The Extent of the Impact of Blended Learning on Developing Habits of Mind from the Standpoint of Students of Learning and Scientific Research Skills Course at the University of Jordan

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Abstract

The study investigates the extent of the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan. The study sample consists of (150) students. A measure of the extent of the impact of blended learning on developing habits of mind is prepared, consisting of (32) items. The validity and reliability of the study instrument are also verified.

The results show that the extent of the impact of blended learning on the development of habits of mind among students of learning and scientific research skills at the University of Jordan is medium on the measure as a whole. The results also show statistically significant difference in the impact of blended learning on habits of mind according to the gender variable and it favors of males. Besides, the results show that no statistically significant differences in the extent of the impact of blended learning on developing habits of mind among students according to the faculty variable.

Keywords: blended learning, habits of mind, learning and scientific research skill

1. Introduction

The contemporary age has experienced many modern technological developments in all areas of scientific and practical life. These developments have expanded to include the field of education bringing about tremendous changes in the education systems that represent the mainstay in the advancement of peoples and nations. Looking at education in general, it is seen that it depends in many of its stages on traditional education in which the greatest burden falls on the teacher, while the role of the learner is largely passive and negative. Therefore, several educational institutions work on improving education through adopting new methods to make the learner active and positive and the teacher a mentor and guide to improve and develop education with high quality and outcomes.

As the usual methods no longer enrich the needs of the knowledge society, universities have been updated to re-evaluate their position for the twenty-first century in various aspects such as applying new software, developing e-learning models and courses, and helping learners to benefit from technology, the Internet and knowledge sources and increase the facilitation of strategies of the effective learning (Colburn, 2009). Education has invested in technological and cognitive advancements with the emergence of computers and the international information network (the Internet) and their employment in education, which has led to the emergence of new methods of education that depend on employing technology innovations that have made a quantum leap in educational and educational goals (Dershawi, 2019).

The present time is characterized by the explosion of knowledge and the technical and fundamental progress that brought about rapid and successive changes, including development in several important areas such as education, and one of its prominent results is the emergence of electronic learning. Thus, Saeed (2018) defines electronic learning as a type of modern learning style in which the learner uses computers, the electronic means of communication for searching, accessing, and interacting with digital educational material within an asynchronous learning environment unrestricted by time and place.

2. Literature Review

In light of this technological development, the existing traditional learning cannot be overlooked or ignored, and e-learning cannot be a substitute for traditional learning or discard and ignore modern electronic technology. Abdul

Ati (2016) and Saqaria (2018) state that technological development, no matter how advanced and developed, will not substitute for the traditional methods of teaching and learning, as well as e-learning, cannot be a substitute for traditional learning based on classroom encounters. In our time, it is impossible to dispense with and ignore modern electronic technology, and as a result, the idea of merging between regular education and e-learning appeared, and a new type of education known as Blended Learning has appeared by employing e-learning and reducing the number of weekly classroom meetings.

Traditional education alone is no longer sufficient to keep pace with modern thought. Therefore, the trend was to implement supportive educational mechanisms such as e-learning that can improve, support, and build a distinguished generation to develop the educational level and elevate it to the highest levels to be on a par with technological development (Ziegler & Woodside, 2006)

Blended learning has appeared as a new method in education that combines the traditional method of face-to-face education, with its characteristics and advantages, and e-learning in its virtual educational environment. Thus, it is seen that blended learning has combined their optimal components to suit the characteristics of the learners and the desired objective to be achieved at the end of the educational semester. The advantages in the methods of traditional and e-learning education complement each other, hence the word "Blended" means to merge and mix the two methods of education, and the tools and functions they carry, making blended learning a method of learning that contributes to facilitating education, the delivery of knowledge and the management of educational classes in a manner that takes into account the cognitive and technical aspects of learners. Accordingly, blended learning is defined as the combination of beneficial areas of e-learning and the face-to-face learning environment where students and teachers interact together using technology and different styles of learning.

The American Society for Training and Development (ATD) has defined blended learning as one of the best trends that have emerged in the knowledge industry as it plays an active role on the strengths of face-to-face classroom encounters and e-learning by containing the best of the two methods to facilitate the achievement of students' learning outcomes (Kiviniemi, 2014).

Thus, numerous and prominent studies have aimed to directly integrate effective teaching methods in the context of e-learning such as the study by (Papanik & Boubouka, 2011), which emphasizes the possibility of integrating active learning and cooperative learning for all learners even males or females. This study has highlighted the importance of engaging learners in projects and cooperative activities by employing thinking, planning, evaluation, integration, and interaction, which helps to save time, effort, and costs, and attain the best results in the academic achievement of learners.

Due to the nature of the subject, there are several terms adopted in this study.

Blended learning: it is to employ technological innovations in combining objectives, content, learning resources and activities, and methods of communicating information through the two methods of face-to-face learning and e-learning to create the interaction between a faculty member as a teacher and a mentor to students through innovations that do not specify using electronic tools. Procedurally, it is a defined as method of education that depends on the combination between the traditional method (discussion and dialogue, cooperative learning, active learning, direct instruction, and the textbook) and e-learning (the use of multimedia, the Internet, and other means) in presenting the educational content to the students (Ziegler & Woodside, 2006). It is also defined as an educational system adopted by the University of Jordan in teaching the subject of Learning and Scientific Research Skills Course where electronic meetings and classroom meetings are held and the material is electronically uploaded on the Jordan University website (Qahtani, 2018).

Habits of the mind: it is defined as the individual's tendency to act intelligently when confronting a problem. When the first answer is not available in his cognitive structures, as the problem may be in the form of a confusing situation, a mystery, or an ambiguous position, and thus the habits of the mind implicitly refer to the employment of intelligent behavior when the individual does not know the correct answer (Costa & Kellic, 2005). Procedurally, it is defined by the degree that the student gets on the measure of the effect of blended learning on developing habits of the mind. It is also linked to the accelerated scientific and technological changes that activate the students' photographic and creative abilities to the challenges that may face them by providing the learner with thinking skills, human relations, achieving self-concept, developing the ability to understand information and, and socially for learner regardless of academic major or the faculty generalizations, and achieving the integrated growth of the individual's personality mentally, emotionally (Ziyadat and Qatawi, 2010). Modern teaching methods call for mental habits to be a major goal in all stages of education. Thus, weak mental habits usually lead to poor learning, regardless of the level of skill and ability of the learner, as skilled learners become ineffective if they do not develop strong

mental habits. Many people gather knowledge and skill on a topic, but they do not know how to act when they encounter new situations, where the problem is not a deficiency in skill or ability, but they give up and stop working when the answers and solutions are not readily available, meaning they have not developed a habit of mental perseverance when answers and solutions are unclear (Marzano, 2000).

Marzano (2000) believes that mental habits are a major goal of all stages of education. Besides, Costa & Kellic (2005) points outs that neglecting habits of mind causes deficiencies in the results of the educational process, and mental habits call for a commitment to developing several cognitive strategies. Nofal (2010) states that mental habits are based on educational values that should be developed and transformed into repetitive behavior and a fixed approach in the life of the learner, and based on this vision, the calls for modern education have been launched to make mental habits such as eating, drinking, and sleeping habits.

Accordingly, Costa & Kellic gives an insight into the habits of the mind, namely:

1. Persisting: it is not giving in to the difficulties encountered in the tasks, thus it is an internal incentive that pushes to complete the solution of the problem despite all the obstacles that the learner faces, along with the insistence on performing the tasks to achieve the desired goal.

2. Managing Impulsivity: it is to slow down, think carefully and control recklessness when solving problems, that is, think before acting, study consequences, and evaluate matters (Costa & Kellic, 2003).

3. Listening with understanding and empathy: this habit is concerned with sensing the feelings of others, caring for them, listening to them without prejudice, and reformulating their thoughts and perceptions, and this represents the highest forms of intelligent behavior (Hussam Aldin, 2008).

4. Flexible Thinking: It is the ability of the individual to think of alternatives, options, solutions, and multiple and different points of view with fluency in speaking, a capacity to adapt to different situations, and giving students this habit the utmost importance, especially in the era of the rapid pace of infinite variables (Khafaf, 2016).

5. Thinking about Thinking and Meta-Cognation: it is the ability to determine what we know and what we do not know, and it is represented in the ability of the individual to build a strategy to evoke the information he needs, the steps he takes, and the paths and dead ends he takes to solve the problem (Hussam Aldin, 2008).

6. Striving for Accuracy: it is the ability of the individual to continuously work professionally and with mastery, examining information to ensure its correctness, reviewing task requirements, reviewing and examining what has been accomplished, ensuring that the work complies with the standards, and reviewing the related required rules (Shibli,2017).

7. Questioning and posing problems: it is the ability to ask questions and create several alternatives to solve problems when they occur, or when presented to him, through obtaining information from multiple sources and the ability to make decisions (Muqayad,2017).

8. Applying knowledge to new situations: it is the ability of the individual to attain meaning from an experience, and then apply it to a new situation by linking two different ideas, and thus it means the ability of the individual to transfer the skill and employ it in all aspects of his life (Shibli,2017).

9. Thinking and communicating with clarity and precision think: it means strengthening the learner's cognitive contents with critical thinking that forms the knowledge base for any effective work. Critical thinkers are characterized by their ability to use specific terms and refrain from over-generalization and the use of accurate language and specific terms and expressions (Costa & Kellic, 2003).

10. Responding with wonder mentioned away: it is to believe that responding with amazement and questioning means the ability to enjoy situations and experiences shrouded in mystery and inspiration (Costa & Kellic, 2005).

11. Gathering data through all senses: the senses are the channels of the brain for learning. It is explained that all cognitive experiences enter the brain through sensory, taste, olfactory, kinetic, auditory, and visual pathways, and those individuals who have sensual, open, alert, and sharp skills.

12. Imagining, creating, and innovation: the individuals who possess this habit try to conceptualize solutions to problems in a different way, examine options and alternatives from several angles, are open to criticism, and present their products to others to judge them and provide feedback to their creators those who make every effort to fine-tune their methods and advance them.

13. Taking responsible risks: it is done to try a new strategy or method of thinking for the first time. This habit means the ability to uncover the ambiguity surrounding a problem. He also added that the learner usually exhibits a risky

behavior when he feels safe, raises his thoughts, introduces new relationships, and shares original ideas (Hussam Aldin, 2008).

14. Finding Humor: it is to free up energy for creativity and stimulate high-level thinking skills. Humor is the ability of the individual to present patterns of behaviors that call for pleasure and laughter by learning from cases of non-application, paradoxes and, ambiguities, and having the ability to understand joy and pleasure (Khafaf, 2016).

15. Thinking interdependently: it is the ability of the individual to justify ideas, select the validity of solutions strategies, accept feedback, interact, cooperate, work in groups, and contribute to the task through indicative words such as "What do you think about and If you helped me) or indicative actions.

16. Constant readiness for continuous learning: learning: it is a slogan raised by modern education today and advocated by all global educational institutions. The permanent readiness for continuous learning means motivating the mind to seek knowledge and learn from life and its events and gain experience from it. (Hussam Aldin, 2008)

Problem of the Study

In light of the use of blended learning, the teacher's role has changed from teaching knowledge to assisting students to create new and applicable knowledge, and in this context, the objectives of the educational policy in Jordan emphasize the introduction of the latest technologies reached by the world and the provision of an internal information network in universities. The University of Jordan has been interested in introducing blended learning with teaching as a result of the challenges the world has witnessed in terms of political, economic, educational, and social dimensions, which are formed in its various dimensions. To meet these challenges, it is imperative to optimize the use of modern technical methods and means in the educational learning process, including blended learning, which in turn may help the learner increase his effectiveness and motivation towards learning, and increase his level of achievement. The University of Jordan's adoption of the blended learning strategy has helped in attaining these outcomes as a way of teaching university requirements, and the effects it has witnessed among teachers and students.

In light of the knowledge explosion and technological development, recent trends in education call for a shift from interest in knowledge and information as aims in themselves to developing students' minds. These trends also call to provide them with the ability to conclude, criticize, innovate, and innovate, and make the habits of the mind a major goal in all stages of education and move from focusing on providing and collecting information to training in thinking skills, develop the habits of mind for the student to use different patterns of mental performance through which he employs mental processes and skills to face new experiences and situations in practical life (Shibli, 2017)

In light of the problem of the Study, the following questions are articulated.

1. What is the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan?

2. Does the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan differ due to the difference of gender (male and female)?

3. What is the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan due to the difference of faculty (scientific and humanities)?

3. Method

Due to the nature of the study, descriptive survey research methodology is used, where a desk survey is conducted and the theoretical and field studies and research related to the subject of the study are reviewed to crystallize the foundations and principles to construct the subject of the study, identify the most important studies that formed a vital tributary for the study and its axes and dimensions. The exploratory survey is also conducted to analyze all the data obtained through the study tools, and use the appropriate statistical methods.

Study Population

The study population consists of all 513 sections the Learning and Scientific Research Skills Course at the University of Jordan of the year 2018/2019.

Study Sample

A cluster random sample is selected, where the names of the 513 academic sections for the subject of the Learning and Scientific Research Skills Course from various scientific and humanities disciplines at the University of Jordan

for the second semester of the academic year 2018/2019 are counted, and (3) sections are selected representing the unit of selection. Then, the study instrument is applied to all students in these selected sections, whose number is (150) male and female students as shown in Table (1).

Table 1. The Distribution of the Frequencies and Percentages According to Study Variables

Variable	Category	Frequencies	Percentage
Gender	Male	56	37.3
	female	94	62.7
Specialization	scientific	55	36.7
	Humanities	95	63.3
	Total	150	100.0

Study Instrument

Having reviewed many pieces of literature and previous studies related to the habits of the mind and methods of measuring them, including Costa & Kellic (2003), Qatami (2005), Saeed (2018), Nofal (2008), (Shibli,2017) and (Muqayad,2017), a measure of habits of mind is prepared. In light of the difficulty of developing all mental habits during the current period of application, some mental habits are confined to the following:

*Determining the objective of the measure: it aims to measure some mental habits represented in perseverance, control of recklessness, reciprocal thinking, thinking flexibly, questioning and posing problems, applying knowledge in new situations, imagining and innovating, responding with amazement and questioning, and these habits are only adopted to focus on its development after studying the Learning and Scientific Research Skills Course.

It has been taken into account that these selected habits are compatible to a large extent with the specific proportions of the two sides of the brain, as mental habits in their entirety consist of 16 mental habits distributed on both sides of the brain as follows:

7 specialized mental habits on the left side of the brain and their percentage are (7 ÷16 x 100% = 43.75%)

9 specialized mental habits on the right side of the brain and their percentage are (9 ÷ 16 x 100% = 56.25%).

Since it is difficult to develop all habits, the selection is made as follows: (3 ÷ 7 x 100% = 42.86%), and these habits are: perseverance, control of recklessness, reciprocal thinking, and (5) mental habits specializing in the right side of the brain are also selected whose percentage is estimated at (% 55.56), and these habits are: Thinking flexibly, questioning and posing problems, applying knowledge in new situations, imagining and innovating, and responding with amazement and questioning.

*** Instrument Validity:** the measure is presented to a group of experts in curricula, teaching methods, and psychology to formulate the content of each of the measure items, and express an opinion on the extent to which the mental habits identified were represented. The experts have had some observations such as the lack of clarity of some of the items and the need to amend or change some items due to overlapping with other expressions, and the amendment has been made in light of the opinions of the validators.

*** Instrument Reliability:** the measure in its initial form is applied to the study sample to calculate the reliability of the instrument using the Cronbach's Alpha Formula and it was equal to (0.798), which indicates that the measure has a high degree of reliability.

*** Final Form of the Instrument:**

After making the required modifications, the instrument in its final form is set, and the following table shows the specifications of the measure of the mental habits.

Table 2. Specifications of the Measure of the Habits of Mind

No	Mental habit	Numbers of the Items	Number	Percentage
1	perseverance	1،3 7،5	4	12.5%
2	Control your recklessness	2 ،94،8	4	12.5%
3	Reciprocal thinking	6،11 10،13	4	12.5%
4	Thinking flexibly	12،15 14،17	4	12.5%

5	Questioning and posing problems	16،19 18،20	4	12.5%
6	Applying knowledge in new situations	22،23 21،24	4	12.5%
7	Imagining and innovating	25،27 26،29	4	12.5%
8	responding with amazement and questioning	21،32 30،32	4	12.5%
9	Total	32	4	100%

** The students participating in the study are presented with the study's content and it's objective and is provided with directions and instructions while answering the items of the instrument to be accurate by linking their answers to blended learning as a method of learning in the learning and scientific research course, and that their answers shall not be in general.

Statistical criterion:

The 3-step Likert measure is used to correct the study instrument by giving each of its items one degree from among its three degrees (agree, disagree, unsure), which is numerically represented by (3, 2, 1) respectively, and the following measure has been adopted to analyze the results:

From 1.00- 1.66 low

From 1.67 - 2.33 medium

From 2.34 - 3.00 high , And so on,

The measure is calculated by using the following equation:

The upper limit of measure (3) – the lower limit of measure (1)

Number of required categories (3)

$(3 – 1) \div 3 = 0.66$

Then add the answer (0.66) to the end of each category.

4. Findings

The following section gives an insight into the findings of this study through the responses of the study sample members to the study questions, as follows:

Q1. What is the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan?

To answer the research question SPSS is used, the arithmetical means and standard deviations are calculated to measure the effect of blended learning in developing habits of mind among students of the Learning and Scientific Research Skills Course at the University of Jordan from their point of view as illustrated in Table 3.

Table 3. The arithmetical Means and Standard Deviations Calculated to Measure the Effect of Blended Learning in Developing Habits of Mind among Students of the Learning and Scientific Research Skills Course at the University of Jordan from Their Point of View Arranged in a Descending Order

Rank	*No*	*Items*	*AM*	*SD*	*Level*
1	26	I find it difficult to create new ideas to solve the problem.	2.26	.646	Medium
2	24	I cannot comprehend the connection between the new science and my previous knowledge.	2.27	.748	Medium
3	32	It is always better to avoid exposure to exciting or surprising situations.	2.26	.772	Medium
4	12	I have conversations with others on the basis of right opinion and not those who say it.	2.23	.958	Medium
5	5	I leave the task I'm assigned to when I get into trouble.	2.21	.720	Medium
6	7	If I fail to do something, I feel frustrated and never try again.	2.19	.652	Medium
7	20	I eliminate unconventional ideas in solving the problem.	2.19	.841	Medium
8	17	I'm not interested in creating an action plan to solve a problem.	2.18	.686	Medium

9	10	In any conversational meeting, I prefer to be the first to speak.	2.15	.798	Medium
10	14	I strive to find a single solution to the problem without trying other solutions.	2.13	.766	Medium
11	13	I feel unwilling to work within the group.	2.11	.738	Medium
12	9	I handle stress calmly.	2.05	.834	Medium
13	18	I hold my opinion on implementing the problem.	2.05	.834	Medium
14	2	I can control my emotions when I am angry.	2.03	.862	Medium
15	3	I stick to the tasks assigned to me until I get them done.	2.01	.993	Medium
16	31	I describe myself as a life-long learner.	2.00	.927	Medium
17	29	I strive to find a single solution to the problem without trying other solutions.	1.99	.723	Medium
18	4	I have the ability to make instant judgments on others.	1.98	.908	Medium
19	16	I can identify the shortcomings or the deficiencies of the surrounding things.	1.98	.893	Medium
20	13	I feel unwilling to work within the group	1.97	.890	Medium
21	19	I always have a desire to inquire and inquire.	1.97	.901	Medium
22	28	I seek to find problems and I enjoy solving them.	1.95	.846	Medium
23	30	I am not inclined to explore the mysteries of any situation or issue raised.	1.94	.688	Medium
24	15	I list the problem-solving ideas in order of their importance.	1.93	.963	Medium
25	21	I act promptly in the situation without thinking of my previous similar experiences.	1.92	.728	Medium
26	25	I am always looking for strange and unfamiliar ideas in solving a problem.	1.90	.888	Medium
27	6	I maintain eye contact with others when talking to them.	1.81	.925	Medium
28	11	I tend to listen to the other end without interruption.	1.78	.896	Medium
29	23	I can identify similarities between the current situation and the previous positions that I have been exposed to.	1.64	.861	low
30	1	I insist on doing my job, no matter how hard I face.	1.61	.851	Low
31	27	I am interested in trying more than one idea to reach more than one solution to the problem.	1.61	.785	low
32	22	I benefit from my past experiences in solving any situation	1.47	.888	low
		Total	2.13	.755	Medium

The results show that the extent of the impact of blended learning on developing habits of mind from the viewpoint of students of Learning and Scientific Research Skills Course at the University of Jordan is of a medium degree on the measure as a whole. Table (2) shows that the arithmetic means have ranged between (1.47-2.26), where the item (26) which states "I find it difficult to create new ideas to solve the problem" is ranked first with an arithmetic mean of (2.26), while item (22), which states "I benefit from my past experiences in solving any situation," is ranked last with arithmetic mean of (1.47). The arithmetic mean of the items as a whole is (2.13).

Q2. Does the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan differ due to the difference of gender (male and female)?

To answer this question, the Independent Sample T-test is used to identify the differences in the extent of the effect of blended learning on developing habits of mind among students of the Learning and Scientific Research Skills Course at the University of Jordan from their viewpoint due to the gender variable as illustrated in Table 4.

Table 4. The Independent Sample T-test to Identify the Effect of Blended Learning on Developing Habits of Mind among Students of the Learning and Scientific Research Skills Course at the University of Jordan from their Viewpoint According to the Gender Variable

Gender	Size of Sample	AM	SD	Degree of Freedom	T-test	Sig. Level
Male	56	65.45	8.414	1.48	2.012	.046
Female	94	62.82	7.37			
Total	150	64.135	7.8605			

It is evident from Table (3) that there are statistically significant differences at the level of significance ($\alpha = 0.05$) in the extent of the impact of blended learning on developing habits of mind among students of the Learning and Scientific Research Skills Course at the University of Jordan from their point of view depending on the gender variable and in favor of males. Based on the calculated value of t, as it has reached (2.012), and with a significant level of .046).

Q3. What is the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan due to the difference of faculty (scientific and humanities)?

To answer this question, the Independent Sample T-test is used to identify the differences in the extent of the effect of blended learning on developing habits of mind among students of the Learning and Scientific Research Skills Course at the University of Jordan from their viewpoint due to the difference of faculty as illustrated in Table 5.

Table 5. The Independent Sample T-test to Identify the Effect of Blended Learning on Developing Habits of Mind among Students of the Learning and Scientific Research Skills Course at the University of Jordan from their Viewpoint According to the Faculty Variable

Gender	Size of Sample	AM	SD	Degree of Freedom	T-test	Sig. Level
Scentitfic	55	64.75	7.846	1.48	1.128	.261
Humanities	95	63.25	7.787			
Total	150	64.00	7.8165			

It is clear from Table (5) that there are no statistically significant differences at the level of significance ($\alpha = 0.05$), in the extent of the impact of blended learning in developing habits of mind among students of the Learning and Scientific Research Skills Course at the University of Jordan from their point of view depending on the faculty variable based on the calculated value of t as it has reached (1.128), and with a significant level of (.261).

5. Discussion

Study findings for the first question "**What is the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan?**"**,** show that the extent of the impact of blended learning on developing habits of mind from the viewpoint of students of Learning and Scientific Research Skills Course at the University of Jordan is of a medium degree on the measure as a whole.

This result of the study may be attributed to the multiple advantages of the blended learning strategy expected to serve students' learning and contribute to improving their level, including this type of learning allows the learner to review his educational material and study it more than once without feeling boredom at the time he wants and in the place he desires, and this in its entirety increases his motivation to learn, which increases his direct academic achievement. The method of learning using the blended learning strategy is a new method for students, which has aroused their interest and increased their learning motivation, and this is confirmed by the results of the previous studies such as Hazmi (2018), whose results show that the use of blended learning increases the motivation and achievement of students, and learning through the blended learning strategy is based on the merging between abstract theoretical knowledge and practical application with what it provides in terms of colors, animations, and sounds. In other words, these matters may give an educational impact greater than the effect given by written words and enable the student to employ linguistic knowledge from all walks of life. It also enables the student to consolidate those linguistic concepts in the student's mind, which increases his educational attainment.

Moreover, the results can be attributed to the method of learning through a blended learning strategy rich in multiple examples and exercises, and this diversity may serve to consolidate learning among students, as students while

learning using the blended learning strategy, can view more than one video related to the subject matter, and they have the opportunity to solve many exercises related to the academic subject contained in the textbook, which facilitates these concepts, assimilates and deepens them deeply in their knowledge structure, and this may increase their educational achievement.and thats also confirmed with Dershawi, (2019) results that indicates thats the employment in education, which has led to the emergence of new methods of education that depend on employing technology innovations that have made a quantum leap in educational and educational goals.

The blended learning strategy provides flexibility in selecting what suits the needs of the learner and his inclinations to use them in a way that suits his skills and all that may lead to positive effects on the achievement of the learner who uses it, which agree with Qahrtani (2018) point of view which indicates that the educational system adopted by the University of Jordan in teaching the subject of Learning and Scientific Research Skills Course where electronic meetings and classroom meetings are held and the material is electronically uploaded on the Jordan University website.as it is not just a modern individual learning technique, but rather the application of psychological principles that have emerged according to scientific rules,

Therefore, the blended learning strategy provides a self-learning environment rich in its resources (Images, texts, graphics, video, electronic libraries, Internet portals. ... etc), and the advantages and benefits of the blended learning strategy in the process of acquiring learning(Shibli,2017).. It enhances independence for both the teacher and the student through acquiring the skills of searching and investigating the educational material and treating it according to the person's preferred learning style, where you find written, audio, and visual material on the Internet in addition to the availability of many scientific resources that enable the teacher to obtain modern and varied scientific materials and this would develop among students the sense of the importance of achievement through e-learning. Besides.

Study findings for the second question " **Does the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan differ due to the difference of gender (male and female)?**", show that that there are statistically significant differences at the level of significance ($\alpha = 0.05$) in the extent of the impact of blended learning on developing habits of mind among students of the Learning and Scientific Research Skills Course at the University of Jordan from their point of view depending on the gender variable and in favor of males.

The reason may be attributed to the fact that males rush towards the trends advocated by the university in using and employing technological innovations and accepting them with positive feelings to advance their level, these results disagree with results of Papanik & Boubouka (2011), which emphasizes the possibility of integrating active learning and cooperative learning for all learners even males or females .

Also Study findings for the Third question " **What is the impact of blended learning on developing habits of mind from the standpoint of students of the Learning and Scientific Research Skills Course at the University of Jordan due to the difference of faculty (scientific and humanities)?** "show that there are no statistically significant differences at the level of significance ($\alpha = 0.05$), in the extent of the impact of blended learning in developing habits of mind among students of the Learning and Scientific Research Skills Course at the University of Jordan from their point of view depending on the faculty variable.

Which it is may be due to the interest of all students at the University of Jordan in the teaching system through blended learning, regardless of the type of faculty, as the blended learning does not distinguish between faculties in the university and deals with all students in the same way and capabilities. This interest may come from several things, including the availability of infrastructure at the University of Jordan, the holding of periodic meetings for faculty members, and students. It may also be due to the modern perspective on learning that imposes on the university and medical, scientific, and humanitarian faculties the necessity of conscious and continuous search for areas to improve the effectiveness of performance, quality increase, technological development, and progress.

These result agree with results of Ziyadat and Qatawi (2010) which indicates that blended learning linked to the accelerated scientific and technological changes that activate the students' photographic and creative, and developing the ability to understand information regardless of academic major or the faculty, and achieving the integrated growth of the individual's personality mentally, emotionally

6. Conclusion

The researchers believe that blended learning is an educational necessity to achieve the desired academic goals, solve many educational problems, improve learning outcomes, save time and effort, and instill self-reliance and self-confidence.

In other hand the diversity of knowledge sources provided by blended learning stimulates students to think in multiple directions, which develops flexibility of thought, the plurality of visions, and perseverance in achieving goals, thus developing their ability to think reciprocally and interact with others, work with them and accept feedback, and raise motivation to achieve tasks.

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