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Study of a Pathological E-Learning via Content Analysis on the Campus of the University of Tehran

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ABSTRACT

Objective: E-learning is one of the most important developments in the information systems industry and radical change, the use of which as a pedagogical tool in education is rapidly expanding. In this research, the process of e-learning in the University of Tehran has been studied and the advantages and disadvantages of the current system have been investigated by the theme analysis method.

Methods: The population of this study included all (students-experts) of Farabi Campus of the University of Tehran who were directly and indirectly involved in e-learning. This research was conducted using a qualitative method by conducting semi-structured interviews with 8 randomly selected virtual students of the University of Tehran. In order to analyze the data obtained from the interviews, the content analysis method was used.

Results: According to the analysis of the answers provided, the benefits of this training for students in 5 categories (removal of historical-geographical limitations, cost savings, Improving the learning-learning process, high interactivity and finally individual differences). The advantage of this type of training for the educational organization in 4 categories (executive benefits, human resources, economic and educational-developmental) And the problems of this education were summarized by students in 3 general categories (learning problems, security and technology).

Conclusions: Finally, it is recommended that officials and managers, by better understanding of the existing problems in the field of e-learning and solving them, can bring this type of education to their desired position in education in terms of quality and quantity.

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Introduction

Education as a process to increase individual competencies and change people from ignorance to individual integrity and perfection (Gumantan et al, 2021). Along with the expansion of information technology and the spread of remote mass communication devices such as computers and the Internet, the tools and methods of education have also undergone transformation and transformation, so that with the advancement of technology, the use of newer tools to transfer knowledge has been proposed (Davaji, 2021). In the last decade, e-learning has become a very important tool to achieve conventional learning goals, especially since this type of education provides access to information at any time and place for learners(Shahbazi & Byun, 2022). On the other hand, educational psychologists have always emphasized that learning conditions should be organized in such a way that each learner learns based on his abilities and capabilities, and on the other hand, the learning process is active and productive. In this context, the research indicates that the theory of social constructionism, which emphasizes the construction of knowledge based on the learner's previous experience, is the most suitable theory for e-learning and ensures learning in people (Maghsoudi,et, al,.2022). In this approach, the role of personal and social factors and processes is highlighted in interaction with each other and in relation to the learning context or context. E-learning based on social constructivism fosters a more authentic experience than self-directed learning (Kumar & Sharma, 2021).

In general, electronic education refers to a wide range of application software and technology-based educational methods, which include computer-based, web, internet, and virtual classes(Pavia et al, 2016). E-learning as a new generation of education has solved one of the main limitations of education, i.e. giving fast feedback and high learning speed. Also, e-learning has helped to remove borders (Yassine et al, 2022). Four constructs were found to be the determinants of e-learning use, namely educational system quality, support system quality, learner quality, and perceived usefulness (Al-Fraihat,et,al. 2020).

The advantages of electronic education include: interaction between professor and student and no need for physical presence of professor and student in the classroom, increasing knowledge and awareness, and updating information (Hosseini et al,2016) ; Ease of access to information, better interaction between teacher and student, combination of synchronous and asynchronous learning, student-centered, cost reduction (Tarus,et. al, 2015); Exploratory learning environment, fast

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installation of programs and fast distribution of content (et al, 2022 Elshaer)؛ More enjoyable learning and greater awareness of the educational needs of learners (Cioruța et al, 2021); More enjoyable learning and greater awareness of the educational needs of learners (Cioruța et al, 2021); Being cost-effective in terms of time and cost and more appropriate use of free time (Wellington & Clarence, 2021); task-technology fit (Jeyaraj, 2022), ease of use, and usefulness (Akdim et al., 2022).

In fact, it can be said that reveal that all service quality dimensions (tangibility, responsiveness, assurance, reliability, empathy, and e-learning) are positively associated with student's academic performance through student's motivation and student satisfaction (Rasheed et,al.2020). Despite these advantages and positive points, it should be noted that every educational program that is compiled and implemented for the first time or even repeatedly needs to be reviewed. Because the analysis and analysis of each program is considered the main element of the development of that program, but it should be noted that the effective development and expansion of electronic education requires continuous review and analysis of the components and results of this type of educational programs(Littlefield, 2018). An example of this study on the weaknesses of electronic education shows that these types of education are in areas such as the control of cheating in exams, the level of plagiarism and the denial of copyright laws. The most important point is that despite many mentions in the research about the low cost of this type of training, the cost of using the Internet and the network to hold virtual classes in some countries is very heavy, which makes this type of training not economical from an economic point of view (Subramanian, 2016). Other limitations of this type of training include the lack of adequate bandwidth, insufficient monitoring of the content of this type of training, not being suitable for teaching all the content and having a lot of side costs among the limitations of this type of training (Wellington & Clarence, 2021). or for example, although e-learning has the potential to reduce carbon emissions, which has a beneficial effect on the environment. However, mental health is affected because e-learning may lead to self-isolation and reduced academic achievement, which may lead to anxiety and psychological depression. Due to the use of electronic devices for learning, eye and neck muscles may be strained and have detrimental effects on physical health. (Agarwa ,et,al,.2021).

Due to the development of the electronic education system and the initial concerns in this field, it is often related to issues such as the feasibility and preparation for the implementation of electronic

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education, the extent of application and use of virtual education, the development of suitable models for electronic education and the like. have paid (Anari Nejad, and Mohammadi, 2014). Pathological studies are one of the types of studies that have their own application in all fields of science, especially in psychology and education. Pathological studies in the field of psychological issues, basically, deals with the detailed study of underlying, creating or stabilizing factors, clinical, psychological, existing pests and injuries, etc. Such studies are carried out with the aim of completing and providing the three processes of identification, diagnosis, prevention or treatment, and the result is the proposal of suitable solutions to repel or fix pests and damages. Therefore, according to the research conducted in the world about electronic education and the importance of examining the harms and opportunities of new educational programs for each country, it is necessary to conduct comprehensive research that simultaneously examines the benefits of this program for learners, educational organizations and problems. Check it out. In this way, problems for organizations and learners can be reduced with long-term planning, and the role and function of the government, organizations, institutions, and learners can be determined, and by increasing the productivity, speed and quality of learning. increased The purpose of this research is the pathological examination of e-learning with the method of content analysis, in this regard, we intend to answer the following questions:

1- What are the benefits of e-learning for the learner?

2- What are the advantages of e-learning for the educational organization?

3- What are the problems and bottlenecks of E-learning for the learner?

Material and Methods

The current research method is purposeful, qualitative and thematic analysis, considering the importance of electronic education and the pathology of this issue, especially in Iran, it was decided to use semi-structured interviews with an emphasis on an exploratory approach. The reason was to identify deep and preliminary ideas for developing theoretical models for future experimental research based on qualitative findings. It is intended that based on the results of this research; ideas can be identified that can be used to conduct quantitative research with large statistical samples with a theory testing approach. The community of this research included all those (students-experts) of Farabi Campus of Tehran University who were directly and indirectly

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involved with e-learning. At the beginning of this research, it was planned to plan interviews with about 8 people who were randomly selected, according to the expected time for conducting the research. Before conducting the interviews, the necessary arrangements were made in person and by phone regarding the possibility of conducting the interview and the time of conducting it.

At the beginning of the interview, the purpose of the research was mentioned in general and it was emphasized that the interviews will be used only for research purposes and the identity of the people will not be revealed in any way in the research reports and published articles. According to the research questions, the following questions were considered as the main questions in the interview and due to its semi-structured nature, other questions were also planned according to the answers and in order to clarify the meaning of the answers provided. At the end of each interview session, the interviewees were asked to add anything else for the plan.

To analyze the text of the interviews, thematic analysis method, which is widely used in qualitative research, was used. According to this method, the data collected by interviews with students and experts were first described, and then we analyzed and categorized the data described in the majority of general propositions.

Validity and reliability of data: In the present research, after extracting the concepts and themes from the interview in two stages, the validity of the data was confirmed by the professors of research methods and also by two of the participating students with the auditing method.

Results

The people interviewed in this research were 8 people, including 4 students in virtual fields and 4 experts of post-graduate studies of the university, who were asked about the advantages and disadvantages of electronic education and finally the problems and bottlenecks of this type of education, and then the concepts and relevant themes were extracted as follows.

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Table 1. The benefits of e-learning for learners

The title of the sub-theme	Sub theme code	The title of the identified concept and its associated quote	Concept code
Removal of historical-geographical restrictions	1	No location restrictions "Providing education in an electronic form makes the location restrictions disappear and we can continue our studies from a distance and in our favorite university, like me who is a student of Farabi in Qom but I live in Tehran".	1
		freedom of choice "These trainings provide conditions so that we have more freedom of choice when choosing a university"	2
		No time limit "On the other hand, these types of trainings are more compatible with our program in terms of time, and there is no need for training to take place in the morning or when we are working, but online training can also be done at work and at night, such as 8-9pm.	3
Cost savings	2	Reduce moving costs "Due to the fact that electronic education does not require the physical presence of people at the teaching place, students can save their travel expenses and it is more economical than face-to-face education".	4
		Reduce the cost of living "In electronic education, there is no need to pay for the dormitory because people can learn at their place of residence and through the Internet"	5
		Reduce the cost of feeding "By providing this type of education, students spend less money on self-service and food"	6
		Reducing life and financial risks "Reduction of life risks due to commuting for both groups of teachers and learners because there is no need for them to be present at the same time and place and there is no need for them to travel every week and every day".	7
Improving the memorization-learning process	3	Increase classroom learning time "In electronic education, less class time is spent on marginal issues and more class time is spent on presenting and learning the face and the learning process is accelerated".	8
		Increase motivation and ability to learn "In this type of training, due to the use of electronic files, video and other media, people feel less tired and have more motivation and ability to learn"	9
		Availability of educational content "In this type of training, all the resources and files, and even the audio and video files provided by the professor, can be accessed until the end of the semester, and the people who were absent can download and view the video file of the class".	10
		More scientific education or educational content "In e-learning, the educational content that is introduced is more up-to-date and therefore involves the learning of interdisciplinary content".	11
High interactivity	4	Collaborative learning "According to the new method of teaching, which is cooperative learning, teachers and learners can learn together and this type of education provides the possibility of more participation than other methods and there is an unlimited exchange of ideas between the teacher and the student".	12
		Facilitating interpersonal relationships "In virtual classes, you can establish a relationship with the professor and students very easily and without the need for permission or interference in the course of the lesson, and express your questions and receive answers on their personal page".	13
Individual differences	5	The difference of learners in terms of age "E-learning provides conditions for people of different ages to participate in their favorite field".	14
		The difference between learners in terms of job conditions "In my opinion, in this new education, people with different job conditions can study in their favorite field"	15
		The difference between learners in terms of talent " In my opinion, by providing this type of education, people with different talents can be placed in the same class together"	16

Regarding the first question of the research in relation to the issue of what benefits e-learning has for learners, the findings are as follows. In the first stage, 16 concepts were identified from the text

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of interviews obtained with students, and the quotations related to each of these concepts are shown in the second column of table one. In the next step of identifying the concepts, in order to reach the sub-themes, the identified concepts were examined and placed next to each other, and in general, 5 sub-themes related to the benefits of e-learning for learners were obtained. In general, from the point of view of learners, the advantages of this type of education can be considered as including: removing historical-geographical limitations, saving costs, improving the memorization-learning process, high interaction capability and finally individual differences.

Table 2. The benefits of e-learning for the educational organization

The title of the sub-theme	Sub theme code	The title of the identified concept and its associated quote	Concept code
Economic benefits	1	Increase income "Providing electronic education by the institution and university will attract more students and thus attract income for the university".	1
		income generation "In my opinion, a university or an institution that uses electronic education will eventually have an archive of electronic resources that can generate income by selling and holding training courses for the university or other organizations".	2
		Reducing construction costs "In my opinion, with e-learning, when the training is conducted in person, it saves a lot of students' expenses for attendance that the organization must pay, such as organizing and maintaining and repairing classrooms, dormitories, and the dining hall".	3
		Reducing the cost of improving human resources "In my opinion, first of all, this type of training reduces training costs and improves resources and human resources through the use of files kept for new employees.	4
		Reducing the cost of recruiting faculty "This type of training provides the possibility for the educational institution to spend less in terms of attracting professors and to solve the problem of lack of human resources by using guest professors and from a distance".	5
Human resource benefits	2	Using the maximum ability of available human resources "In my opinion, by using e-learning, the university can make the most of its existing human resources, including professors and employees".	6
		The possibility of running the university with a much smaller number of human resources "In my opinion, the use of this type of training in the university can solve the problem of lack of human resources, because there is no need to hire new staff due to the lack of many students going to the university".	7
		Improving the scientific level of employees "In my opinion, another advantage that this type of training has for the university is that it forces the university and its staff to be more up-to-date and use the latest knowledge in the field of e-learning".	8
		Reducing university obligations to students "The provision of electronic education is safe from many risks that may affect students and the organization must accept their responsibility"	9

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Executive benefits	3	Fix the problem of insufficient physical space "In my opinion, virtual education makes it possible to hold a class for a higher number of students than in a face-to-face class without worrying about not having enough space.	10
		Reducing the problems caused by physical presence "Also, the problems of not having a dormitory and little educational space and self-service are also reduced due to the lack of physical presence of students in the university« .	11
Educational and developmental benefits	4	Facilitating access to educational goals "In my opinion, the organization or institution can achieve its goals in most fields much faster by using these trainings"	12
		Improving the quality of educational services "In my opinion, with fewer students referring to education, the quality and effectiveness of human resources will also increase in the expert and professor department, and they can provide better educational services to daily courses.	13
		University rank promotion By increasing the number of university students, training raises the academic and nominal level of the university and raises the reputation of the university.	14

Regarding the second question, what are the benefits of e-learning for education or educational organization? The findings are as follows. In the first stage of examining the text of the interviews obtained with students, 13 concepts were identified, and the quotations related to each of these concepts are shown in the second column of table one. In the next step of identifying the concepts, in order to reach the sub-themes, the identified concepts were examined and placed next to each other, and in general, 4 sub-themes related to the benefits of e-learning for the educational organization were obtained. In general, electronic education in four general areas: economic, executive, educational-developmental and human resources will create an advantage for the organization or university. compared to face-to-face training, it reduces operational and physical problems, in terms of human resources, after the implementation of these trainings, it is possible to take maximum advantage of the capabilities of human resources and manage a large number of students with a small force, and at the end of these trainings, keeping the university up-to-date and quality of service will be improved.

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Table 3. The problems and bottlenecks of e-learning for the learner

The title of the sub-theme	Sub theme code	The title of the identified concept and its associated quote	Concept code
Educational problems	1	Weakness of teachers "In my opinion, in these courses, the professors have little skill in virtual courses and training through the Internet".	1
		Unavailability of professors "In my opinion, the main problem of this type of training is that after the classes are over, access to professors is limited, and it is difficult to establish a relationship with professors who do not provide their email or phone number".	2
		Slow content delivery speed "In my opinion, at the beginning of the year, due to the diversity of people's fields and the diversity of people's basic information, the presentation of materials is slow".	3
		Little research skills "One of the problems of e-learning is that there is less research and classroom activity in these courses and the graduates of these courses have little skills in the field of research activities".	4
		Little time to fix bugs "In my opinion, in some e-learning classes, due to the large volume of students, there is little time to answer all the questions, and some questions may remain unanswered".	5
		Not having a face-to-face relationship "In my opinion, the most important problem of e-learning is the impossibility of face-to-face communication and therefore deprived of the benefits of this relationship"	6
Technology problems	2	Low quality software "In my opinion, the software provided for this type of training is very poor and not compatible with different operating systems, or the content's font is messed up".	7
		Not using all the features of EL "In this type of education, professors and students do not use all the capabilities of electronic education software and hardware".	8
		Inequality in access to technology "In my opinion, one of the problems of electronic education is that people in all regions do not have the same and appropriate access to the Internet and the necessary technologies to benefit from this type of education".	9
		Low degree validity "In my opinion, the reason is that people get the necessary training in these courses, but the validity of the virtual degree is low, and institutions and companies attach little value to this degree".	10
Security problems	3	Hacking of personal information "Using the Internet and network-based software for virtual education may create an environment for hackers to hack people's information".	11
		Infiltration of viruses "The use of electronic education may provide the basis for the entry of all kinds of viruses, worms and trojans due to the connection to the network and cause financial losses to people" .	12
		Moral problems "In my opinion, one of the problems of these trainings for the learner is that due to the lack of control of private chat during teaching, people disturb their classmates and create the ground for deviance"	13

Regarding the third question: what are the problems and bottlenecks of e-learning for learners and students, after interviewing and identifying existing concepts, 13 concepts were identified, and finally, 3 categories or sub-themes were identified from these 13 concepts. As can be seen in the

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above table, the most important problems and bottlenecks of e-learning for students are grouped into three general categories: educational problems and bottlenecks, security problems and technology problems, and the concepts related to each of these categories can be seen in the table in full.

Discussion

In the current research, the general goal was to examine the pathology of electronic education courses from the students' point of view, based on this goal, three questions were asked, and the necessary information and interviews were collected and analyzed in this regard, and the results obtained are as follows.

Regarding the benefits of e-learning for students and learners in general, as mentioned in the findings section, 5 sub-themes were obtained. These results showed that, in general, from the point of view of the learners, the advantages of this type of education can be considered as including: removing historical-geographical limitations, saving costs, improving the memorization-learning process, high interaction capability, and finally, individual differences. Regarding the advantages of e-learning and the provision of these courses for students, studies have been conducted so far by researchers that are in line with the findings of this research, including this research(Hosseini,et al,.2016).

In a study, Tarus and his colleagues (2015) examined the benefits of e-learning in education, according to the results of this study, the interaction between the professor and the student and the lack of physical presence of the professor and the student in the classroom, increasing the knowledge and awareness of nurses and being up-to-date Information, creating a suitable method for proper functioning, increasing the level of satisfaction, ease of access to information, better interaction between teacher and student, the possibility of providing and learning remotely, combining simultaneous and asynchronous learning, eliminating students and reducing costs were among the most important advantages of virtual education courses.

Sitar-Tăut and his colleagues(2024) found out that satisfaction is positively influenced by perceived usefulness, ease of use, health safety, and task-tech fit. cideral et al. (2018) also say that user satisfaction is related to the quality of information, the quality of the e-learning system, the instructor's attitude towards e-learning, diversity in evaluation and the learner's interaction with

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others. Individual influences on the use of e-learning are determined by the use of e-learning systems, user satisfaction and system quality. Although it does not determine the quality of cooperation. Kumar (2021) states that e-learning facilitates the work of teachers to communicate quickly with their students and groups and hence motivates the learning process. Student recognition also increases by increasing the ability and capacity of students by providing learning anywhere and anytime.

Regarding the second research question and what are the advantages of e-learning for education or educational organization? The findings showed that 13 concepts were identified from the interviews and finally 4 sub-themes related to the benefits of e-learning for the educational organization were obtained. In general, electronic education in four general fields: economic, executive, educational-developmental and human resources will create advantages for the organization or university. From the economic point of view, this type of education will reduce costs and generate income for universities. It reduces operational and physical problems, in terms of human resources, after the implementation of these trainings, it is possible to make the most of the capabilities of human resources and manage a large number of students with a small force, and at the end of these trainings, indirectly and indirectly, it will keep the university up-to-date. And the quality of service will be improved. In explaining the results of this question, it should be stated that e-learning, by creating advantages and satisfaction for students, will also create advantages for the educational organization and will benefit from the benefits of the students of these courses. . The results of this question in general with the research results;(Gumantan et al., 2021; Shahbazi and Byun, 2022; Ajeet Kumar Sharma, 2021; Yassine et al., 2022; Wellington and Clarence, 2021; Affouneh,et al., 2020) is consistent.

Finally, the results of the findings regarding the third question about the problems and bottlenecks of e-learning for the learner and student, as the findings showed, 13 concepts were identified, and finally, from these 13 concepts, 3 categories or sub-themes were identified, which include educational problems and bottlenecks, security problems and It was a technical problem. Internal and external studies have been conducted regarding the problems and bottlenecks that e-learning courses face, including: Roshani Ali Bene See et,al(2022) In their study, they found cultural, legal, infrastructural and financial challenges, including the bottlenecks of virtual education. Also, Jamshidi et al. (2023) found the lack of face-to-face contact, limited learning time, the need for

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computer literacy, and the need to access the Internet as limitations of e-learning. not all research reflects the same enthusiasm for the online learning environment. For example , Ghosh et al. (2022) have expressed serious concerns regarding online education performance.

The widespread use of educational technology, whether motivated by addiction or convenience, may contribute to an already existing problem: student dropout. According to Eurostat (2023), only 42% of young people (aged 25-34) in the European Union had attained a higher education level in 2022. This figure reaches 16 to 18 percent in some Southeastern European countries. As Messerer et al. (2023) say, withdrawing from a higher education institution may be considered a private matter that only affects the student, but in fact its costs affect the government and society. But every research is faced with a series of limitations and deficiencies. This research is not separate from this rule. The first limitation was the scope of the subjects and it was not possible to quantitatively investigate all the parameters, and with an initial and in-depth qualitative investigation, the path of partial and quantitative investigations with a large sample population will be determined in the future. The geographical limitation was one of the limitations of this research, which was specific to the city of Tehran, and an attempt was made to use students from different parts of the country who have different conditions such as access to technology and infrastructure. Another limitation is different individual capabilities. It was effective on the learning rate of people and the presence of people with different capabilities and the level of interaction was tried. Another limitation of this research is the lack of generalizability of its findings to similar conditions because the investigated case has unique characteristics that it is even possible that its results cannot be generalized to similar cases in the same university. The next limitation is related to the control of variables, there are many factors involved, which are very difficult to control. The results of this research are related to the University of Tehran, and its generalization to other regions and provinces should be done with caution.

Suggestions

According to the results of this research, it is suggested that, first of all, before the implementation of electronic education in universities, the necessary studies and feasibility studies should be carried out, both in terms of the necessary technology and technology, and in terms of having a faculty and expert staff. It is also suggested that in order to use the benefits of face-to-face communication, appropriate software and communication methods should be designed; And at the

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end, it is suggested that the necessary studies be carried out by individuals in order to localize software and educational materials.

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Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries. can be directed to the corresponding author.

Ethics statement

All ethical principles are considered in this article. The participants were informed of the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information and were free to leave the study whenever they wished, and if desired, the research results would be available to them. Written consent has been obtained from the subjects. principles of the APA and Helsinki Convention were also observed.

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References

Affouneh, S., Salha, S., N., & Khlaif, Z. (2020). Designing quality e-learning environments for emergency remote teaching in coronavirus crisis. Interdisciplinary Journal of Virtual Learning in Medical Sciences, 11(2) 13

Agarwal,A. Sharma,S . Kumar, V,. Kaur,M,.(2021) "Effect of E-learning on public health and environment during COVID-19 lockdown," in Big Data Mining and Analytics, vol. 4, no. 2, pp. 104-115, , doi: 10.26599/BDMA.2020.9020014.

Ajeet Kumar, SH.(2021). Covid 19: Emergence of e-learning system in Indian Perspective. 2021 5th International Conference on Information Systems and Computer Networks (ISCON). India, Mathura. 10.1109/ISCON52037.2021.9702329

Akdim,K,. Casaló,L, V,. Flavián,. C(2022). The role of utilitarian and hedonic aspects in the continuance intention to use social mobile apps J. Retail. Consum. Serv., 66 Article 102888, 10.1016/j.jretconser.2021.102888

Al-Fraihat,D,. Joy,M,. Masa'deh,R,. Sinclair, J,.(2020) Evaluating E-learning systems success: An empirical study. Computers in Human Behavior .102, 67-86. https://doi.org/10.1016/j.chb.2019.08.004

Anari Nejad, A and Mohammadi, M. (2014). Practical indicators of e-learning evaluation in Iranian higher education. (In Persian)

Basilaia, G., Dgebuadze, M., Kantaria, M., & Chokhonelidze, G. (2020). Replacing the classic learning form at universities as an immediate response to the COVID-19 virus infection in Georgia. International Journal for Research in Applied Science & Engineering technology, 8(III).

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[DOI: 10.22034/3.4.197]

Cidral W, A,., Tiago Oliveira b, Massimo Di Felice a, Manuela Aparicio (2018) E-learning success determinants: Brazilian empirical study Computers & Education. 122, 273-290.

Cioruța, B. V., Lauran, M., Coman, M., Pop, A. L., & Lauran, A. (2021). About the Benefits of Adopting E-Learning in the Current Romanian Educational System. Asian J. Educ. Soc. Stud, 15(3), 1-13.

Davaji B, B, H,. moghimi Z, hajilo V. (2021). The effect of Shad Network e-learning program on teachers' efficiency and students' learning Improvement. MEO.; 10 (3):51-78 URL: http://journalieaa.ir/article-1-273-fa.html. (In Persian)

Elshaer, I. A., & Sobaih, A. E. E. (2022). FLOWER: An Approach for Enhancing E-Learning Experience Amid COVID-19. International Journal of Environmental Research and Public Health, 19(7), 3823.

Eurostat.(2023) Two-fifths of EU's young adults have tertiary education - Products Eurostat News [WWW Document] Eurostat, https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20231113-2

Ghosh, S. Pulford,S,. Bloom,A,.J.(2022) Remote learning slightly decreased student performance in an introductory undergraduate course on climate change .Commun. Earth Environ., 3, p. 177 10.1038/s43247-022-00506-6

Gumantan, A., Nugroho, R. A., & Yuliandra, R. (2021). Learning during the covid-19 pandemic: Analysis of e-learning on sports education students. Journal Sport Area, 6(1), 51-58.

Hosseini M, Ghahremani A, Mohammadi Shahbolaghi F, Hamadzadeh S, Tamizi Z. (2016). The advantages of Electronic Learning in Nursing Education: A Review study. 3 JNE.; 4 (4):9-16. (In Persian)

Jamshidi, A. and Benisi, P. and Shahrkipour, H. (2023), opportunities of electronic media in relation to learning, education, education, the first national conference on education; Improving productivity, challenges, strategies and solutions, Tehran, https://civilica.com/doc/1874051

Jeyaraj, A. (2022) A meta-regression of task-technology fit in information systems research. Int. J. Inf. Manag., 65 Article 102493 10.1016/j.ijinfomgt.2022.102493

Kumar, V., & Sharma, D. (2021). E-Learning Theories, Components, and Cloud Computing-Based Learning Platforms. International Journal of Web-Based Learning and Teaching Technologies (IJWLTT), 16(3), 1-16.

[Downloaded from ijer.hormozgan.ac.ir on 2026-11-20]

[DOI: 10.22034/3.4.197]

Kumar,v,. (2021).International Journal of Web-Based Learning and Teaching Technologies .E-Learning Theories, Components, and Cloud Computing-Based Learning Platforms. 3(16).

Littlefield, J. (2018). The difference between synchronous and asynchronous distance l e a r n i n g. R e t r i e v e d f r o m https://www.thoughtco.com/synchronousdistance- learning asynchronousdistancelearning- 1097959.

Maghsoudi, M., Safaee, F. & Hashemi, A.(2022). The Quality of Virtual Learning at Farhangian Teacher Education University of Markazi Province during the Corona Epidemic from the Trainees and Trainers' Perspectives. Technology of Education Journal (TEJ), 16, 525-538. doi.org/10.22061/tej.2022.8221.2639

Malmir Ameneh, Ismaili Ahmad Reza. (2019). Investigating the effect of the use of educational media on students' academic achievement and creativity. Journal of Management Training of Organizations.; 8 (1): 201-185. (In Persian)

Messerer,L,A,A,.. Karst,K,. Janke,S,.(2023) Choose wisely: intrinsic motivation for enrollment is associated with ongoing intrinsic learning motivation, study success and dropout

Paiva, J., Morais, C., Costa, L., & Pinheiro, A. (2016). The shift from “e-learning” to “learning”: Invisible technology and the dropping of the “e”. British Journal of Educational Technology, 47(2), 226-238.

Rasheed, H, M, W,. He ,Y,. Khalid, J,. Khizar, H, M, U,. Sharif, S,.(2022). The relationship between e-learning and academic performance of students. Journal of Public Affairs: Volume 22, Issue 3

Roshani Ali Bene See H, Shahalizadeh M, Heydari S, Fatahi M. mplementation (2022),Pathology of the Elearning Curriculum in Iran (Case Study Shahid Beheshti University of Tehran). Interdisciplinary Journal of Virtual Learning in Medical Sciences.; 7(2), 137-152 [Persian]

Shahbazi, Z., & Byun, Y. C. (2022). Agent-Based Recommendation in E-Learning Environment Using Knowledge Discovery and Machine Learning Approaches. Mathematics, 10(7), 1192.

Sitar-Tăut ,D-A,. Mican D., Moisescu,O, J,.(2024) To be (online) or not to be? The antecedents of online study propensity and e-learning-dependent dropout intention in higher educatio Technological Forecasting and Social Change,.Volume 207.

Stud. High. Educ. 48 ,pp. 137-150, 10.1080/03075079.2022.2121814

[Downloaded from ijer.hormozgan.ac.ir on 2026-11-20]

[DOI: 10.22034/3.4.197]

Subramanian, R. Muthu.(2016). "The role of e-learning, the advantages and disadvantages of its adoption in Higher Education." Copyright@ 2016 by HINDCO Publications, Tirunelveli-627010 (2016): 271..

Tarus, J. K., Gichoya, D., & Muumbo, A. (2015). Challenges of implementing e-learning in Kenya: A case of Kenyan public universities. The International Review of Research in Open and Distributed *Learning*, *16*(1).

Wellington, R. J. O., & Clarence, A. U. (2021). benefits of e-learning method as a pedagogical technique for secondary school education in nigeria in the face of covid-19 pandemic. journal of educational planning and administration, 6, 93.

Yassine, S., Kadry, S., & Sicilia, M. A. (2022). Detecting communities using social network analysis in online learning environments: Systematic literature review. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 12(1), e1431.

[Downloaded from ijer.hormozgan.ac.ir on 2026-11-20]

[DOI: 10.22034/3.4.197]