EDUCATION TECHNOLOGY FOR THE E-LEARNING SYSTEMS IN SCHOOLS

TECNOLOGIA EDUCACIONAL PARA OS SISTEMAS DE E-LEARNING NAS ESCOLAS

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Resumo. Como resultado directo da integração da tecnologia e da educação, o e-learning emergiu como um poderoso meio de aprendizagem, especialmente utilizando tecnologias da Internet. O objetivo principal desta pesquisa foi investigar o uso de novas tecnologias educacionais e sua relação com o progresso acadêmico dos alunos nas escolas e fornecer soluções adequadas. A qualidade do e-learning depende da medida em que a tecnologia, as interações, os conteúdos e os serviços permitem que o aluno e o professor tenham um desempenho de acordo com as suas expectativas no ambiente de aprendizagem e obtenham satisfação. Aumentar as capacidades do e-learning e a possibilidade de atingir os objectivos educativos desta forma depende da consideração das suas muitas dimensões e aspectos e da atenção aos factores que influenciam o sistema de e-learning. Ao utilizar conteúdo eletrônico, uma gama mais ampla de sentidos dos alunos é envolvida no processo de ensino-aprendizagem, e o processo de aprendizagem se torna mais profundo e o entusiasmo dos alunos aumenta.

Palavras-chave: Educação, Tecnologia, E-learning, processo ensino-aprendizagem

Abstract. As a direct result of the integration of technology and education, e-learning has emerged as a powerful learning medium, especially using Internet technologies. The main objective of this research was to investigate the use of new educational technologies and its relationship with the academic progress of students in schools and to provide appropriate solutions. The quality of e-learning is dependent on the extent to which the technology, interactions, content and services allow the learner and the teacher to perform according to their expectations in the learning environment and obtain satisfaction. Increasing the capabilities of e-learning and the possibility of achieving educational goals in this way depends on considering its many dimensions and aspects and paying attention to the factors influencing the e-learning system. By using electronic content, a wider range of students' senses are involved in the teaching-learning process, and the learning process becomes deeper and students' enthusiasm increases.

Keywords: Education, Technology, E-learning, teaching-learning process.

INTRODUCTION

The quality of e-learning is dependent on the extent to which the technology, interactions, content and services allow the learner and the teacher to perform according to their expectations in the learning environment and obtain satisfaction. Increasing the capabilities of e-learning and the possibility of achieving educational goals in this way depends on considering its many dimensions and aspects and paying attention to the factors influencing the e-learning system. By using electronic content, a wider range of students' senses are involved in the teaching-learning process, and the learning process becomes deeper and students' enthusiasm increases (Kattoua et al., 2016). Today, communication and information technology is an important part of organizations and businesses. According to (Almaiah et al., 2020) new technologies can play an important role in students' skills, knowledge and motivation. In the age that we live in today, the criterion of the power and superiority of societies is the amount of information production, the extent and speed of people's access to correct and timely scientific information.

Today, education is no longer limited to the closed framework of schools, and due to the disappearance of borders and distances, and the lack of information and communication tools, the appropriate environment for learning is always available to everyone at a wide level and with high flexibility; In such a way that the conditions of continuous or lifelong education are provided for people. Today, with the development of technologies and the expansion of communication and information facilities, we are in an information society (Shahmoradi et al., 2018; Djouab & Bari, 2016; Mojahed et al., 2022). A society whose characteristics are: very high concentration of information in the lives of most citizens; Using common or

compatible technology in a wide range of personal, social, educational and commercial activities; and the ability to quickly transfer and receive digital data between different locations regardless of distance. In other words, the following characteristics rule in this society: accessibility and greater use of information; More use of new information and communication technologies, very new applications of information packages and information and communication technologies.

In recent years, the world has witnessed the prevalence of Corona disease and the effect of the disease on various areas of human life. Although the disease has had many negative consequences, in many countries it has created platforms that cannot only be referred to as negative consequences, efforts should be made to add to the capacity of the bed (Jamalpour & Yaghoobi-Derab, 2022; Nodar et al., 2022; Dolenc, & Aberšek, 2015). One of these platforms is e -learning that had little appearance before the outbreak of Corona; But Corona's coercion was mandatory to expand virtual education. The teaching practices should not be completely similar before Corona, and in post -Corona conditions should be focused on hybrid education and especially emphasis on e -learning. This will also depend on the tendency of learners and the scientific efficiency of this type of training.

Research on e -learning has been and is a concern of many researchers (Hassanzadeh et al., 2012; Shariati et al., 2013; Cardenas, 2023). The data of the present study, through a questionnaire collected to students and teachers, under special circumstances, examined the behavioral intentions and mentality of users in using e -learning. Previously, in previous research, e -learning did not have the status of today due to the absence of such specific conditions and social constraints. The ease of use of new information technologies is very important. In information technology as a new approach, in the role of complementary education, improving the quality of teaching, diversifying teaching, providing continuous and automatic education, shortening education and education, paying attention to individual talents, individual education, and dealing with collective education problems. In addition to responding to these needs, information technology allows learners to engage at the right time. In many countries, the use of information and communication technology in the educational system has been given special attention to improve the quality of teaching methods. Information and communication technology creates a framework or structural framework that enhances the quality of education, using this technology to access extensive learning resources, increase their learning motivation, and use different forms of learning.

Today, the use of information and communication technology is emphasized as the most important element of interaction with the global community, sharing in the knowledge of others, exchanging experiences, being aware of the environment, being a leader in technology and expanding public welfare (Ebner et al., 2020). Meanwhile, the main pillar of knowledge development and production, i.e. education, has a very important place, because it is necessary to reach the information society, the production and distribution of knowledge and its starting point is ICT education. Students should use the computer and the Internet as a useful tool in the educational life of the school so that they can expand their abilities. Practice the skills needed for life, get to know other cultures and develop the ability and international interaction and cooperation. Be active in the teaching-learning process. Learn problem solving and learning skills and develop self-learning habits with the use of information and communication technology. The significant growth of new information and communication technologies during the last two decades has brought education into a new stage of growth and prosperity in many countries.

Aparicio et al. (2016) have examined the impact of the use of information technology and cyberspace on academic performance, information technology, communication and its advantages. Research results suggest that using technology, both by increasing the relationship of the teacher -sector and creating the right environment for creativity, contributes to the student's academic performance, and by marginalizing the teacher and the lack of proper infrastructure and culture, lead to academic failure. Romiszowski et al., (2004), did research on the admission and perceptions of medical students from e -learning at the time of the closure, with the aim of determining the acceptance and understanding of medical students, the benefits and barriers to e -learning. Research findings indicate that ease of using an e -learning system encourages students to focus on learning strategy content instead of trying to understand it. Most medical students have agreed that clinical education through e -learning is challenging (Sabraz Nawaz & Mohamed 2019). Nedungadi & Raman, (2012) conducted a research on the prospects and limitations of e-learning application at the time of the outbreak of Covid, indicating that identified restrictions have a great impact on academic achievement and the social-economic skills. The results show that age, education, and teaching experience affect e -learning in universities (Jamalpour & Derabi, 2023). Cheok et al. (2017) in a study of the challenges and important factors affecting the use of e -learning system during the Covid 19 epidemic, sought to discover the key challenges and important factors in the process of e -learning systems that enhance the

effectiveness and efficiency of Learning services are achieved by improving communication with teachers and better access to learning content; According to the results of the three main challenges that prevent the use of the e -learning system (Al-Fraihat et al., 2020). Chen, & Tseng (2012) conducted a research analysis of users' satisfaction with online education and operating systems during the prevalence of the Covid 19 epidemic, which concludes according to the Neural Network (NN) model to predict user satisfaction. Not directly over user satisfaction; While the availability of the operating system has the most impact on user satisfaction.

According to the conceptual model of this study, behavioral intent (feedback and satisfaction of students and teachers) as an independent variable affects the intent and continuity of e -learning as a dependent variable on the role of academic performance results (scores). The purpose of using this model was to explain the user's behavior to adopt technology according to the effective factors and the intention to continue in e -learning to improve and enhance academic performance. Based on the above, the hypotheses of this study consisted of the following:

- Understanding ease of use has a direct and significant impact on understanding.
- Technology integration has a direct and significant impact on behavioral intent.
- Understanding efficiency has a direct and significant impact on behavioral intent.
- Understanding ease of use has a direct and significant impact on behavioral intent.
- Understanding performance has a direct and significant impact on students and teachers.
- Understanding the ease of use has a direct and significant impact on students and teachers.
- Behavioral intention has a direct and significant impact on academic performance.
- Academic performance has a direct and significant impact on the intention of continuing to use e -learning.
- Students 'and teachers' satisfaction has a significant and significant impact on continuing to use e -learning.
- Behavioral intent has a significant and significant impact on the intent to use e -learning.
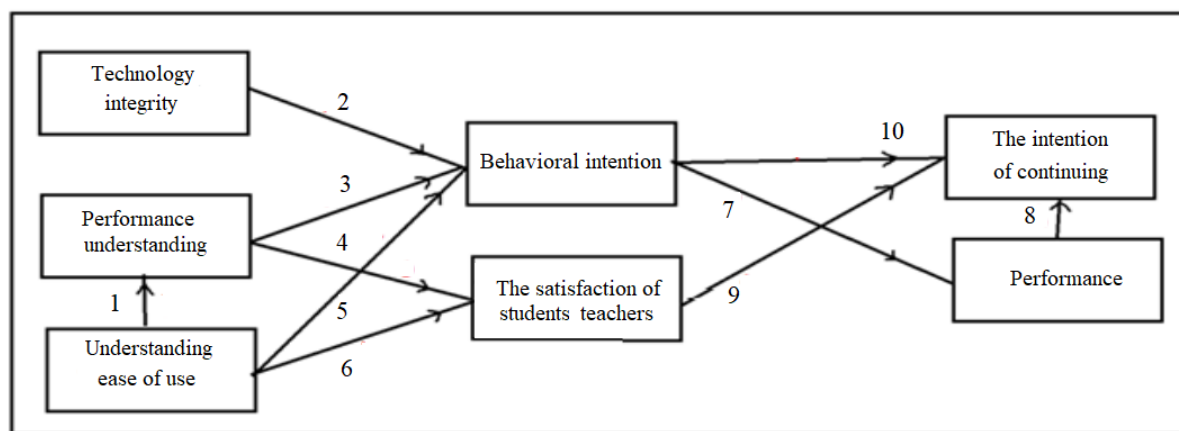
Figure 1. Main Factors affecting in conceptual model of e-learning.

MATERIALS AND METHODS

Electronic learning is done by the Internet. Associated with the latest information. It covers a set of educational methods (virtual training, digital cooperation, simulation, etc.) is pervasive and focuses on his individual character. The Internet is not central, pluralistic (includes everyone). Finally, it provides administrative and management processes such as registration, tuition fees, monitoring the process of implementing learning activities, teaching and remote evaluation.

Overall, electronic learning is called the type of learning that occurs in the network environment, in which a set of multimedia, Trans -media, and remote communication is employed, and it is a type of learning that is a type of learning that is a type of learning. It takes place in the Internet and facilitates network technology.

E-learning

In some definitions of e -learning are divided into three main categories: personal learning, collective learning, and virtual classes:

A. Personal Learning: In personal learning, a person chooses his or her favorite field and searches and research's it on the Internet.

B. Collective learning: In collective learning, it also tries to use various tools such as the auditorium and internet dialogue. Students are simultaneously present on the Internet and discuss the subjects or exercises and research presented by the professor.

C. Virtual classes: Virtual classes are named the best and most effective e-learning method. In this way, the teacher and the student see each other's image.

Information technology allows each itself to learn. In fact, it reduces one's dependence on their teacher and can even eliminate in some cases. This is especially appropriate in areas where it is not possible to send teachers to remote areas (such as villages) for geographical reasons or for high costs. It should be noted, however, that the best possible way is in fact the same virtual education classes that the teacher is still tangible.

Electronic learning method

This type of learning refers to the use of educational technology. In the classroom, teachers use heavy educational media, including public computers, personal computers, CDs, discs, internet sites, emails and even nanotechnology in the teaching process to facilitate learning. And to promote the scientific level of learners. This method of learning for students is effective and effective that improves their academic efficiency and educational activity, and teachers' class performance, teaching, and behavior, as it has been concluded: "5 % of learning through learning. Visual and visual tools will be done by a sense of vision. "If only 2 % of learning is done through audio sense and audio equipment, and the other, respectively, 2 %, smell and taste, 2 % affect memory and learning." And it affects the complete learning process and effectively, which is why in the design of better schools tomorrow, information technology and communication plays a vital role, because in the process of new education technology communication, the power of interest, the extravagant and pervasive consignment increases; For example, with the application of satellite technology and video in Japan, students of a class with their teachers and students are among the same part of the same country, even to report on the social science lessons through electronic posts with students. They are communicating in European countries or writing letters to their peers in Canada, Malaysia and Sri Lanka and discuss global issues. With this style of teaching in the new classroom approach, the application of modern technology in the classroom, whether through group learning, or by video conference or using virtual education, puts students in the training center. This is the way that we can play on what has been a big throat in the past to separate students from opportunities. In this way, training makes it possible for teachers and students who are separated from time, place, or both, to interact with the multimedia resources and the like through the lesson management software, and the content of the lesson.

Electronic learning strategies

To help learners reach the highest levels of Bloom's cognitive domain, that is, from the stage of knowledge and understanding to the stage of analysis, composition and evaluation, and to get a critical aspect, and instead of obtaining the content and maintaining it, Building and building knowledge, it is necessary to take into account the use of heavy educational media and in -class and outsourced software networks in addition to being familiar with other new teaching methods:

1. Holding in-service training classes for teachers, scientific-educational gatherings, specialized conferences, holding superior teaching festivals and specialized and disciplined periodic meetings, to them with information and communication technology methods and education. And the adaptive nurturing of advanced countries become familiar and reduced their fear of using computers in the classroom and responding to the necessities of the 21st century in education.

2. Forming English and Computer Language Classes for teachers to work with computers and benefit from the scientific-educational texts of foreign authors and be informed of the latest educational and research achievements.

3. Forming English and Computer Language Classes for students from elementary school using computer games.

4. Empowering modern teaching technology in schools and providing free Internet and email cards to teachers and students to write both their posts on the website and transform traditional schools into smart schools.
5. Replace educational CDs with textbooks and dictionary books in the educational system.
6. Holding competitions between teachers as well as students in English and computers.
7. Mandatory compulsion of computer and informational basics in high school and secondary courses in accordance with students' mental and intellectual capacity.
8. Forming small student research groups in the classroom by teachers to learn from inter-class and out-of-class software, writing and editing, to criticize their peers fairly and discover new ideas, because writing, writing, writing, writing, writing, It is thinking and creating. In other words, you either have to write and print or removing it

IT tools in the field of education

A. Internet:

The focal point is the application of information technology in the Internet. There are many sites today that can access the information you want. Also, designing educational sites by some institutions or even universities is a step in this direction.
1. Creating a virtual education that was previously discussed.
2. Provide useful information to learners about a particular subject matter
3. Some international institutions have the headlines on the Internet. Even some leading teachers put some of their exam questions on special sites. Both teachers and learners can access these questions using the Internet
4. Nowadays there is a discussion of digital books. Textbooks are a good source for teachers to teach learners in the classroom. Some sites, such as Google, have now put these books on the Internet.
5. Teachers can learn the latest and best educational methods in the world by searching for scientific articles and implement it in their classes. Teachers can even discuss the various educational issues and their latest experiences by joining the Internet groups.

B. Weblog

One of the phenomena that is now expanded by the Internet is the Web Log. The characteristics of its application in education are (Lin & Chen, 2012):
1. Access to more audience
2. Fast Feedback: The blog allows you to get your thoughts and thought feedback quickly and communicate differently with the audience of your posts.
3. Permanent Access: By connecting to the Internet, you can access your blog at any moment and anywhere and do not worry about losing your research resources and information on computer files and discs.

C. Virtual Libraries:

Virtual libraries provide immediate access to a wide range of physically available maneuvers. While physical libraries are limited to a specific time and place, virtual libraries without physical barriers can provide access to their resources at any moment and through an internet communication. In virtual schools, learning is an independent process of time and place. Virtual libraries provide users with the opportunity to think about moral and critical thinking, problem solving, decision making, etc. The design of the virtual library helps the learner understand the concept of information. Virtual libraries can play a role in the production and distribution of educational resources. Providing reference services, training from away from e -mail or continuously one of the services of virtual e -mail libraries

D. Computer Conference and E-mail

The major advantage of e -mail and computer conference in education and training is that participants can use them at any time and place they want. (Provided the terminal and terminal) and interesting items and topics can be transferred from the main computer to your computer and printed in places that are necessary and useful. The powerful and multi -functional media conference for teachers and educators is both inside and outside the organization to contact their learners. These types of computer applications allow solitary confinement between teachers and learners, even when face -to -face sessions are difficult or impossible.

E. Radio and TV:

Radio was the first and perhaps the most important means of mass communication that could establish extensive communication among humans and around the world and play an effective role in exchange information and awareness and increase the level of public knowledge and culture of the people. With the introduction of the television, the communications and information loops were completed, the transfer of information and awareness and communication went beyond the audio boundary and brought the image with them, and as a result, it had many attractions. Television has been able to provide complete and comprehensive information about the events, developments and events of different human societies (Almaiah et al., 2020; Tightiz & Yoo 2022).

The role of the teacher and the student in the electronic learning method

One of the important features that the phenomenon of information and communication technology has is that it makes human relationships with human beings, as well as human beings to facilitate and enhance the environment. Information and communication technology plays an important role in the transfer of knowledge because of the power of transformation and the ability to establish dynamic communication with students. There are two views on the impact of information and communication technology in the field of education. The first approach, called the reformist approach, believes that the effect of new technologies (information and communication) on education is gradual, and this phenomenon makes education in traditional way only effectively. In other words, ICT accelerates reforms in education. Alongside this approach, there is a transformational approach that believes ICT transformation in education and believes that information and communication technology, tools, and even the goals and goals of education, changes and transforms. The task and the roles of the teacher in this method can be stated:

1. Designing and organizing education
2. 2-Significant discussion
3. Learning process guidance and guidance
4. Simultaneous and unnecessary server
5. Learning System Management

Of course, it is difficult and difficult to play teacher roles alone. Therefore, some of these tasks are performed in a group manner with the participation of individuals such as educational technologies, educational designers, IT specialists, hardware engineers and software. It is noteworthy that the teacher has a unique and key role in this group, and no one and nothing can replace him. The learner and the student also actively participate in the learning process and in his extensive interaction with teachers, other learners and content. Giving such efforts is encouraged.

RESULTS

For analysis we used the questioner method from schools among the students and teachers. It was consisted of 30 questions on the continuation of e -learning, in 7 variables (technology integration with 4 items, understanding with 4 items, understanding ease of use with 3 items, students 'and teachers' satisfaction with 3 items, The diary, the continuation of e -learning with 5 items, the behavioral intentions of 5 items and the academic performance with 6 items).

For the purpose of validity, after consulting with experts and finalizing the questionnaire, the content and formal validity of the respected professors and consultants was confirmed. To calculate the reliability of the questionnaire, using Cronbach's alpha method for all 30 questionnaires, the number of 0.910 indicates its reliability. The reliability for other variables is presented in Table (1), which was done base on Cronbach's alpha and approved the reliability.

Table 1. Research Dimensions and Indicators (E -Learning Continue)

Variables	Cronbach's alpha
Technology integrity	0.88
Performance understanding	0.92
Understanding ease of use	0.83
Students 'and teachers' satisfaction	0.85
The intention of continuing e -learning	0.94
Behavioral intention	0.91
Academic Performance	0.96

The Impact of Class Intelligence on Student Learning Activities

One of the most important concerns of a country's educational system today is to create a suitable platform for the growth and excellence of intellectual capital in the information and knowledge -based society. In order for all social groups to participate effectively in such societies, they must learn continuous and active and constructive social participation, innovation, creativity, and social participation. Classroom learning increases, teachers 'teaching processes, and students' learning skills, and skills. The key to the students is more relying on group activities. Everyone is aware of the need for change in the country's education system; One way to change the educational system is to keep the schools away from being a teacher -based system. With the smart class, the use of new teaching technologies and the importance of students' abilities can take an important and practical step in this regard.

Increase the interaction and depth of education with school intelligence

The widespread use of information and communication technology in the education process, along with the evolution of educational approaches in the world, has provided the basis for the formation of smart schools. The use of modern teaching methods makes students more involved in teaching and deepening. Because when using smart software in the classroom, all students' senses are involved and increased learning. Increasing classroom intelligence and using online classrooms increases the cooperation and interaction of students and teachers. As a result, schools can benefit from this educational approach and its impact on the depth of learning by creating the necessary conditions for smart classes.

Fast and practical training

In smart schools, computers affect the teaching and evaluation and change the curriculum to some extent. The computer also replaces blackboard and CD instead of the exercise booklet. Students can learn a lot about any topic online and fast. In this system, both the teacher and the student produce electronic content and provide the lesson in CD. In these schools, education is not unique to teachers and the student has a key role in learning scientific topics.

Teachers use e -learning content to better understand the content of the course and save time, and students have the opportunity to show their abilities and produce content. For example, with the help of software, it is possible to save the material provided in the class, which saves class time, provides training documents and files in a quick and easy way; As a result, classroom smartphones have had a significant impact on increasing speed and learning efficiency.

The emergence of students' talent and skills

Today, the country's education system needs schools that, using information and communication technology, provide continuous learning and create new opportunities for people to experience life in the information community. This technology should be used as a powerful infrastructure for professional education. Smart schools are the key needs of knowledge -based societies and follow approaches to the development of knowledge and all kinds of students' skills, including entrepreneurship skills. Not only in these schools there are more teaching and learning processes, but also an interactive environment for enhancing students' key skills by relying on group activities in the knowledge -based age. Classroom intelligence will develop students' perceptual, verbal and social skills.

Creating a dynamic and attractive atmosphere for the full flourishing of the talents and the emergence of individual and collective creativity of students is another impact of school intelligence. Despite this smart equipment, students understand the importance and impact of the use of science and knowledge in life.

Classroom Intelligence Requirements

The minimum requirements for classroom smart, laptop or computers, video projectors and smart boards. With the help of a video projector, computer images can be displayed in larger dimensions, and in addition to auditory senses, visual senses can also be used in the teaching and learning process. Now by adding a smart board to the classroom, students are trained through audio, visual and practical, and the student can experience and do practical work in addition to seeing and listening to the curriculum. Using the multimedia content, a wider range of students' senses is involved in the process of learning activities and the teaching process deeper. In other words, the use of various software because of the use of auditory and visual senses in addition to enhancing the performance of the classroom helps to learn more and better students.

In schools where it is difficult to provide smart accessories, they can use smart kits instead of smart boards to smart class smartphones. The smart kit is more affordable than the smart board and is portable. With the help of classroom systems, students' surveys and their participation in the class increase dramatically. For example, digital microscopes are widely used in science and biology classrooms. Using a digital microscope, all students can view a large example of experimental images with the help of a video projector and smart board.

Classroom Intelligent, a way to develop the country

The classroom intelligence system allows students to go beyond their curriculum. In essence, the system emphasizes the deep thinking and learning skills of students. Also, with school intelligence, interactions between students and smart school teachers have increased, which can lead to successful experiences between them. In this system, students are familiar with the importance of time and learn how to achieve their desires and needs in the shortest time using communication technology.

The more people and the community become familiar with the applications of technology and information in life, especially education, it can be hoped that smart schools will be more welcomed and people will be able to understand the importance of smart school development and contribute to the development of these schools; Therefore, schools can take advantage of this training method by creating the necessary platforms for smart classes.

CONCLUSION

One of the major features of IT that further reveals the need for expansion in education is the "power of all nose" or its pervasive vision. It is natural that the education of any country will take the basic steps in human resource training. But what is important in these tutorials is the awareness of the purpose of proper education and decisions. Knowing the goals is itself a kind of knowledge, and decision making requires accurate, accurate and reliable information. The value of each decision depends on the amount of awareness and profit of the decision. Now, if the best and most essential information to be aware of the purpose and ultimately the decision to make the decision can be made, it is natural that the decisions made on the basis of tact and awareness are the least possible disadvantages. This is the right way is nothing but IT. Therefore, education, which has the heavy mission of student education and their nurturing, requires almost more useful, reliable and appropriate information than any other organization; Because it can be said that in the country, there is almost no family that is not involved in education issues in more than half of its life. While this figure is not comparable to other organizations.

As a result, the potential IT capabilities and capabilities can be effective in solving many of the problems of education or at least modifying and reducing them. The present age of the era of change from industrial society has been dubbed the post-industrial society or the information society, natural that information, knowledge, and knowledge are the most fundamental assets for human beings and human societies. The growth and expansion of information and communication technology (ICT) in today's society has accelerated that it is considered as the most important developmental indicator for developing countries, and believe that the present age will be a different world that leads to technology. The information will be provided.

The important feature of the phenomenon of information technology is that it makes human relationships with human beings as well as human beings facilitated and upgraded. Information technology is one of the most dynamic and controversial disciplines in science and technology because of its evolution and power it has a great impact on educational, cultural, economic, national security, worldwide and modification of traditional information problems. Of course, it should not be overlooked that IT technology (IT) because of its specific features has many capabilities to transfer knowledge, facilitate communication and interactions, and accelerate the growing process of knowledge development and knowledge development. There is information that all of this is possible if this phenomenon is used properly.

It is not covered by experts that the dynamics of various educational methods and their reliance on scientific and calculated basis have a major impact on the development of learning and enhancing the level of graduate learning, and this requires the efforts of experts and experts in this field to formulate and design and apply. It is new methods. Today, every human person has to use new findings. Since our schools are also trained for the future, and the contents and content of the books change each year, this is a necessity, namely the use of new, new and efficient practices. One of the most important problems in the education system, especially in our country, is not to use new teaching methods in education. Provide the right communication so that it always has logical thinking. What is stated in this article is a brief and brief look at

the new methods of teaching in Persian literature, including learning through cooperation, playwriting, group discussion, a pattern of innovation or innovation, a brain attack method, an inductive thinking model. Hoping will be of interest to the teachers.

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