The Effect of Classroom Web Applications on Teaching, Learning and Academic Performance among College of Education Female Students

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Abstract

The current study proposes web applications-based learning environment to promote teaching and learning activities in the classrooms. It also helps teachers facilitate learners' contributions in the process of learning and improving their motivation and performance. The case study illustrated that female students were more interested in learning and performed better when using the proposed applications, in the classroom, during and after classes. In addition, these applications allow them obtain an appropriate educational support. It also provides teachers and learners with an effective support in managing and guiding the educational activities inside and outside the classroom.

Keywords: web applications, classrooms, performance, college of education

1. Introduction

Education underwent many vital changes because of the great progress in communication and information technology over the past decade. Therefore, a shift from using the traditional methods in education to new ones based on the programs of e-learning was accompanied with a real change of the traditional form of education (i.e., teacher, student and educational institution), rendering it into a more modernized process including (modern teacher, positive student, modern university, advanced educational technology, developed curricula and unsystematic education) (Alzuhery, 2009).

Hence, the teacher should use communication and information technology in manging many educational activities that help learners engage in a lot of useful topics. Consequently, the main aim of using this technology is to improve the performance of teachers and learners in the process of learning and teaching (Law & Lee, 2010). Its huge progress allows the existence of many computer tools and systems that improve the instructional experiences in the classroom for the teacher and the student. In addition, most of these tools are completely new and require dedicating more time by its users to identify how to operate them. This may negatively affect users utilizing such programs. Therefore, working on improving learners' embarking on and contribution to using these programs and systems is highly important in teaching and learning knowledge and skills. Various tools and systems were reviewed to promote many classroom activities (Jou, Chuang, & Wu, 2010; Lin, Kinshuk, & Huang, 2010), but most of them were in good conditions and standing alone applications. That is, their users (of teachers and learners) should exert more effort. They also have to download more applications to their devices, create more accounts on the web or design learning interactive environments. These requirements negatively affect encouraging them to use such programs set for a certain educational content (Lee, Lu, & Hou, 2011).

2. Background

Improving learner's demand for learning is very important in teaching and learning new knowledge and skills because it affects their way of interaction with the courses taught (Hung, Chao, Lee, & Chen, 2012). While teachers believe that learners' demand of learning usually affect their educational efforts and the way they plan and make strategies for the new courses delivered to learners (Keller, 1983), learners believe that the shortage of learning motivations leads to the risk of building new knowledge based on wrong information (Murphy & Alexander, 2000). In addition, strong learning motives may influence learners to carry on learning even after completing the educational process.

Since the creation of the World Wide Web, many applications were created for open and free access, such as: Sky drive, Drop Box, Google Apps and Google drive. They display simple and easy interface and strong functions. A large section of the literature on this topic reported that the well-known applications can be intensively used and in new ways in useful learning and teaching activities (Hughes, 2009; Alexander, 2006; Thompson, 2007; Kinshuk & Huang, 2010; Lin, Tan, & Liu, 2012; Wang, Woo, Quek, Yang, & Liu, 2012). In addition, learners and teachers will have the required technical skills in using these applications. This enhances their motives of using an educational content (Dohn, 2009). Furthermore, they have to think of the ways of using these applications in dealing with classroom educational activities (Pretlow & Jayroe, 2010). Additionally, literature illustrated that participants in using improved web applications for classroom use strongly preferred them to the traditional methods (Hamann & Wilson, 2003; Crook & Harrison, 2008). The effective use of these applications may also lessen the barriers between formal and informal education (Bennett, Bishop, Dalgarno, Waycott, & Kennedy, 2012). Azmy (2008) reported that the process of transferring science and technology by organizing, analyzing and displaying them in a systemic way aims to serve both students and researchers. It saves effort and time in looking for the scientific needs.

Hence, in order to help teachers facilitate learners' contribution to learning, consolidating their motives, improving their performance and promoting classroom learning activities, the current study proposed using Google Applications to promote the learning environment.

3. Objectives

The current study is based on identifying the effect of using Web applications on teaching, learning and academic performance among College of Education female students. In addition, it seeks to achieve the following objectives:

1) Identifying learning motives of using classroom web applications among university female students.

2) Identifying the female students' attitudes of using classroom web applications.

3) Achieving quality in education by enriching using direct technology in the classroom.

4. Statement of the Problem

E-learning programs share the general objectives of education with the traditional methods, focusing on preparing an educated generation that has skills and cognitive experience. Therefore, it is qualified to face the requirements of practical life. However, methods and tools required to achieve this objective may vary from time to time. Those required in the 20th century, partially or completely differ from those required in the 21st century.

This was related to individual efforts of some teachers who invested in computer and information webs' techniques in publishing their curricula on their personal websites or using some sites that provide free publishing services. Visits paid to these sites increased. Furthermore, the educational objectives of this stage were related to reviewing information resources that provide supplementary information to these courses. Then, it was developed to upload these courses to the Internet, so that the learning environment of the curriculum is almost comprehensive, due to the availability of courses with supplementary sources of information (Alzuhery, 2009).

Muhammad (1992) reports that using technology in education helps consider individual differences, provide feedback to the learner, increase achievement and acquiring the skills of learning and using computer in the educational process, acquire positive attitudes and trends, decrease learning time, develop the skills of problem solving, implement many difficult tasks, understand concepts, memorize historical facts and decrease the workload of the teacher.

Alghareeb (2009) points that when teaching via the World Wide Web; it is worth noting developing the competences of the faculty because this plays a vital role in using the web in university education. There are many other problems that face using informational web in serving university education (technical issues); i.e., problems related to using e-learning in delivering courses/courses to students, such as: the availability of adequate number of computers, displaying and offering courses on the Internet to be available offline. Internet's connection may be slow and the preliminary costs of transferring the courses into other formats via electronic means.

Consequently, the idea of the current study emerges from the author's interest in effectively using technological advances in university education and the importance of e-learning in higher education system.

5. Study Questions

The current study is based on the following main question: What is the effect of classroom web applications on teaching, learning and academic performance among College of Education female students?

It is, further, divided into the following sub questions:

1) What are the learning motives among female students for using classroom web applications?

2) What are the attitudes of the female students for using classroom web applications?

6. Significance

The world interest in the technology of education development has been increased over the past few years. This concept was frequently used by educators in the educational institutions, noticing the vital and effective role of educational technology in promoting the educational system. This was accompanied with an increased interest in using all available educational techniques and benefiting from the scientific and technological progress that enriched the educational process with modern and developed styles, achieving a more effective and proficient education. This study seeks to identify the effect of utilizing classroom web applications on teaching, learning and academic/university performance among College of Education female students. Consequently, the importance of the present study lies in:

1) Developing classroom teaching and learning and providing new ideas. More utilization of web applications in the future promotes the learning environment.

2) Providing improvements of developing utilizing classroom web applications.

3) Promoting the classroom learning environment with well- known web applications.

7. Limitations

The current study has been confined to the following limits:

1) Objective limitations: Using classroom web applications on teaching, learning and academic performance among higher education female students.

2) Spatial limitations: College of Education, Princess Nourah bint Abdulrahman University.

3) Temporal limitations: First semester for the academic year 2016/2017.

8. Methodology

8.1 Approach

The author adopted the experimental approach (Alassaf, 2000) in studying the attitudes, studies and experiments related to using classroom web applications on teaching, learning and academic performance of higher education female students.

8.2 Sampling

An intentional randomly sample of 40 female students of the College of Education was selected.

8.3 Tools of the Study

1) Using a survey to identify the real motives and attitudes of learning.

2) Interviews.

9. Theoretical Framework and Literature Review

Web applications that promote learning environment:

Web applications are developed to work on the browser and are accessed using the Internet and the browser. They are written using various programming languages, such as: Python, Php, Perl, Ruby... etc. They are developed using Web Application Framework.

Advantages of using this technique:

1) Decreasing the percentage of virus infection.

2) Facilitating the user's works of browsing and dealing with the site.

3) Application's accessibility from any device connected to the Internet.

4) Removing application updating plugins because in our techniques they are updated on the site.

The most significant examples of web applications are: Microsoft Office Live, Google Reader, Google Apps, etc.

The web application differs from the web site that the later is a site that contains many articles, topics or photos, while the former is an application that facilitates user's interaction with the site in a better way than the web site. It is developed by Web application framework that is written in a certain programming language that facilitates programming the main issues of the web application. Instead of writing the main scripts of the application of classes, etc., these frameworks save the time spent in programing these issues because they are ready. Each programming language has a design framework of web applications (Elshaby, 2013) owned by the site: http://www.isecur1ty.org.

When it was launched by United States Department of Defense in 1969, the Internet was simply a means that facilitates sharing informations among American universities and research institutions and the American army. Data were transferred in a "plain text" format; they were void of formats, effects and multimedia. Then, e-mail appeared to contribute to the Internet development by American universities students. The impressive development was accelerated that it spread in every institution and house, text and photo browsers appeared, companies competed on providing the website with the best and programming languages that helped create dynamic websites that allow the common user modify the content continuously without a need to know its programming. In addition, the web was classified into three different forms:

1) Web Applications

Programs that allow you create documents, edit photos, organize diaries and other functions of desktop applications but via web browsers, such as: Google Document, PHProjekt, management of document or web content, e.g., Word Press.

2) Web Services

Most Web 2.0 sites are categorized as web services. They are a kind of small applications that focus on a certain task to serve web browsers.

3) Web Sites

They represent the greatest proportion of the web, rather web applications and services are web sites of high features and capabilities. The current trend of websites is to transform them into social networks rich in information and news defined by the user. The website owner's task became limited to provide all facilities that enable the user of this, except for e-commerce and e-learning websites. These three categories, practically, helped the emergence of web 2.0 browser. Furthermore, anyone can currently create websites, yet some users prefer desktop application to web application, whether for development or use. In the next section, both are neutrally compared to 6 aspects:

(1) Speed: Web applications depend on Internet connection speed, unlike desktop applications that have a relatively stable speed, even if they depend on the device' features.

(2) Work environment: In fact, web applications have the ability to run via any operating system and there may be available copies for web browsers users via cell phones or tablets, unlike desktop applications that require defining their operating system which is totally inflexible for both developers and users.

(3) Security: There is no doubt that the security of desktop applications is much higher than that of web applications, but the web is only a service of the Internet that connects the different computers all over the world, so they are easily hacked.

(4) Updating Applications: Updating web applications, on one hand, is more flexible than that of desktop applications because the developer or the company performs updating only once to be used by thousands or millions of users. On the other hand, updating desktop applications requires that users perform updating themselves.

(5) Memory consumption: In desktop applications, memory is consumed in 3 forms:

• Memory used in storing the program on the device;

• Memory used in storing files produced by the program;

• RAM differs from one application to the other.

In web applications, we just need one type of memory; i.e., RAM to run the browser where the application runs. System files and documents are stored in the database of the website.

(6) Sharing: The Internet is an unlimited means of communication. Obviously, "sharing" is one of the most significant features of web applications and may be the main motif of using them by many users.

Adobe tried to provide a moderate solution that has both desktop applications features and those of web applications, creating Desktop-based Web Application. This technique was known as Adobe Air. It enabled developers of creating web applications to run on the desktop not via the browsers (Ihsan, 2009). http://www.tech-wd.com/wd/2009/07/21/web-application-vs-desktop- application/

The need to web applications: Web applications have many uses, such as:

− They allow users search for information rapidly and easily in rich in content websites: They provide users with the ability to search, organize or move from one content to another appropriately, such as: companies' networks, Microsoft MSDN and Amazon.com.

− They allow collecting, saving and analyzing data provided by visitors: Web applications can save the form's data directly to the database, extract data and create reports based on the web to be analyzed, such as: The pages of online banking, selling to the stores, surveys and users' notes forms.

− They allow updating the websites of ever-changing content: Web applications help web designers avoid the continuous updating of HTML content on the website. Content provides, e.g., news editors, provide the web with content, and then they are automatically updated. The most significant examples of web applications are: Microsoft Office Live, Google Reader, Google Apps, etc., via http://www.art4muslim.com

10. Literature Review

Haider (2010) aimed to measure the effect of using online prepared academic courses in education by preparing and displaying the material electronically using (NOURI-NET). It aims to assess using their use, receiving and the level of benefit by students. It was applied to 70 students of all specializations in AL-Mustansiriyah University in the academic year (2010-2011). It used Likert scale surveys to collect information related to the study's variables. Results illustrated that there was a high acceptance of using electronic courses by the students. It was a positive effect on skills and educational benefit level acquired by the student. In addition, there were some technical difficulties as a result of dealing with the electronic environment.

Elbatayna (2010) conducted a study on the effect of using the Internet on the writing skills of English language students. The population of the study covered all English language students of Isra University. A sample of 62 students enrolled in writing course 1 in the first semester of the academic year 2006/2007. They were divided into two groups; a control group of 33 students and an experimental group of 29 ones. A website was designed to monitor and evaluate the performance of the experimental group, while those of the control group submitted their assignments in the traditional way (paper and pen). In addition, the author gives them his website. Statistical equations were also used to analyze data in the pre-and-post-tests to answer the following question: Is there an effect of using the Internet on developing writing skill of university students compared to using the traditional method? Results illustrated that there was a difference between the performance of the control and the experimental groups in the post-test in favor of the experimental one. Thus, the author recommends using the Internet in teaching writing and other linguistic skills.

Shaheen (2001) conducted a study on the spread of using the Internet on using university library: A field study on male and female students of the first university stage (i.e., Bachelor) in King Abdulaziz University to investigate the effect of using the Internet in benefiting from university libraries, using the descriptive analytical approach. Data were collected using a questionnaire that was distributed to 3020 respondents of whom 2150 responded, rating 71.19%. Additionally, incomplete questionnaire were dismissed because of being invalid for analysis. Consequently, 1500 were analyzed (i.e., 50.8%) of the population. It concluded that there was a high level of informational awareness (77.84% of the population) and there was a relative variation of the effect of using the Internet. In addition, there was a significant relation between using the Internet and the user type. Furthermore, 60% of the male students and 64% of the female students believed that the Internet can be a suitable alternative to using university library.

Refaat (2002) carried out a study on Cairo university students' benefiting from the Internet services, using the analytical descriptive approach. A questionnaire distributed to a sample of (467) students of the theoretical and practical faculties, forming 1% of the population. It concluded that benefiting from the Internet by students was weak, rating 53.1%. Those of the last two years embarked more on using the Internet. Allkhalify (2002) conducted a study on the role of the Internet in the scientific connection by Arab authors in the field of libraries and information. It was based on analyzing citations in seven Arab periodicals in the field, published between 1990 and 2000. They were: Journal of King Fahd National Library, Alam Alkotob and The Arab magazine for

information science. It concluded that there was an increase of citations from the Internet. Hamdan (2013) conducted a study on the effect of using the Internet on the scientific research in social sciences, showing a great impact of the Internet on scientific production.

Advantages of using the Internet in serving e-learning:

The advantages of using the Internet in serving university education and the problems and obstacles of using electronic teaching can be summarized (Alsalem, 2011), as follows:

1) Providing a flexible learning environment where students feeling shy when they directly participate in the classroom, contribute more to discuss via discussion forums.

2) Koohang reported that teaching via the Internet creates new fields of learning. Offering electronic educational programs, providing many sources of information and the large size of information allows developing creative thinking of the student and provides him/her with problem-solving skills when the student faces issues by mates or the faculty.

3) Teaching on the Internet opens fields of discussing connection between a group of members from different countries or cultures, broadening their minds and opening new horizons of learning, discussion and identifying the different cultures all over the world.

4) The spread of distance learning programs provided universities offering these programs with a tool of competition in foreign markets, contributing to offer financial resources to support the teaching process in these universities and supporting economy to provide student and staff users with high technological skills.

11. Procedures of the Study

To achieve its objective of identifying the effect of web applications that promote the teaching and learning environment in the classroom on the College of Education female students' teaching, learning and academic performance, the author conducted many procedures, as follows:

a. Proposing a web application to improve teaching and learning experiences in the classroom.

Figure 1 illustrates the framework of the proposed environment that consists of three key elements; Web application, the professor of the course and the student.
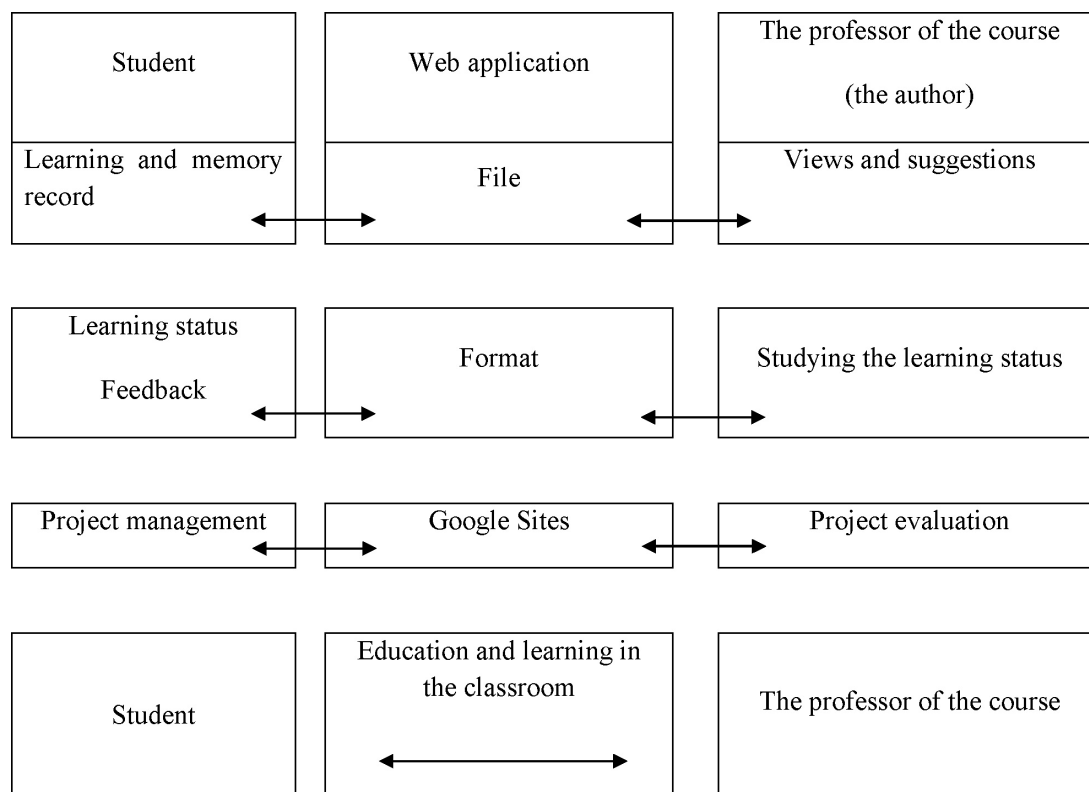

Figure 1. The framework of the web application supported with learning environment

• Web application consists of two Google applications; i.e., Google Docs and Google Sites. They have been modified to suit the learning environment. There are two types of Google documents; documents and forms. They are used to facilitate contribution in the interaction. Google documents provide a web service that allows users find and edit documents online using the browser. They can also share documents. In addition, Google Forms provide questionnaire as an online service. Users can find and edit online surveys effectively and efficiently. Furthermore, Google sites provide an easy way to enable the female students make effective pages using tram projects and work in the same way of writing any file. That is, they, without any programming skills, can create web pages without any obstacles.

• The professor of the course (the author): The author can ask the female students use Google Documents to give feedback on a certain educational activity. They are able to improve their understanding because of the feedback and summaries given to them. Jou and Shiau (2012) in a former study reported that teachers can use Google Documents in instantly scanning files, comments and suggestions with teachers. Google forums allow teachers instantly administer online surveys and assess learners' learning and performance. Information obtained by the teacher may offer a useful basis, enabling users understand the feeling of learners towards learning and modifying teaching procedures, if required (Hwang & Chang, 2011). Google Sites may also allow the professor of the course to enjoy group leadership of female students in teamwork projects.

• Female student: Female students can create Google Documents to register their educational status and notes as easy as using "Microsoft Word". They can also express their opinions and ideas by responding to the surveys prepared by the author using Google. Additionally, they can share their learning results via Google website.

b. In order to assess the impacts of the proposed method on teaching and learning, two sources of information were utilized; i.e., surveys and interviews. While surveys were prepared to measure the motives and attitudes of the female student learning, interviews were used to measure the general attitude of the recipient. In order to evaluate the female students' learning motives, a survey was used. The scale of values was used to evaluate the objectives of the study of identifying the attitudes of the female student on the importance of working in the classroom and the interest in that work. The survey used consists of 9-points based on 7-point Likert scale (Pintrich & Groot, 1990). The attitudes of the female students were investigated using a 6-point scale covering 5 points of Likert scale. It was used in pieces of literature review to measure the learner's learning attitudes (Lai & Wu, 2006; Lin, Y. C., Lin, Y. T., & Huang, 2011).

c. In order to study the effectiveness of the proposed method, a quasi-experimental study was conducted on designing the projects of learning techniques course. It covered 40 female students. A website that contained everything related to the educational content was prepared to teach the material. It lasted for 6 weeks and was divided into 6 units (as shown in Table 1). In total, 3 hours of learning activities were spent, focusing on teaching, discussion, thinking and contribution. Furthermore, each educational activity was conducted in a certain time.

Table 1. The most significant teaching and learning activities. project display

Topic		Learning activities	Time (minute)
Topic no. (1)	1.	A presentation by the professor of the course (the author) (60)	180
	2.	Teaching of utilizing Google documents (15)	
	3.	Discussion (25)	
	4.	A practice to apply the lecture via the web (60)	
	5.	Revision (20)	
Topic no. (2)	1.	Revision (5)	180
	2.	A presentation by the teacher (60)	
	3.	Discussion (25)	
	4.	A practice to apply the lecture via the web (60)	
	5.	Revision (20)	
Topic no. (3)	1.	Revision (5)	180
	2.	A presentation by the teacher (60)	
	3.	Discussion (25)	

	4.	A practice to apply the lecture via the web (60)	
	5.	Revision (20)	
Topic no. (4)	1.	Revision (5)	180
	2.	A presentation by the teacher (60)	
	3.	Discussion (25)	
	4.	A practice to apply the lecture via the web (60)	
	5.	Revision (20)	
Topic no. (5)	1.	Revision (5)	180
	2.	A presentation by the teacher (60)	
	3.	Discussion (25)	
	4.	A practice to apply the lecture via the web (60)	
	5.	Revision (20)	
Topic no. (6)	1.	Displaying dealing with Google sites (30)	180
	2.	Preparing the team project (60)	
	3.	Displaying the project (40)	
	4.	Discussing projects' evaluation (60)	

Figure 2 illustrates the procedures and the steps of the experiment. Each female student was asked to fill in the educational survey before and after contributing to learning activities. A separate survey on learning attitudes was distributed to each female student after learning activities. In addition, two interviews were conducted after the two surveys to document the female student's point of view of the teaching and learning process.
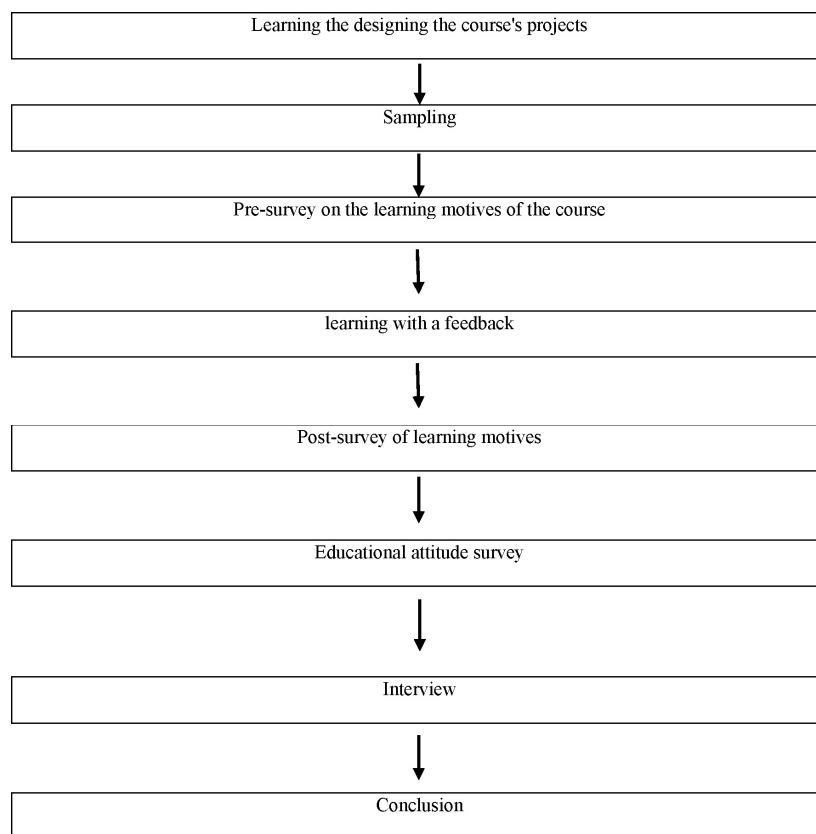

Figure 2. Procedures of the experiment

12. Results

After the experimental processing applying the study tools to achieve the objectives of the study and identifying the impact of web applications supporting education and learning environment in the classroom among the College of Education female students on their teaching, learning and academic performance, the statistical processing was performed based on the questions of the study:

12.1 The Results of the First Question: What Are the Learning Motives among Female Students for Using Classroom Web Applications?

In this study, a web application supporting university learning environment was utilized. Each female student was asked to fill in the educational survey before and after contributing to learning activities (studying the course). The values of Cronbach's alpha of the survey were 776 and 828, respectively. It was concluded that the female students had clear attitudes towards the method used after learning. Table 2 illustrates the study's results of using open-questions surveys on the motives of the female students towards using classroom web applications.

Table 2. Open response survey sample of the female students

Open response survey of the female students on their motives towards using classroom web applications.	Mean	Standard deviation
1. The extent of your knowledge and efficiency of using the web in general.	2.15	0.408
2. Searching information via the web.	2.33	0.652
3. Creating and developing a website.	1.29	0.399
4. Enough training to use the Internet in studying the course via the web was received.	2.31	0.653
5. Availability of enough information to use the study's applications.	3.24	0.617
6. The availability of proper technical assistance that facilitates using technological means in the classroom.	2.29	0.679
7. Information obtained in the study via the web exceeds those obtained in the traditional methods.	3.2	1.187
8. Satisfaction of sending and receiving courses via the web using comprehensive Google applications.	4.21	0.883
9. Feeling satisfied with performing some electronic mailing of the tasks and projects of the scientific courses compared to other courses.	2.66	1.128
10. The user interface was simple, and what is the similarity between this interface and that of Microsoft Word?	3.5	1.401
11. There was a continuous coordination between th female student and the lecturer on the items to be studied via the web.	3.16	1.326

It could be noticed that the female student has good knowledge and competence in using the Internet, searching for information via the web and creating or developing the electronic website. Table 2 showed that the general means of the participants' responses on the knowledge and competence of using the Internet was 2.15 and a standard deviation of 0.408. In addition, the Arithmetic mean and standard deviation of searching for information rated 2.33 and 0.652, respectively. This indicates that there is not wide variation of the participants' responses. Consequently, the female student has motives and competence appropriate for using the Internet in classroom learning and searching for information via the web. However, female students' knowledge and attitudes of creating or developing a website were low, with an Arithmetic mean of 1.29. Hence, they were weak regarding creating and developing electronic pages. Results also indicate that the Arithmetic mean of responses on receiving enough training to use classroom web applications was 2.31 and the standard deviation was 0.653. In addition, they illustrate the availability of enough information to use the study's applications with an Arithmetic mean of 3.24 and a low standard deviation of 0.617, which indicated that there was not wide variation of the participants' responses. It is noted that the level of satisfaction of providing the course's projects and studying via the web using Google comprehensive Applications with an Arithmetic mean of 4.21 and a standard deviation of 0.883. The feeling of positivity and satisfaction on conducting some electronic mailing of the tasks and projects of the course compared to other courses was good, with an Arithmetic mean of 2.66 and a standard deviation of 1.128. Results also showed the high mean of female students' responses on the continuous coordination between the female student and the professor of the course on the items to be studied via the web, rated 3.4.

In general, the results pointed out that more than 87.5% increased their learning motives after using the proposed learning environment. In addition, learning motives of the other female students simply decreased about 12.5%. An interview was prepared for surveying the female students' notes, with a focus on learning motives while using the proposed method.

12.2 The Results of the Second Question: What Are the Attitudes of the Female Students towards for Using Classroom Web Applications?

Students were asked to fill in a survey of learning attitudes soon after contributing to learning activities to give a feedback on the process of learning project designing. It rated (786) on Cronbach's alpha. Results illustrated that the majority of the female students, rated 82.5%, registered positive attitudes towards learning via the web application that promote the learning environment and 7.5% only did not prefer this type of learning. In addition, most female students reported that the required activities were useful and that they liked using web applications in studying techniques of teaching course. They also believed that using web applications was very easy. Furthermore, 80% of the female students communicated well with each other and with the professor of the course (the author), as shown in Table 3.

Table 3. Open response survey

Open response survey on female students' attitudes of using classroom web applications	M	St. D
12. Using classroom web applications in achieving extra advantages compared to the traditional method of learning.	3.19	1.011
13. This method helps a lot in understanding the course smoothly.	3.14	1.254
14. Achieving your skills of using information technology by the proposed method of studying via the web apps.	3.4	1.109
15. The proposed method of studying via the web in the classroom provided certain training and skills.	3.25	0.644
16. Using web apps in the classroom qualifies for field work.	3.56	1.258
17. I prefer using Google Forms when expressing personal views.	3.33	1.100
18. I feel satisfaction and relief as a result of studying the course via the web in the classroom because web applications were easily used.	3.53	0.896
19. Smooth communication with the professor of the course.	3.17	1.215
20. You need to study scientific courses in the same method adopted.	2.96	1.290

Table 3 indicated that there was a satisfaction among the female students, who studied the course via the web apps in the classroom and achieving extra features compared to the traditional method with a general means of 3.19 and a standard deviation of 1.011. The results pointed that there was an increase of the mean on using studying via the web apps method in understand the course smoothly and clearly, where mean rated 3.14 with a standard deviation of 1.254. By analyzing the responses of the respondents on their attitudes, using open questions survey, where item 13 "This method helps a lot in understanding the course smoothly" has a mean of 3.14, item 15 "The proposed method of studying via the web in the classroom provided certain training and skills". Has a mean of 3.25, item 18 "I feel satisfaction and relief as a result of studying the course via the web in the classroom because web applications were easily used". Has a mean 3.53, and item 17 "I prefer using Google Forms when expressing personal views". scored a mean of 3.33.

It could be concluded that learning via the web using comprehensive Google applications benefited students most compared to the traditional method. This also indicated the importance of embarking on education and learning via the web to help students clearly and smoothly understand the course and increases their skills of interacting with modern technological means in education.

12.3 The Interview

The author interviewed the female students to identify their attitudes towards education and learning via web applications. The author taught the same curriculum and adopted the same educational activities in another section without using the web apps. Differences of the female students' attitudes were analyzed in the traditional method and the web apps method. In addition, they were asked to evaluate their learning outcomes because they did not experience this before. To provide a better illustration of the views of the interviews, responses were divided into three categories; teaching, interaction and technology, as shown in Table 4.

Table 4. Some of the comments on the three categories

Category	Examples of comments
Teaching	The professor of the course (the author) believes that the proposed method helps her manage the classroom.
	The author noticed that the female students had high learning motives for activities using web applications more than those that did not use web applications.
	The majority of the participants focused on the point that contribution in the learning environment motivated them to register what they learned and enabled them to have a well impression on their learning.
Interaction	The author noticed that the female students gave feedback and asked on the concepts of projects' design in the learning environment.
	The author noticed that they had ideas and discussion on each learning activity during and after classes.
	The majority of the participants assured that the proposed method could facilitate interaction and cooperation among the female students, especially after classes.
Technology	The female student noticed that all female students of the sample commended the use of classroom web applications,
	The author pointed that web apps were appropriate. Applications allowed the author review the female students' files and projects easily, any time and anywhere.
	The majority of the female students reported that using web applications was easy.

There was a statistically significant relationship between studying via the web in the classroom and the level of learning and academic performance of the female students. Table 5 showed that the degree of correlation between the independent and dependent factors and its level of significance.

Table 5. Correlation between the independent variables and dependent variable

Relation	Studying via the classroom web apps, educational level and academic performance of the female students
Correlation coefficient	28.9
Level of significance	(0.014) at the level of (0.05)

Table 5 illustrates that there is a statistically significant relationship between studying via the web apps and the level of education, learning and academic performance of the female students at the level of 0.014, significant at 0.05 and correlation coefficient between the independent and dependent variables was 28.9. This suggests a high level of relationship between the student's academic rate of the course and the benefit from studying via the web apps in the classroom.

Consequently, the answer to the study's main question, "what is the effect of classroom web applications on teaching, learning and academic performance among College of Education female students?", is determined according to:

The perspective of the author:

When comparing the projects of the course taught without using the proposed method, the author noticed that using classroom web applications helped her manage the classroom, especially when reviewing the feedback and academic level of the female students. In addition, it has been shown that the female students were interested in using web applications in learning, they had better learning motives because of using web applications, if compared to those who performed the same skills without using web applications. Concerning the academic performance of the female students, the author reported that those who used the proposed learning environment were more engaged in learning activities. After finishing the class, they were more capable of communicating and transferring ideas and knowledge to others. They were also capable of excellent performance by discussing the activities. The author affirms that Google sites were an appropriate and useful tool when submitting individual or team projects by the female students.

In the interviews, many of them thought that their academic performance and motives were better when using the proposed method and that it helped them practice their learning and having a good impression of their level.

In addition, without having any programming skills, they were capable of achievement using Google site and preparing separated sites of the team projects.

The female students' interaction with the proposed method:

The author found that the female students, who used the proposed method, gave extra feedback and asked more questions on the concepts of designing the project, if compared to those, who didn't use the proposed method. In addition, those who used the proposed environment had discussion and ideas in the learning activities and during lectures. The author believed that using Google documents could improve the female students' interaction though instructional activities. The author indicated that using Google documents allowed measuring the female students' level efficiently and effectively, especially for those who are more introvert. Furthermore, publishing the female students' notes via Google documents allowed making suggestions.

From the perspective of the female students, most of them believed that they were capable of expressing their points of view in a better way when Google documents utilized to investigate their academic level. In addition, some of them found that Google documents were useful to manage their teamworks because they assured making simultaneous revisions and corrections by many of them. More than a half of the female students reported that using Google sites could support interaction with their classmates, which in turn helped them improve projects outputs. They affirmed that the proposed method could facilitate interaction and cooperation, especially outside the classroom because it included useful ways of publishing, contribution and teamwork that allowed students to keep in daily contact.

Effectively using of technology in education:

In this technique, the educational system follows up the female students' experience and contribution when using web applications promoting the learning environment. The author noticed that most of the female students tended to accept using classroom web applications. She indicated that because applications might be used via devices of various systems, e.g., personal computers, smart phones and tablets, the classroom could be managed at anytime and anywhere via the Internet. Also, many female students used Google documents in editing their Facebook notes after classes. That means that web applications are efficient and trusted that allowed students to learn effectively, and motivated them to review their classes.

They reported that Google documents were easy-to-use because their user interface resembled that of Micrsosoft word. In addition, Google documents were useful for revising learning activities and there was no need to be afraid of losing them because they are available at anytime and anywhere. Consequently, they were able to use Google documents as a tool to register useful notes in other courses. Furthermore, Google sites were a useful tool in managing the group's activities and fulfilling team projects.

13. Conclusion

This study hypothesized that using web applications promotes classroom learning environment and learning activities that enable teachers, learners and the faculty to successfully use them daily because integration of web applications and Learning Management System (LMS) helps teachers and learners have comprehensive educational services and web applications to promote education and learning. Improving learning motives of the female students in and after classes is an important issue for improving education and learning in the classroom. One of its most important contributions is promoting classroom learning environment with well-known web applications. The proposed learning environment offered tools to facilitate the female student's learning and contribution. In other words, this study aimed to improve the female student's learning motives and contribution after the classroom by improving learning environment by the well-known web applications. Education became more successful as a result of using learning motives and contribution. Results agree with some studies (such as, Haider, 2013; Elbatayna, 2010; Alexander, 2006; Hughes, 2009; Thompson, 2007; Wang, Woo, Quek, Yang, & Liu, 2012; Kinshuk & Huang, 2010; Lin & Tan, 2012). Finally, educators can use the learning environment via the web apps to evaluate post-learning performance to identify what has been achieved by the learner.

14. Recommendations

Based on the study results, the following recommendations have been made:

1) Adopting the proposed method in teaching many curricula to achieve various learning objectives.

2) Paying more attention to learners' motives and attitudes and surveying them to improve their educational and learning experiences.

3) The importance of using the learning environment in teaching for assessing the female students' level and identifying the significant learning issues.

15. Further Studies

Further studies can be conducted, shown as follows:

1) Web applications-based proposals utilized to integrate with other tools and systems such as LMS.

2) Conducting future studies that motivate using more web applications appropriate with LMS to be used in teaching other courses and other educational goals.

3) Conducting future studies to analyze learner's efforts using technology and create suitable solutions to promote this attitude using familiar programming interfaces.

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