gender: It has two male and female classes.

Third: The dependent variable: the degrees of the individuals in the research sample on the tool prepared for the study (achievement).

#### **Statistical Treatment**

After collecting the data, the researcher used the SPSS analysis process, as the data was entered into the computer, and the researcher extracted arithmetic averages and standard deviations, and used two-way analysis (Tow-Way ANOVA) to detect the results of the pre-test, in order to verify the results The equivalence of the control and experimental research groups. The researcher also used the analysis of the two-way variance to arrive at the results of the post test, and knowing the extent of the differences between the arithmetic averages for the achievement of the individuals of the research sample due to the method of teaching, the gender of students, and the interaction between the method of teaching and the gender of students.

#### **Research Results and Discussion**

**Results related to the first question and its discussion:** What is the effect of using (Adobe Captive) program on the achievement of Al al-Bayt University students in information technology?

To answer this question, the researcher conducted the post-test after completing the control and experimental research groups, and the post-test items were the same as the pre-test items, and a goal to find out the extent to which the subject of the research acquired the subjects of the study subject in different teaching methods, and Table (3) shows arithmetic averages and standard deviations To perform the control and experimental research groups on the post test, according to the two research variables (teaching method and student gender).

**Table (3): Arithmetic mean and standard deviations for the performance of the two research groups, on the post test, according to the method of teaching and the gender of students**

| Gender | Statistics         | Teaching Method |                    | Total |
|--------|--------------------|-----------------|--------------------|-------|
|        |                    | Control group   | Experimental group |       |
| Male   | N                  | 26              | 24                 | 50    |
|        | Mean               | 19.54           | 21.76              | 20.61 |
|        | Standard deviation | 2.37            | 2.87               | 2.80  |
| Female | N                  | 54              | 56                 | 110   |
|        | Mean               | 19.93           | 21.68              | 20.82 |
|        | Standard deviation | 2.42            | 2.22               | 2.46  |
| Total  | N                  | 80              | 80                 | 160   |
|        | Mean               | 19.81           | 21.71              | 20.76 |
|        | Standard deviation | 2.38            | 2.39               | 2.56  |

Table (3) shows that the average overall performance of the control group students is equal to (19.81) and a standard deviation equal to (2.38) is less than the average overall performance of the experimental group students (21.71), and a standard deviation (2.39).

It is clear from Table (3) that the average male achievement in the experimental group (21.76) is higher than the average male achievement in the control group (19.54), and that the average female achievement in the experimental group (21.68) is higher than the average female achievement in the control group (19.93) This indicates differences in the performance of the control and experimental research groups in relation to the teaching method and in favor of the experimental group. Binary variance analysis was used to test these results and their statistical significance, as shown in Table (4).

**Table (4): The results of the two-way analysis of the performance of students of the two research groups in the post-test**

| Source of variance     | Sum of squares | df | Mean squares | F value | Sig   |
|------------------------|----------------|----|--------------|---------|-------|
| Teaching method        | 67.44          | 1  | 67.44        | 11.61   | 0.001 |
| Gender                 | 0.429          | 1  | 0.429        | 0.074   | 0.787 |
| Teaching method*gender | 0.904          | 1  | 0.9040       | 0.156   | 0.694 |
| Error                  | 441.440        | 76 | 5.808        |         |       |
| Total                  | 34960.0        | 80 |              |         |       |

It is noted from Table (4) that there are statistically significant differences at the level of  $(0.05 \leq \alpha)$  due to the method of teaching since the value of  $P = 11.61$  at the level of significance = 0.0001, which indicates that the difference between the two teaching methods was statistically and in favor of The experimental group, as its mean was (21.70), which is higher than the mean for the control group (19.80), this indicates an effect of the teaching method using Adobe Captive program on the achievement of students, knowing that there is an organization in the procedures for displaying the control group, but the mean of this method (19.80) was less than the arithmetic mean of the experimental method (21.70).

This result can be attributed to the effectiveness of the teaching method using Adobe Captive program; it takes into account the individual differences among students, and takes into account their capabilities and the speed of their learning, and the availability of computer devices in universities and access to them for use in the educational process, and the fact that the use of Adobe Captive program in teaching this subject is a new way that has led to increase the interaction of students and their understanding and understanding of the content of the educational material, and increase their motivation to learn, especially as the use of Adobe Captive program pushes boredom away and increases learners' eagerness to learn. In addition, the learner is able to repeat the learning process again and according to his need to learn.

**Results related to the second question and its discussion:** What is the effect of the gender variable on Master degree students' achievement in Information Technology at Al al-Bayt University?

Looking at Table (3), it is found that the average performance of the students of the control group (19.93) is close to the performance of the students of the control group (19.93), and that the average performance of students (the experimental group (21.76) is close to the performance of the students of the experimental group (21.68) This indicates that there are no significant differences for the research groups in relation to the learner gender.

It is noted from Table (4) that there is no statistically significant difference at the level  $(0.05 \leq \alpha)$  due to

the gender of the students as the value of  $P = 0.074$  at the level of significance = 0.787, which indicates that there are no statistically significant differences at the level of significance (0.05) between the average performance of students of the total research group (20.60), and the average performance of students of the total research group (20.81).

This indicates the equality of both sexes (males and females) in their willingness to learn, as well as the educational conditions that both sexes went through were one, and the academic subject given to both sexes is one as well.

**Results related to the third question and its discussion:** What is the effect of the interaction between the teaching method and the gender of students on the achievement of master's students in information technology at Al al-Bayt University?

Table (4) shows that there are no statistically significant differences at (0.05) level due to the interaction between the method of teaching and the sex of students, as the value of  $P = (0.156)$ , at the level of significance = (0.694), and this indicates that there is no common effect for each of the students' sex the method of teaching students to collect the course of Education technology at the University of Al al-Bayt.

Perhaps this is due to the interest shown by students of the course of different sexes, as the researcher noted that the use of computers was consistent with male and female students' inclinations, and that the teaching material for both sexes was the same.

### Recommendations

Based on the research results, the researcher recommends the following:

1. The necessity of teaching technology subject using Adobe Captive.
2. Designing computerized lessons using Adobe Captive program for the subject of educational technology in a way that suits the capabilities and preferences of students.
3. Using Adobe Captive program in teaching other university courses.

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