

The Effect Of E-Learning In Improving Self-Learning Skills Among Gifted Students At Public Schools In Jordan

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Article Info	Abstract
<p>Article History</p> <p>Received: July 2, 2021</p> <p>Accepted: August 5, 2021</p> <hr/> <p>Keywords : E-learning, Self-learning skills, Gifted students</p> <p>DOI: 10.5281/zenodo.6568232</p>	<p><i>This study aimed to identify the effect of e-learning in improving self-learning skills among Gifted students at Public schools in Jordan. The study sample consisted of (120) students at public schools, for the academic year 2019/2020.</i></p> <p><i>To achieve the objectives of the study, a questionnaire was built aimed at measuring self-learning skills. It consisted of (45) items and distributed over four domains. The validity and reliability of the study tool was verified.</i></p> <p><i>The results of the study indicated that there is a statistically significant effect of teaching using e-learning on improving the level of self-learning skills in favor of the experimental group, and the presence of statistically significant differences in improving self-learning skills due to the gender variable in favor of male students, and there is a statistically significant effect of the interaction of the variables of gender and e-learning in improving self-learning skills for the benefit of the experimental group, the study reached a set of recommendations, the most important of which was to activate the use of the e-learning system in the educational process.</i></p>

Introduction

The beginning of the third millennium witnessed a wide interest in individuals learning one of the living global languages that constitute an entrance to the outside world, and communicating with users of living global languages smoothly and fluently for various purposes, as learning a foreign language is a fertile field for acquiring new language skills that are added to the set of skills acquired from learning the mother tongue (Komiya, 2009).

Because of the size of the benefits accruing to individuals who are able to use more than one language and societies as well, many countries have sought to teach a foreign language in their curricula, thus forming a second language besides the official mother tongue, despite the great crowding in the number of languages spread in all parts of the world, which differ in the wide spread and circulation according to the nature of its use and its ability to achieve language goals, the English language is among the most widely used living languages in the world (Hedgcock & Ferris, 2009; Ferris, 2009).

The English language is an important tool for communication between peoples, as it is a global language, and learning it helps to exchange different cultures and experiences between peoples. Accordingly, learning the English language has become a necessity and an urgent requirement, especially in the era of the information revolution, progress in the available communication technology, and the interests of various countries of the world to include learning the English language in their educational curricula (Mandal, 2013; Naved, 2015; Al-Mashaqbeh, 2017).

The information revolution has resulted in many modern and innovative methods and technologies that have contributed to the development and advancement of educational institutions, including distance education, computerized education, e-learning, and other accelerated learning systems, using smart electronic technologies, which have imposed themselves firmly on all sectors, including Education Sector (Aslan & Şeker, 2017).

Education using smart electronic technologies also provides an increase in the possibility of communication between students themselves, and between them and teachers, through the use of e-mail, and forums that motivate students to participate, interact and exchange opinions on the topics presented, in a way that contributes to building solid learning for the learner (Watkins & Corry, 2010).

With the tremendous development in the use of smart electronic technologies in the educational process, educators have found broad prospects for implementing the principle of self-learning in its finest form, and self-learning is the method followed by the individual in different educational situations to acquire information and skills in accordance with his own capabilities, so the learner takes the decision when learning, The place of learning, the limit at which it ends, and the means that achieve the intended learning for him, so he becomes the primary responsible for his learning, the level of his cultural and cognitive progress, and the quality of decisions he takes (Al-Sherbeni & Al-Tantawi, 2006).

Self-learning is defined as “providing an atmosphere of freedom for the student to choose the learning subject and its tools, and organizes, implements, and evaluates learning according to his abilities and capabilities, and the teacher shares with him the guidance, facilitation and preparation of learning fields and sources, so that the learner becomes a teacher for himself (Taha & Emran, 2009).

The student's self-learning is the focus of the educational process, directing him to continuous learning, as self-learning provides the student with opportunities to teach himself by integrating him with learning tasks that fit his abilities and suit his needs, and considering all levels of students and their abilities is one of the features of self-learning (Anderton, 2006; Nashwati, 2003).

Because smart electronic technologies are dynamic tools that work to achieve more interactive and positivity in the educational process, and help students acquire diverse knowledge, master online research skills, and develop their critical thinking and analysis of information in a subjective manner, the researcher decided to investigate the impact of using e-learning on improving self-learning skills among Gifted students at Public schools in Jordan.

The Problem of the Study and its Question

Several studies have confirmed that there is a clear weakness among gifted students in Jordan in general in academic achievement, and that the subject of students' low achievement is so important that it cannot be overlooked, given the consequent difficulties facing it. The student after graduating from high school, and moving to university studies or leaving the field of working life. Several studies have recommended the adoption of teaching programs that enable students to acquire self-learning skills, rely on themselves in their learning, independence, and use their own skills and methods, to improve their achievement level, and increase their motivation to learn, and because the use of smart electronic technologies in education is based on active learning, exploiting the maximum mental energies of students, benefiting from modern technology, learning principles and theories, and means of communication, which enable them to interact with each other, and access sources of knowledge through the Internet, with ease and to achieve self-learning in its finest form. Thus, the study seeks to answer the following main question:

- Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the self-learning skills of Gifted students due to the teaching method (experimental, control), gender and the interaction between them?

Definition of Study Terms

E-learning: It is one of the means that supports the educational process and transforms it from the stage of indoctrination to the stage of creativity, interaction and skill development, and it combines all electronic forms of teaching and learning, as it uses the latest methods in the fields of education, publishing and entertainment by adopting computers, their storage media and their networks

Self-learning: "learning that occurs as a result of the individual's self-education driven by his own desire, by going through various educational situations to acquire the required information and skills." It is procedurally defined as a method of learning in the English language in which undergraduate students majoring in English teach themselves by going through educational situations through which they acquire diverse knowledge, attitudes and skills, in accordance with their abilities, readiness, and own capabilities and at their own speed, with less direction and guidance on the part of the teacher.

Self-learning skills: a set of skills from which the learner should acquire personal ability and self-strength to be able to direct himself and activate his activities towards achieving his goals in growth and progress. It is procedurally defined as a set of intended self-skills aimed at empowering students with personal capabilities towards achieving the goals of growth and scientific progress, and it is represented in the skill of organization, the skill of direction and control, the skill of using learning resources, and the skill of self-evaluation prepared by the researcher.

Previous Studies

The researcher reviewed some studies such as Tabuenca et al. (2015) study that tracked the impact of mobile learning on time management and self-learning among (36) university students in the Netherlands, who studied three different online courses, where data were collected using specially designed questionnaires to include measuring goal setting, structuring the environment, time management and planning, where the results indicated that the use of mobile devices to record and track study time may lead to improvement in time management skills and self-learning, and recommended further research into the use of mobile devices to enhance self-organized learning.

Zou & Li (2015) conducted a study aimed at identifying how to employ smart phone applications in teaching and learning English, as well as knowing the types of tasks that can be implemented using smart applications in order to increase students' learning opportunities for the English language, and to reveal students' perceptions of mobile learning, in order to achieve its objectives, the questionnaire, interview and observation were used as tools for the study on a sample of (24) male and female students of the second year at

the undergraduate level in the Department of Economics and Commerce in China. The results of the study showed the possibility of applying mobile learning in learning the English language and in self-learning. Which provides additional educational resources, provides additional support for students to practice English in the classroom and outside it, and it expresses to the students participating in the study about positive attitudes towards mobile learning.

Alsalem (2014) conducted a study on the effect of electronic dialogue diaries in WhatsApp on improving English vocabulary writing among a sample of (30) Saudi students of English as a foreign language at the College of Languages and Translation at Imam Muhammad bin Saud Islamic University in the Kingdom of Saudi Arabia. Where they were asked to add reflective comments on different topics for their groups that were created through WhatsApp, and the researcher prepared a writing test, and the results emerged indicating a significant difference between dozens of general writing before and after in favor of students who did the electronic dialogue, and recommended the use of smart phone applications such as WhatsApp and e-chat applications in teaching languages to make students more fluent.

Bidaki et al. (2013) conducted a study that dealt with the role of mobile learning on academic achievement and self-regulation on (43) students at the University of Bergen in Ghana, and the data collection tool included a self-regulation questionnaire and an achievement test, and the results showed that the use of this method has a very significant impact on academic achievement for the students of the experimental group and they learned to self-regulate the time and place of study, while there was no significant difference in the request for help and assistance, she pointed out that mobile learning overcame the limitations of time and place; which made learning faster, easier and better, and increased motivation towards it, and suggested that mobile learning be seen at least as a complement to other ways of learning as an undeniable necessity in the face of new developments to guide society in a knowledge-based direction.

In a research paper by Goh, T.; Seet, B. & Chen, N. (2012) the impact of information systems SMS messages on self-organizing learning strategies for a group of undergraduate students in New Zealand was examined over a three-month period, and a self-learning questionnaire was used that measures three general types of strategies: Cognitive and metacognitive management and resource management, and the results showed that many aspects of student learning strategies have improved in the experimental group except for aspects related to the dimension of environment and time management, which decreased significantly from the control group who did not receive any SMS intervention.

Abkel & Al-Outeli (2018) study aimed at investigating the effect of a computerized educational program based on the Osborne model for creative problem solving in achievement, verbal fluency development, and self-learning in English language among tenth grade students in Jordan through the use of the semi-experimental approach. The study sample consisted of (622) students from the tenth-grade students in Ma'an Governorate. The sample was divided into four groups, so that in each school there are two groups, one experimental and the other controlling. The students of the experimental group were taught using the computerized educational program, while the students of the control group were taught in the usual way, and the data were collected using an achievement test, a verbal fluency scale, and a self-learning scale. The results of the study revealed apparent differences between the scores of the experimental and control groups on the self-learning scale in favor of the experimental group, and the presence of an interaction between method and gender in self-learning skills.

Abu-Zaitoon (2018) study aimed to investigate the role of the interactive learning program in developing self-learning skills for primary school students from the point of view of their teachers, and the descriptive analytical approach was used in conducting the study, and the study sample consisted of (21) male and female teachers in the schools of Tulkarm in Palestine, and they were chosen randomly, and in order to reveal the phenomenon, a questionnaire was used to collect data. The results of the study revealed the effectiveness of interactive education programs in general and their role in developing self-learning skills for students.

The Study Methodology

Since this study seeks to measure the effect of e-learning in improving the self-learning skills of Gifted students at Public schools in Jordan, the study relied on the quasi-experimental approach, which is based on selecting a sample of students and dividing them into two groups: a control group, taught using the usual method, and an experimental group, taught using e-learning.

The Study Sample

The study sample consists of all gifted students at Public schools in Jordan for the second semester 2019/2020, they were divided into two groups, one of them was the experimental group, numbering (60) students, who studied subjects through e-learning, and the other, a control group, numbering (60) students, taught in the usual way, and table (1) shows the study members.

Table 1: Distribution of study members by group and gender

Group	Gender		Total
	Males	Females	

Experimental	31	29	60
Control	32	27	60
Total	63	57	120

The Study Tool

To achieve the objective of this study, a questionnaire was developed to measure the extent to which students possess self-learning skills, by reviewing the educational literature and previous studies related to the subject of the study. Accordingly, the items of the tool were developed to serve the objectives of the study and to answer the questions and hypotheses of the study, as the scale in its final form consisted of 45 items, which included self-learning skills, divided within its main dimensions: organizational skills, guidance and control skills, skills using learning resources, Self-evaluation skills, where the organizational skills dimension includes (11) items, guidance and control skills dimension (10) items, the skills of using learning sources dimension (11) items, and the skills of self-evaluation dimension (13) items. The researcher also used a five-graded scale (always, often, sometimes, rarely, never). The scale of self-learning skills was corrected as follows: always (5 points), often (4 points), sometimes (3 points), rarely (2 points), never (1 point).

Reliability of the Tool

The apparent validity of the study tool was confirmed by presenting it in its initial form to a number of arbitrators with experience and competence in Jordanian universities, in the field of English language, general curricula, and their number is (11) arbitrators, in order to express their opinion on the items of the first tool in terms of: affiliation of items to the domain, clarity of items, accuracy of language formulation, the suitability of the tool for the purpose of the study, and the arbitrators made some observations on some items, and they were taken and modified, to produce the study tool in its final form, consisting of (45) items.

Reliability of the Tool

The reliability of the study tool was confirmed, through the method of test/retest, by applying the test, and re-applying it after two weeks on a group of (50) male and female students from outside the study, the reliability coefficient was also calculated using the internal consistency method, according to (Cronbach's alpha) equation. Table (2,3) shows the coefficient of internal consistency according to the equation (Cronbach's alpha) and the consistency of repetition, respectively, these values were considered appropriate for the purposes of this study.

Table 2. Cronbach's alpha correlation coefficient (internal consistency)

Domain	Cronbach's alpha correlation coefficient
1. Organizational skills	0.793
2. Guidance and control skills	0.897
3. Skills of using learning resources	0.711
4. Self-assessment skills	0.741
Total	0.843

Table 3. Test factor and its repetition to the study tool

Domain	Test factor and its repetition
1. Organizational skills	.9340
2. Guidance and control skills	.8810
3. Skills of using learning resources	.8920
4. Self-assessment skills	.8780
Total	.886

Study Variables

The study dealt with the following variables

First: The independent variables:

1. Teaching method: (e-learning, regular method), 2. Gender variable and has two levels: (male, female)

Second: Dependent variable: Self-learning skills (expressed as the total score obtained by the student on the self-learning skills scale used in this study).

The Study Results

First: results of the study question: Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the self-learning skills of Gifted students due to the teaching method (experimental, control), gender and the interaction between them?

To answer the question of the study, means and standard deviations of the students' pre and post scores in the experimental and the control groups were calculated on the self-learning skills questionnaire according to the gender variable as in Table (4)

Table 4. Means and standard deviations of the students' pre and post scores in the experimental group and the control group on the self-learning skills questionnaire distributed by gender

Group	Self-learning skills	Gender	N	Pretest		Posttest	
				Mean	Standard deviation	Mean	Standard deviation
Experimental	Organizational skills	Male	31	22.84	7.33	55.87	4.30
		Female	29	21.31	5.28	54.56	2.52
	Guidance and control skills	Male	31	14.32	4.02	35.68	3.26
		Female	29	14.17	3.39	35.48	1.68
	Skills of using learning resources	Male	31	13.65	3.15	35.32	3.64
		Female	29	12.93	2.87	35.07	2.10
	Self-assessment skills	Male	31	19.52	4.93	52.97	3.23
		Female	29	18.86	4.24	50.55	3.04
Total	Male	31	70.32	17.03	179.84	11.14	
	Female	29	67.28	14.09	175.66	4.72	
Control	Organizational skills	Male	32	28.38	8.23	49.53	4.06
		Female	28	28.07	7.79	48.71	5.16
	Guidance and control skills	Male	32	19.44	6.53	34.38	2.93
		Female	28	18.96	6.53	32.04	3.81
	Skills of using learning resources	Male	32	18.28	5.18	37.41	4.35
		Female	29	16.39	3.97	31.32	3.82
	Self-assessment skills	Male	32	28.63	8.93	54.09	5.45
		Female	28	26.07	7.54	43.07	5.27
Total	Male	32	94.72	23.15	175.41	14.18	
	Female	28	89.50	21.24	155.14	15.13	
Total	Organizational skills	Male	63	25.65	8.22	52.65	5.23
		Female	57	24.63	7.40	51.68	4.97
	Guidance and control skills	Male	63	16.92	5.98	35.02	3.14
		Female	57	16.53	5.67	33.79	3.38
	Skills of using learning resources	Male	63	16.00	4.86	36.38	4.12
		Female	57	14.63	3.84	33.23	3.58
	Self-assessment skills	Male	63	24.14	8.53	53.54	4.50
		Female	57	22.40	7.04	46.88	5.68
Total	Male	63	82.71	23.65	1777.82	8.84	
	Female	57	78.19	21.03	165.95	17.73	

It is noticed from Table (4) that the arithmetic means of the scores of students in the control group (males and females) is higher than the arithmetic averages of students in the experimental group (males and females) on the self-learning skills pre questionnaire, the arithmetic mean of the males in the experimental group reached (70.23) with a standard deviation (17.03), while the arithmetic mean of the males in the control group reached (94.72) with a standard deviation (23.15). It is also noted that the arithmetic means of the females in the control group on the self-learning skills pre-questionnaire was higher than the arithmetic means of the females in the experimental group, the arithmetic means of the females in the experimental group reached (67.28) with a standard deviation (14.09), while the arithmetic means of the females in the control group reached (89.50) with a standard deviation (21.24).

It is noted from Table (4) that the arithmetic mean of the scores of students in the experimental group (males and females) is higher than the arithmetic averages of students in the control group (males and females) on the total self-learning skills post questionnaire, the arithmetic mean of the males in the experimental group reached (179.84) with a standard deviation (11.14), while the arithmetic mean of the males in the control group reached (175.41) with a standard deviation (14.18). It is also noted that the arithmetic mean of the females in the experimental group was higher than the arithmetic means of the females in the control group on the identification of dimensional self-learning skills, the arithmetic means of the females in the experimental group reached (175.66) with a standard deviation (4.72), while the arithmetic means of the females in the control group reached (155.14) with a standard deviation (15.13).

Table (4) also notes some variation in the arithmetic averages of some skills in the experimental and control group as the arithmetic mean of some skills in the experimental group increased from the arithmetic

mean of the same skill in the control group, such as “organizational skills” and “guidance and control skills”, while the arithmetic mean of "self-evaluation" skills and "using learning resources" skills in the control group increased from the arithmetic mean of the same skill in the control group, the "organizational skills" in the experimental group came in first place with an arithmetic mean of (55.87) and a standard deviation (4.30) of for males, with a mean (54.56) and a standard deviation (2.52) for females, while the arithmetic mean of the same skill in the control group was (34.38) with a standard deviation (2.93) for males, and with an arithmetic mean (32.04) with a standard deviation (3.81) for females. This result may be attributed to what the e-learning system provides to the learner with the ability to record lectures and view them at any time and any place that suits him and to gain the ability to organize his learning by selecting the appropriate educational materials and the ability to store them in an organized manner and refer to them easily, in addition to the possibility of choosing the educational material, the e-learning system provides the learner with the ability to create video clips, audio recordings, music files, and interactive presentations, in addition, the student may not be satisfied with the information contained in the course by referring to additional sources for learning such as electronic libraries and electronic scientific encyclopedias, the student may not adhere to the study plan in arranging lessons, as the student may precede the teacher in his review of subsequent lessons or in reviewing previous lessons and on his own at his home.

The results showed that the average scores of students on the dimension of organizational skills are higher than the average scores of students on the dimensions of guidance and control skills, using learning resources skills, and self-assessment skills, this indicates that students' use of organizational skills outweighs their use of guidance and control skills, skills of using learning resources, and self-evaluation skills among the self-learning skills.

As for the “self-evaluation” skills, it came in second rank, as the arithmetic mean of the male students in the experimental group for this skill was (52.97) with a standard deviation (3.23) for males, and with an arithmetic mean (50.55) with a standard deviation (3.04) for females. While the arithmetic mean for the same skill among male students in the control group was (54.09), with a standard deviation (5.45), and with an arithmetic mean (43.07) with a standard deviation (5.27) for females. This result may be attributed to the fact that the e-learning system may develop these skills through what it contributes by giving a quick assessment to the learners and thus the learners can see their grades first hand, in addition to the teacher being able to send questions to the learner via e-mail to answer them so that the learner in turn corrects the question paper after he gets the answer form from the teacher. The e-learning system provides the learner with many techniques that allow him to access a bank of questions about the educational material while providing him with feedback on his answers.

The "guidance and control" skills came in the third rank, as the arithmetic mean of the male students in the experimental group for this skill was (35.68), with a standard deviation of (3.26) for males, and an arithmetic mean of (35.48) with a standard deviation of (1.68) for the females. While the arithmetic mean of the same skill among male students in the control group was (34.38), with a standard deviation of (2.93) and with an arithmetic mean (32.04) with a standard deviation of (3.81) for females. This result may be attributed to the fact that the e-learning system may contribute to the development of guidance and control skills through the various ways it provides in presenting educational lessons supported by pictures, audio and video, as it reduces students' distraction and helps them focus and learn.

Finally, the skills of "using learning resources" came in fourth rank. The arithmetic mean of the male students in the experimental group for this skill was (35.32), with a standard deviation of (3.64) for males, and with an arithmetic mean of (35.07) with a standard deviation (2.10) for females. While the arithmetic mean for the same skill among male students in the control group was (37.41), with a standard deviation of (4.35), and with an arithmetic mean (31.32) with a standard deviation (3.82) for females. This result may be attributed to the fact that the e-learning system may develop the skills of using learning resources through the applications it provides that allow quick access to information and benefit from it, as there are many sources of information provided by the e-learning system through its various technologies, including: Electronic encyclopedias (such as Wikipedia), electronic libraries, chat rooms, Yahoo and Google. In order to reveal the significance of these differences between the arithmetic means and standard deviations between the pre and post application, a multivariate binary covariance analysis (MANCOVA) was conducted for the performance of the experimental group and the post-control group on the identification of self-learning skills and the interaction of gender with teaching using e-learning, and Table (5) shows that

Table 5. The results of the multivariate covariance analysis (MANCOVA) between the dimensional averages of the experimental group and the control group on the self-learning skills questionnaire

Skill	Source of variance	Sum of squares	df	Mean of squares	Calculated "F"	Sig	Eta squared
Organizational skills	Teaching method	788.702	1	788.702	46.980	0.000	
	Gender	32.062	1	32.062	1.910	0.170	

	Method*Gender	0.648	1	0.648	0.039	0.845	
	ERROR	1880.255	112	16.788			
	Total	3108.592	119				
Guidance and control skills	Teaching method	190.411	1	190.411	21.267	0.000	0.160
	Gender	37.012	1	37.012	4.134	0.044	0.036
	Method*Gender	35.043	1	35.043	3.914	0.050	0.034
	ERROR	1002.796	112	8.954			
	Total	1295.467	119				
Skills of using learning resources	Teaching method	37.861	1	37.861	2.896	0.092	0.025
	Gender	260.384	1	260.384	19.916	0.000	0.151
	Method*Gender	251.021	1	251.021	19.199	0.000	0.146
	ERROR	1464.336	112	13.074			
	Total	2066.367	119				
Self-assessment skills	Teaching method	217.569	1	217.569	10.981	0.001	0.089
	Gender	1269.303	1	1269.303	64.062	0.000	0.364
	Method*Gender	560.179	1	560.179	28.272	0.000	0.202
	ERROR	2219.134	112	19.814			
	Total	4388.125	119				
Total	Teaching method	3942.102	1	3942.102	27.293	0.000	0.196
	Gender	4033.493	1	4033.493	27.926	0.000	0.200
	Method*Gender	1991.503	1	1991.503	13.788	0.000	0.110
	ERROR	16176.740	112	144.435			
	Total	27380.367	119				

It is evident from Table (5) that there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the experimental group and the control group in the total self-learning skills according to the teaching method (e-learning, the regular method), as the calculated value of (F) reached (27.293) at a level of (27.293) with a significance level ($\alpha = 0.000$), which is a statistical function, and with this result, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that there is an impact of e-learning on the self-learning skills of the students of Public schools in Jordan.

It is also evident from Table 5 that there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the experimental group and the control group in the "organizational skills", the "guidance and control" skills, and the "self-assessment" skills, according to the teaching method (e-learning, the usual method), while there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the experimental group and the control group in the "skills of using learning resources".

In order to reveal the level of return of the differences in the students' posttest results on the self-learning skills questionnaire according to the variable of teaching using e-learning, the modified arithmetic averages and standard errors were extracted. Table (6) shows the modified post arithmetic averages and standard errors for the performance of Public schools in Jordan students on the post self-learning skills questionnaire.

Table 6. The modified post averages and standard errors of the performance of Public schools in Jordan students on the post self-learning skills questionnaire

Group	Gender	Adjusted arithmetic mean	post	Standard error
Experimental (43) items	Male	180.20		2.25
	Female	176.54		2.38
Total		178.37		1.71
Control (43) items	Male	174.73		2.33
	Female	154.60		2.34
Total		164.66		1.71

Referring to the modified arithmetic averages of the experimental and control groups in Table (6), it becomes clear that the modified arithmetic mean of the experimental group is higher than the adjusted arithmetic mean of the control group by a difference of (13.71), the modified arithmetic mean of the experimental group on the dimensional self-learning skills questionnaire was (178.37) with a standard deviation (1.71), while the arithmetic average adjusted for the control group on the dimensional self-learning skills identification was (164.66) with a standard deviation (1.71), which indicates a statistically significant effect at the level of significance ($\alpha \leq 0.05$) for teaching using e-learning on improving the level of self-learning skills and in favor of the experimental group.

This result is due to the fact that e-learning has become one of the main sources of learning in the student's life at the present time, because it provides interactive illustrations, the ability to expand knowledge, and the ease of searching for sources of knowledge, and e-learning gives the student large spaces for self-learning and provision of knowledge according to the student's desire, unlike other learning sources in which knowledge is limited to much narrower limits than e-learning.

E-learning provides students with the opportunity to read and learn anywhere, at any time. This type of learning does not need a library or a specific time. The e-learning sources are also characterized by quick access to knowledge, which saves research energy and time and exploits it to acquire new knowledge.

Recommendations

In light of the previous results, the researcher concludes the following recommendations:

1. Activating the use of the e-learning system in the teaching-learning process.
2. Organizing workshops for faculty members and students to employ e-learning and to show its importance in the learning and teaching process.
3. Encouraging students at Public schools in Jordan to use the e-learning system in the educational process by paying attention to the system and dealing with its features

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