Increase learning motivation of students through e-learning in Vietnam in the context of the Covid-19 pandemic

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Abstract. Learning motivation is one of the most critical factors in learning (Slavin, 2008). Learning motivation create a source of strength, a powerful energy that enables the subject to act and maintain the action to achieve results. According to many researches, student's learning motivation is under the effect of learning method. *Objective of the study:* to study the relationship between teaching and learning methods by e-learning to students' learning motivation. *Method of the study:* survey 120 students in Hong Duc University, Tan Trao University, Haiphong University in Vietnam. The study is measured by a questionnaire designed by experts, to use for e-learning and learning motivation including 12 questions, following the 5 levels of Likert scale, and the survey is made using Google Form (from June 2021 to December 2021). *Result of the study:* the method of e-learning and student's learning motivation have a positive linear relationship, which means when increasing the application of e-learning in teaching and learning activities, then the student's learning motivation is enhanced. On the contrary, when the application of e-learning is reduced in teaching, students' learning motivation would likely decrease. The results of this study suggest to higher education administrators that e-learning needs to be expanded in teaching and learning activities, especially in the Covid-19 and post-Covid- 19 period.

Keywords: e-learning teaching, learning motivation.

1. Introduction

Online teaching and traditional teaching are two of the most popular educational methods up to now. There is no doubt that we are living in an era which the number of degrees awarded through online training systems is very high and becoming more and more popular at a rapid rate around the world (Bhuasiri Wannasiri, Xaymoungkhoun Oudone, Zo Hangjung, Jeung Rho Jae, P. Ciganek Andrew, 2012; Abdelaziz Magda, Samer Kamel Salwa, Karam Omar, Abdelrahman Asmaa, 2011; D.H. Dang 2021). The convenience and flexibility of technology have brought online learning courses closer to a wider range of people, including newly graduates, or looking to work outside the industry, or to the young ones that always worry about tuition fees… (Ionescu Andreea, 2012; Chou, C. C., Block, & Jesness, 2012; N.V. Luong, 2021b).

For that reason, many universities have use e-learning actively. Accordingly, the need for academic and technical knowledge to teach using the Internet has emerged, and this knowledge is becoming a core proficiency for many professors. Some scholars have predicted that the traditional classroom will likely to disappear (Paechter Manuela, Maier Brigitte, 2010). E-learning has entered the mainstream as well as the corporate world in a major way, and it also perfects the traditional delivery styles (Abdelaziz Magda, Samer Kamel Salwa, Karam Omar, Abdelrahman Asmaa, 2011; Ionescu Andreea, 2012; Chesser, W. D. 2011; Kim Kyong-Jee and W. Frick Theodore, 2011).

2. Theoretical framework

2.1. E-learning

Online education (also known as e-learning) is a virtual method of learning through a networked device connected to a server in another place where the e-learning lesson and necessary software are stored, therefore it is possible to ask/request/test students online from a distance. Educators can transmit images and audio via broadband connection or wireless connection (Wi-Fi, WiMAX), local area network (LAN). To expand this, individuals or organizations can create their own online school (e-school) where they are still able to receive training, pay tuition and have tests like other schools (Paechter Manuela, Maier Brigitte, 2010; Lemaitre. A, 2006).

According to (Prucha, 2003), e-Learning identifies types of computer-aided learning, using modern technological means; the CDs. E-learning is expanding especially in the field of distance learning and corporate training.

E-Learning is a form of education and learning based on the Internet. Lecturers and learners can both participate in learning and training on the E-learning system on computers, tablets, or smartphones with Internet connection. Through the E-learning platform, teachers can directly teach students or send and store lectures and lesson data on the system by using images, videos,

and audios. And, students can follow many lectures online or offline, discuss with other lecturers-students, create discussion topics in the forum, take tests, etc. (Kim, S.-H., & Park, S. 2021).

Thus, it can be said that e-learning is a form of distance learning and training based on modern technological devices and Internet connection.

Some advantages of e-learning that can be mentioned:

E-learning is designed and developed continuously, making the system responsive to learners and teachers; e-learning allows learners to build their own study plan, students can choose any subject they prefer, and it is not compulsory for them to complete that subject as good as when studying in outside school.

E-learning is the best and most effective method of learning and teaching today.

Similar to a working environment, whether students can learn effectively or not, be creative or not, and enthusiastic or not depends on their learning environment. One thing is for sure, the traditional learning environment like in the classroom is always designed based on the established framework, which limits the enthusiasm and creativity of many learners. However, with the E-learning training system, students completely have the right to adjust and design the learning environment that is right for them, creating a positive and energetic feeling when learning.

E-learning is a system that makes efficient use of data, the system will automatically collect the data from the online learning management system, and start analyzing these potential data. Through this feature, users such as schools and centers can evaluate teaching results as well as student learning results, therefore making strategies to improve and develop appropriate curriculum and management. After implementing the new plan, users will have new data and be able to analyze and evaluate whether the latest change is effective or not, gradually.

Solve the problem of lecturer's shortage and save time to maximum level.

2.2. Learning motivation

According to Houssave, motivation is the initiation and behavior behind power (A. Di Serio, M.B. Ibáñez, and C.D. Kloos 2013). Aristotle and Plato confirmed that motivation is tied to the physical, emotional, and logical (H. Tohidi and M.M. Jabbari, 2012). Brophy (J.E. Brophy 2004) defines motivation as a theoretical concept used to explain the initiation, direction, force, and the coherence of goal-directed behavior. The definition of motivation provides the positivity for students to complete a task or reach the end and succeed no matter how difficult it may be.

Motivation is a type of feeling that always look for ways to relieve anxiety and stress in one's mind and thoughts. With positive motivation, students can revive energy and apply it in performing learning tasks. Beyond that, students with self-motivation can always find motive and intensity without expecting outside encouragement to complete a learning task even though the task is challenging (M. Ross, H. Perkins and K. Bodey, 2016; N.V. Luong, 2021a). In contrast, negative motivation represents behavior motivated by the expectation and fear of not being able to achieve the intended outcome.

(Baumier-Klarsfeld, 2016) had pointed out that, students will act, engage in learning when they feel confident, feel that they have the ability to improve, the capacity to perform, feeling supported or recognized with their own talents.

Student motivation is generally divided into two categories: intrinsic motivation and extrinsic motivation.

Intrinsic motivation

The concept of intrinsic motivation was found in the Self-Determination Theory of the 1970s. This theory was proposed and developed by psychologists and professors Edward L. Deci and Richard M. Ryan, focusing on the driving force behind people's choices which is not influenced by external factors. According to this hypothesis, there are innate psychological needs in people that cause them to behave in a certain way, without the need for an external motivation to motivate that behavior. Richard M. Ryan and Edward L. Deci define intrinsic motivation as "the inherent human tendency to go out in search of novelty and challenges to expand and exercise competence, to explore and learn". Therefore, the only goal or reward sought with intrinsically motivating activities is the inner growth of the self, or the discovery of the unknown, the acquisition of knowledge, or the overcoming of some quality.

The concept of intrinsic motivation has great importance to developmental psychology. Oudeyer, Kaplan and Hafner, in a 2007 article, assert that exploratory activities, typical types of motivation we are talking about, are extremely important in the development of every person. Which is, as various investigations have shown, intrinsic motivation has a strong relationship to cognitive advancement and social progress.

Extrinsic motivation

According to Ryan and Deci (1999), extrinsic motivation refers to the activities undertaken to obtain a particular tool for the mentioned task. The ultimate is no longer the personal satisfaction or enjoyment of the activity itself, but an expected external reward.

3. Method

Objective of the study

The aim of the study was to determine whether the use of e-learning in higher education affects students' learning motivation.

Research sample

Research subjects include students of Hong Duc University, Tan Trao University, Hai Phong University of different majors and educational levels. The sample size calculated using GPower3.1 was 120 people. Random sampling method was used.

Data collection and analysis

To survey for the study, a questionnaire designed by experts was used to study e-learning and learning motivation include 12 questions (6 questions for e-learning; 6 questions for learning motivation), based on Likert scale (5 levels), the questionnaire was made using Google form (from June 2021 to December 2021).

In this study, the reliability of the questionnaire was tested through Cronbach's alpha, presented in Tables 1 & 2.

Table 1. Statistics on reliability (e-learning)

Cronbach's Alpha	N of Items
.068	6

Table 2. Statistics on reliability (learning motivation)

Cronbach's Alpha	N of Items
.063	6

Collected data were analyzed using inferential statistics (Pearson correlation coefficient was used to calculate the size of the correlation between two variables) through a statistical analysis program, SPSS 20.

4. Findings

The results show that the calculations are consistent with the hypotheses.

The results of the study show that there is a significant positive linear relationship between e-learning learning and student motivation. That is to say, when teachers apply e-learning, students' learning motivation is enhanced and vice versa.

Looking at the collected data, the correlation matrix between the variables was calculated. The coefficients calculated in the matrix are presented in Table 3.

Furthermore, the results presented in Table 4 showed that there was no significant difference in the relationship between e-learning and students' motivation across different ages and educational levels.

Table 3. Descriptive Statistics between E-learning and motivation

	Mean	Std. Deviation	N
E-learning	7.46	.925	120
Learning motivation	8.31	.896	120

Table 4. Correlation matrix between E-learning and motivation

		E-learning	Learning motivation
E-learning	Pearson Correlation	1	.710**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	101.792	70.042
	Covariance	.855	.589
	N	120	120
Learning motivation	Pearson Correlation	.710**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	70.042	95.592
	Covariance	.589	.803
	N	120	120

**. Correlation is significant at the 0.01 level (2-tailed).

The appropriate statistical model to show the relationship between e-learning learning and student motivation. the method of e-learning and student's learning motivation have a positive linear relationship, which means when increasing the application of e-learning in teaching and learning activities, then the student's learning motivation is enhanced. On the contrary, when the application of e-learning is reduced in teaching, students' learning motivation would likely decrease.

5. Conclusion

For a student to learn effectively, they need to feel motivated to learn. If we only consider the basic needs of motivation theory, then various studies have shown that in order to achieve the learning goal from the student's side, the factor "method of learning" is very important. The main content of this study emphasizes the relationship between e-learning and student's learning motivation, the research results are consistent with the results of previous studies by (Nehme, M. 2010; Kim & W. Frick, 2011; Safiyeh RajaeeHarandi 2015; M. Samir Abou El-Seoud etc., 2014; N.V. Luong 2021a, N.V. Luong 2021b.).

From the research results, I have made some suggestions for the application of e-learning as a tool in education that needs attention:

+ Research on the appropriateness and effectiveness of lesson content when using e-learning.

+ The school ensures the facilities, information technology foundation, ensures the human resource for operation and implementation.

+ Students have knowledge and access to information and communication technology.

+ Financial resources at each school are always needed to meet the teaching and learning process.

Limitations of the study.

The analysis was carried out with limited samples and small survey scope, the conclusions we came up with were applicable at only a few surveyed universities in Vietnam, therefore it might not be convincing enough to the entire higher education system. This study will likely to be useful for education researchers in Vietnam and some developing countries to better understand the effects of e-learning on students' learning motivation.

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