Effectiveness Of Online And Blended Learning Though Ipads On Improving Self-Learning Skills: Surveying Student Teachers During And Beyond Covid-19

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Abstract: The aim was to investigate student teachers' views regarding the effectiveness of online and blended learning though ipads on improving self-learning skills during and beyond covid-19. Quantitative research is carried out with the aim to investigate student teachers' views regarding the effectiveness of iPads-based instruction on improving self-learning during and beyond Covid-19. It uses a cross sectional study which will be using survey method to obtain data from the respondents. A cross sectional study which will be using survey method. The independent variables are PU, PEOU, while the dependent variable are OS, CGS, LRS and SES1 . Study variables showed significant correlation at p < .001 level. PU and PEOU made significant individual contributions to the prediction of all factors of SLS. Results indicated that the two sexes did not differ in their views regarding the prediction and contribution of PU and PEOU to students' organizational, control and guidance, learning resources, and self-evaluation skills.

Keywords: iPads-based Instruction, perceived usefulness , perceived ease of use ,organizational skills ,control and guidance skills, learning resources , self-evaluation skills.

Introduction

Today, the world is undergoing a tremendous scientific and technological revolution, which has led to the emergence of a new era characterized by new and successive changes (Gokdas and Aynur,2014). It has resulted in some challenges facing the countries of the world.A significant changes have been made in all areas of political, economic, social and cultural life (Suh and Prophet,2018). Change and development have become a necessity that must include all society's systems and sectors to conform to the challenges of the age, including the educational system, which is a major element in influencing the rest of the systems and as a tool capable of preparing a generation that can keep pace with knowledge and technological development, understand it and adapt to it, so this change must include this system with all its components of objectives, content, teaching methods and strategies, and evaluation (Hashemi,2021; Mallik, and Lakshmi,2017).

Education is a means of human development and a passport for the future in light of the scarcity of natural resources, and learning is the basis of knowledge, and curricula are one of the basic means of learning and knowledge (Alpaslan, Ozgur and Ridvan ,2021). To live in the twenty-first

century, it is necessary to speak the language of science and technology, and the educational system must be aware of the changes and global educational reform movements (Uluçınar,2021).

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 views on the topics raised, in a way that contributes to building solid learning for the learner. The education that is based on the use of various smart electronic technologies in achieving educational goals is an attempt to invest the characteristics of these technologies and use them to achieve the goals of teaching and learning, and this is based on the technological orientation (Demirdag,2016; Hashemi,2021; Uluçınar,2021).

Literature Review

Smart electronic technologies are of great importance in the educational learning process, as they help in education by saving a lot of time and effort, and contribute to increasing interaction between the student and the educational material. Learning is achieved through discovery and experimentation, and allows the student to deepen, expand, increase information, and provide information in more than one way, which helps to store it in memory. Smart electronic technologies also provide a variety of feedback, so that the student can evaluate his answers continuously. The wrong answer is corrected, which results in the stability and confirmation of learning (Megwa,2022).

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 (Adnan and Anwar,2020). The learner decides the time of learning, the place of learning, the limit at which it ends, and the means to achieve the intended learning for himself/herself, so he/she becomes primarily responsible for his learning, the level of his

cultural and cognitive progress, and the quality of the decisions he/she makes(Karataş and Arpaci,2021).

The iPad is a device that combines the capabilities of a telephone, camera, personal digital assistant, Mp3 player, and Internet access. Students use it to download audio, video, and audio lectures. It can play audio, video, movies, Flash, view and edit text documents, access e-mail, and send instant and text messages. It is also used for mass storage and learning. Interactive and global collaboration, combining a number of communication and computing features into one compact system (Boon, Boon and Bartle,2020).

One of the benefits of mobile phones and iPads in the educational process is that through mobile phones and smart devices, lectures and discussions can be broadcast directly to students regardless of where they are located, through the Internet connection, and these devices enable teachers to review the duties and work of students, (Riofrío-Calderón, Ramírez-Montoya,2022),and students can also through them from knowing the results of the teachers' evaluation of those duties and works, notes can also be taken by hand through (SMS), or by voice directly on the device during external lessons or trips (Adamczyk, Andrzej and Aleksandra,2017), and helps to achieve a kind of direct communication between the parties to the educational process, the student, the educational institution and parents (Onia,2022),where it is possible for parents to receive periodic follow-up of their children's results and the development of their academic level, or about their children's absence or delay in attending lessons, and the use of these technologies ensures greater participation of students through the devices they use in their daily lives.

Self-learning is defined as "providing an atmosphere of freedom for the student to choose the learning subject and its tools, organizing, implementing and evaluating learning according to his abilities and capabilities, and the teacher shares with him the direction, facilitation, and preparation of learning fields and sources, in order that the learner becomes a teacher for himself."

(Askin-Tekkol and Demirel,2018, P.86).

Student's self-learning is the focus of the educational process, directing him to continuous learning. Self-learning provides the student with opportunities to teach himself by integrating him with learning tasks that fit his abilities and suit his needs(Karataş and Arpaci,2021).

The intrinsic factors represented by readiness, desire, and ability are among the basic components of self-learning, carried out by the individual deriving from his self-desire, and his internal conviction with the aim of developing his preparations, potentials and abilities, from planning, monitoring, and evaluation(Ferriz-Valero , Østerlie , Penichet-Tomas and Baena-Morales,2022), as well as enabling him to access knowledge in a comprehensive manner. independent, enabling him to interact with them, criticize them, and employ them in solving current and future problems, in order to achieve the development and integration of his personality, and successful interaction with his community (Khodaei et al.,2022).

The goals of self-learning vary, which include taking into account individual differences, achieving democracy in education, developing individual independence, developing self-direction on creativity, solving problems, planning for self-learning, using and employing information sources, as well as self-evaluation (Ghomi, Moslemi and Mohammadi,2016).

Aim of the study

The aim was to investigate student teachers' views regarding the effectiveness of online and blended learning though ipads on improving self-learning skills during and beyond covid-19.

Hypotheses

Hypothesis 1: PU positively affects students' organizational, Control and guidance, learning resources, and self-evaluation skills.

Hypothesis 2: PU predict and contribute to students' organizational, Control and guidance, learning resources, and self-evaluation skills.

Hypothesis 3: Male and female student teachers differ in their views regarding the prediction and contribution of PU to students' organizational, Control and guidance, learning resources, and self-evaluation skills.

Hypothesis 4: PEOU positively affects students' organizational, Control and guidance, learning resources, and self-evaluation skills.

Hypothesis 5: PEOU predict and contribute to students' organizational, Control and guidance, learning resources, and self-evaluation skills.

Hypothesis 6: Male and female student teachers differ in their views regarding the prediction and contribution of PEOU to students' organizational, Control and guidance, learning resources, and self-evaluation skills.

Method

Quantitative research is carried out with the aim to investigate student teachers' views regarding the effectiveness of iPads-based instruction on improving self-learning during and beyond Covid-19. It uses a cross sectional study which will be using survey method to obtain data from the respondents.

Sample

Student teachers from Qassim University, college of education were targeted. An online questionnaire was used to collect data via Facebook and WhatsApp groups. I received a total of 450 questionnaire responses . In total, 460 responses were received. 30 questionnaires were excluded due to missing data. The final sample consisted of 420 students. They were 300 females (71.4%), and 120 males(28.6%).

Data Collection

Instrument

A 30- item survey instrument was developed particularly for this research study. The first part concerns with the demographic information, while the second parts concerns with scale items for the six variables : PU(5 items),PEOU(5 items),OS(5 items),CGS(5 items),LRS(5 items),SES(5 items). The five-

point Likert scale (strongly agree, somewhat agree, disagree, disagree, strongly disagree) was used to score the research tool.

Reliability analysis

Reliability analysis using Cronbach's Alpha showed that all of the six variables used in this research were reliable as shown in Table 1.

Table 1. Reliability Analysis

Variable	Cronbach's Alpha Based on	Variable
PU	0.850	Reliable
PEOU	0.834	Reliable
OS	0.812	Reliable
CGS	0.847	Reliable
LRS	0.859	Reliable
SES	0.829	Reliable

Validity

For convergent validity of the survey correlation with yyildiz and Tarhan's questionnaire(2015),which measure the same trait, was significant (r= 0.58, p< .01).

Design

A cross sectional study which will be using survey method. The independent variables are PU, PEOU, while the dependent variable are OS, CGS, LRS and SES.
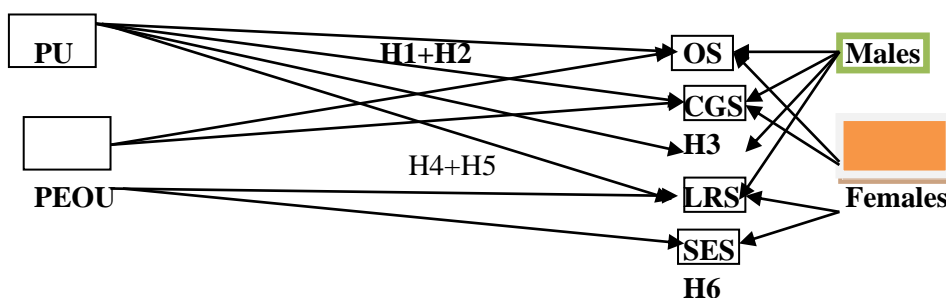
The research model then as follows

Figure 1. Research Model

Data Analysis

Pearson correlation(R) and multiple regression (MRA), t-test were used to analyze data .

Ethical Procedures

Participants were volunteer students from

Qassim University, college of education. Ethical approval for conducting this study was obtained from Qassim University in Saudi Arabia, in accordance to Royal Decree in 2001 . All procedures performed in this study were in accordance with the ethical standards of the responsible committee on

human experimentation (institutional and national) and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The participants provided their written informed consent to participate in this study.

Participants were only allowed to participate in the survey if they had read and agreed to the explanation of the purpose and significance of the study, anonymity and confidentiality of responses. The author wishes they can continue with her till the end of the study. However, they were free to discontinue at any time.

Results

inter-correlations

As shown in table 2, study variables showed significant correlation at $p < .001$ level. PU correlates positively with OS, CGS, LRS and SES ($r = .5.22, .512, .514$ and $.508$ respectively). Also PEOU correlates positively with OS, CGS, LRS and SES ($r = .5.06, .503, .502$ and $.500$ respectively).

Table 2. Correlation of study variables

	PU	PEOU	OS	CGS	LRS	SES
PU	1.000					
PEOU		1.000				
OS	.5.22**	.5.06**	1.000			
CGS	.512**	.503**		1.000		
LRS	.514**	.502**			1.000	
SES	.508**	.500**				1.000

Note: PU =perceived usefulness , PEOU = perceived ease of use ,OS =organizational skills , CGS =control and guidance skills, LRS = learning resources , SES = self-evaluation skills **Correlation is significant at the ***$p < .001$ level (2-tailed).

Regression Analysis

As shown in table 3, PU made significant individual contributions to the prediction of all factors of SLS . Beta weights were as follows. OS (b = .315 , t = 5.226,P < 0.01) , CGS (b = .324 , t = 5.311,P < 0.01), LRS (b = .335, t = 5.571,P < 0.01), and SES (b = .344, t = 5.623,P < 0.01). PU yielded a coefficient of multiple regression (R) of 0.□512 and a multiple correlation square of 0.□503. This shows that 50.3% of the total variance in all factors of SLS of those who participated in the study is accounted for by PU.

Table 3. Regression of PU on SLS

	□	t-value
PU	□□□□	□□□□□□□□
OS	□□□□	□□□□□□□□
CGS	□□□□	□□□□□□□□
LRS	□□□□	□□□□□□□□
SES	□□□□	□□□□□□□□
R²	□□□□	
Adjusted R²	□□□□	

Note: PU =perceived usefulness , SLS= self-learning skills , OS =organizational skills , CGS =control and guidance skills, LRS = learning resources , SES = self-evaluation skills , ***p < .001

As shown in table 4, PEOU made significant individual contributions to the prediction of all factors of SLS . Beta weights were as follows. OS (b = .289 , t = 4.443,P < 0.01) , CGS (b = .280 , t = 4.421,P < 0.01), LRS (b = . 276, t = 4.330,P < 0.01), and SES (b = .273, t = 4.330,P < 0.01). PEOU yielded a coefficient of multiple regression (R) of 0.□480 and a multiple correlation square of 0.□476. This shows that 47.7% of the total variance in all factors of SLS of those who participated in the study is accounted for by PEOU.

Table 4. Regression of PEOU on SLS

	□	t-value
PEOU	□□□□	□□□□□□□□
OS	□□□□	□□□□□□□□
CGS	□□□□	□□□□□□□□
LRS	□□□□	□□□□□□□□
SES	□□□□	□□□□□□□□
R²	□□□□	
Adjusted R²	□□□□	

Note: PU =perceived usefulness , SLS= self-learning skills , OS =organizational skills , CGS =control and guidance skills, LRS = learning resources , SES = self-evaluation skills , ***p < .001

T-test results

Concerning gender differences , table 5. shows that t- value did not reach significance level . This indicated that the two sexes did not differ in their views regarding the prediction and contribution of PU and PEOU to students' organizational, control and guidance, learning resources, and self-evaluation skills.

Table 5. Means, standard deviations ,t- value , and significance level for the differences according to gender

Gender	M	SD	T	Sig.
Males	126.42	2.11	-.549	-
Females	125.87	2.02		

Discussion

The aim was to investigate student teachers' views regarding the effectiveness of online and blended learning though ipads on improving self-learning skills during and beyond covid-19. This result may also be attributed to the various educational applications provided by the iPad, which may contribute to the development of self-learning among students and help them acquire the basic skills of the educational material by increasing their motivation and active participation with the teacher as well as their classmates..

The various educational applications provided by the iPad that may contribute to the development of self-learning among students with its various skills, including organizational skills, by helping the learner to

plan his learning, set goals, determine and manage time, determine the appropriate place for learning, guidance and control skills, where iPad applications direct the learner's abilities , employ them in addressing learning topics , increase his attention, and the skills of using self-learning resources.

The learner, through his use of iPad applications, discovers knowledge and learns outside educational institutions, has the ability to identify and evaluate educational activities without the presence of the teacher, and to make good use of information sources .

These applications may also contribute to the development of self-evaluation skills, so the learner tests and evaluates the extent of his understanding and comprehension of the learning topics, the amount he has obtained from them, the degree of mastery of this achievement, and determining the level he has reached.

This result may be attributed to the fact that the iPad may contribute to the development of self learning skills among students by giving the learner the ability to record lessons , view them at any time and any place , gain the ability to organize his learning by selecting the appropriate educational materials and the ability to store them in an organized manner .

The iPad provides the learner with the ability to create video clips, audio recordings, music files and interactive presentations. The iPad may contribute to the development of organizational skills by providing the student with the ability to document, take notes and pictures and recording the data .Additionally, the learner may not be satisfied with the information contained in the curriculum by referring to additional sources for learning electronic libraries and electronic scientific encyclopaedias.   And   by   designing presentations that support the subject of basic learning using many applications available on the iPad .

Also, by enriching the lessons with pictures, videos and illustrations, it is possible that the student may not adhere to the study plan in arranging the lessons.

This result goes in the same line with previous research (e.g. Clarke and Svanaes,2012; Clark and Luckin,2013) that referred to a number of applications on the iPad . These applications help the learners in storing data, keeping electronic files and exchanging them . One of these programs is Dropbox, which allows storing data and files on the network, and exchanging them between subscribers.

The iPad may also develop the skills of using learning resources through the applications it provides that allow quick access to information and benefit from it. There   are many sources of information provided by the iPad through its various technologies,   including: electronic encyclopedias (such as Wikipedia), Yahoo and Google.

This result goes in the same line with previous research (e.g. Heinrich,2012; Kaganer,2013), where results showed that among the advantages of using the iPad in education is the ease of access to information on the Internet and the ease of access to electronic libraries. This makes reading more interactive. Students gained a set of advantages by using the iPad, including quick access to information, smooth and efficient browsing, and the ability to download programs   and   applications   without complication.

The results of this study confirms what others considered to be this an example of life-long learning ,where the learner derives his scientific and practical experiences through daily practice, in addition to the ease of placing a lot of mobile devices in the classroom instead of desktop computers that require a large space, and the learning process through these devices is more focused in achieving learning goals and staying for longer periods to carry out learning activities as a result of achieving the use of these devices helps to add more activities to the traditional lessons (Suh and Prophet,2018). This will help achieve the vitality and attraction of the scientific material and the learning environment. Additionally, it can be used to help solving some of the problems faced by students who are unable in traditional education (Tay and Wang,2016).

This result confirms that self-learning on the other hand is an active constructive process in which the learner sets learning goals and monitors, organizes and controls knowledge, motivation and actions to achieve those goals. It is also an important element of learning for students, as the learner must have a greater awareness of his behavior , motivation, attitudes and motivational beliefs for the learning process, which requires training in the use of self-learning strategies.

This was confirmed by the social cognitive theory, that learning is an effective process in which the learner builds information and skill, not only a process of acquiring information, which contributes to improving his level of production. Thus the role of the teacher is to provide assistance to the student when he needs, and to stop that when his self-abilities grow. Researchers (e.g. Albadry,2015; du Toit-Brits and van,2017; Onia,2022) attach great importance to self-learning, as the learner, who can be called the actor, is the one who performs this kind of regulation that depends on self-evaluation.

Conclusion

It is important for students to learn how to monitor their own mental and performance behaviors, how to practice self-control techniques for their attention and focus during the learning process, and how to assess their self-learning progress during learning, which requires focus to train students in self-learning skills by going through natural situations that require them to perform activities, which may be reflected on their teaching behavior during the educational situation.

Self-learning has emerged in this era of the knowledge and scientific explosion, which requires preparing learners who are able to assume a great deal of responsibility for everything related to their learning, such as contributing to the formulation of their learning goals and to directing and organizing the learning process.

Limitations

There are some limitations. First, this study was limited to 420 students teachers from Qassim University, college of education, which limited the generalization of the findings. Second, self-report questionnaires were used to collect data from respondents. Third, quantitative survey research was employed .It is recommended that future researchers use different methods such as personal interview or telephone interview to collect data.

Informed Consent Statement: distributed and signed by teachers and students .

Data Availability Statement: Data sharing not applicable. The data are not publicly available due to participants' privacy.

Conflicts of Interest: The author declares no conflict of interest.

Authors contributions: The author contributed to each part of the article

Ethics declarations. Ethical approval for conducting this study was obtained from Qassim University in Saudi Arabia, in accordance to Royal Decree in 2001 . All procedures performed in this study were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The participants provided their written informed consent to participate in this study.

Consent for Publication. The authors jointly consent for the manuscript to be published by the journal

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