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A Study of the Role of Teacher in Effectiveness of E-learning through Virtual Classroom

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Abstract

The advent of technology has revolutionized the education landscape, giving rise to innovative teaching methods such as E-learning through Virtual Classrooms (VC). This study aims to explore and analyze the crucial role of teachers in shaping the effectiveness of E-learning experiences within a virtual classroom setting.

The research employs a mixed-methods approach, combining quantitative surveys and qualitative interviews to gather comprehensive data from both teachers and students engaged in E-learning through virtual classrooms. The study investigates various facets of the teacher's role, including instructional strategies, communication skills, adaptability, and technical proficiency in utilizing virtual tools

Keywords: E-Learning, Learning Management System, Teaching Tool, Learning Styles, Teaching Methodology, Consensus Measure

Introduction:

In the current times, e-learning has gradually started to dominate the education sector. Its discovery in India is late and slow, but as the situation in economics is known as take-off, the possibility of e-learning also taking off has increased in the next two to three years. Take-off is a situation in which the element under study becomes strong enough to move forward spontaneously. By giving the aircraft a desired speed on the runway, the pilot simultaneously feeds the engine enough fuel that the power generated by it pushes the air along the runway at a linear speed. Here the aircraft moves through the air under its own power. Something similar is likely to happen in India for e-learning in the near future. This has already happened in Western countries and Eastern countries like Japan. Thus, e-learning has started to emerge as a very influential factor, it did not happen suddenly.

The history of scientific discoveries shows that many improvements have been made over time on a small original discovery. Most research is an improvement on older research. Hence, even though the brilliance of e-learning catches our eye, it becomes necessary to know how education has reached this point. E-learning also nurtures the concept of original educational technology. We will look at the sequence of these developments so that the basic concept of educational technology and e-learning as part of it can be understood. This same understanding will guide us in understanding the fundamentals of e-learning and other future developments in educational technology.

Information technology has developed tremendously in the late twentieth century. The e-suffix has become very popular. 'E' stands for electronics; the constant changes in science have a direct impact on human life. A computer is an electronic device. Computers are connected to each other to form a network. Such a network is called the Internet. The concept that learning can be done with the help of information technology through computers can be called e-learning.

E-learning means learning with the help of electronic equipment, but in the popular sense, e-learning means learning through a network with the help of computers. E-Learning needs more clarifying definitions. "A method of study in which electronics involves the use of equipment and procedures. Web-based learning involves the use of computer-based learning, virtual classrooms, and digital technologies, including the presentation of content over the Internet, intranets, extranets, (lane-ven) audio, video, tapes, satellite broadcasts, interactive, TV. and CD occurs by."

The above definition makes e-learning broad. Understanding e-learning requires knowledge of information technology.

E-learning is a web-based learning process through virtual tools and technology. In which the student can study the study material presented on the particular website. Scientific institutions and non-formal education institutions develop dedicated websites for e-learning.

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Many online education institutions now conduct teaching and testing within an e-learning education system.

In an e-learning system, educational institutions present the learning material on their websites either sequentially or simultaneously at specific intervals. Some institutions offer education through Internet-based video or audio conferencing or through virtual classrooms. Generally, the e-learning process involves connecting students from geographically different locations. However, a system for e-learning also exists using a local computer network system. Many scholars believe that it can be done.

Concept of e-learning

E-learning is...

"Anyone can learn anywhere, any time. In short, e-learning means... "Anyone, anywhere and anything can learn." If we look at each word separately...

Anyone

Knowledge is universal and for all, but learning in systems education is a big question for all. Anyone can learn through e-learning. Can tell at a convenient time.

Anywhere

Schools and colleges are shrines of learning and one who wants to study has to go to a branch or a college, but e-learning can happen anywhere.

Anytime

Schools and colleges have specific timings for education and study has to be done during those times, while e-learning can be done at any time.

Characteristics of E-Learning

- 1) Computer, computer network / Internet is used in e-learning.
- 2) Presentation of subject matter is done through visual means.
- 3) Student can study from any place if internet is used.
- 4) Student can also study offline by storing the study material in his computer or virtual device.
- 5) All students can study together or in other cases individually if video or audio conferencing is used.
- 6) Social networking systems are used to conduct video or audio conferencing.
- 7) Study can also be done using smart phone instead of computer.
- 8) This mostly involves no direct interaction between teachers and students.
- 9) A large number of students can do it simultaneously.
- 10) Student can also use during free time.
- 11) E-learning is characterized by the existence of planning and advance preparation of minute details.
- 12) Any required new information or points can be added very quickly in e-learning once the study material is ready.
- 13) Study material can be created by any expert.

Benefits of e-learning

The benefits of e-learning can be highlighted as follows:

Teacher:

(1) Diversity in teaching material: A computer software that is more dynamic than a textbook allows the teacher to diversify the teaching material as it displays the curriculum or content according to its appropriate characteristics.

(2) Development of Teaching Materials: Can develop teaching materials using global resources. With the help of computers, information is available on a global scale, so teaching materials are developed.

(3) Collection of Information: The teacher can view all the information available in the computer at any place, at any time, and can store the necessary material for class teaching on CD. Which can be used anytime as needed.

(4) Recording of interactions: The teacher can record the interactions during the classroom through the computer. Can be used again as needed.

(5) Cost reduction: Unnecessary travel and expenses for in-service training can be controlled.

(6) Effective Representation: Effective presentation can be made due to the information quality of the content. Some additional information is obtained apart from the textbook.

(7) Good age of teacher: As the information is widely received, a good impression of the teacher can be created. Can make effective presentations. Can use diagrams, charts, maps etc.

(8) Clarity of content: A teacher can explain the content well. The information gets huge.

(9) Advantage of expert teachers: The students of the country and abroad can benefit from their knowledge by having the teaching work done by expert teachers and subject experts.

Student:

(1) Self Study: A student can self-study at his/her own convenient time. Can use anytime at home. Self-learning habits are developed.

(2) Act according to motion: A student can work at his own pace. Can work at convenient times. Individual differences are met.

(3) Saving in time and cost: Unnecessary time is not wasted, and cost is saved. No extra cost is required.

(4) Access to information: A wide range of information is available to the student. A student can also get the necessary information by doing self-study. World class information can be accessed on computer.

(5) Development of International Understanding: International understanding develops in the student. International information on computers is known, so the international spirit develops.

(6) Participate in global competition: If there is any competition on global basis then student can participate in it. Information is known internationally on computers.

(7) Increase in self-confidence: Information on the subject matter is abundant. Information can also be clarified. A good percentage is obtained, hence the confidence of the student increases.

(8) Vast Enlightenment: The student gets some additional vast information apart from the textbook. This increases his knowledge.

(9) Use of leisure time: A student can do self-study and get information anytime anywhere. Can use leisure time properly.

(10) Mastery of Information Technology: A student uses technology to obtain information, therefore mastering technology.

(11) Ease of use: Students can study at any time and from any place, hence ease of use.

(12) Function of Proxy: This system can be used effectively in the spare time in schools where the teachers have their homes.

(13) Freedom and Study: Students do not have to follow a rigid school schedule. So they can study free.

(14) Use of Multimedia: Multimedia and social networking systems can be used effectively for content presentation.

(15) Bulk Study Material: A huge amount of study material can be provided to the students.

(16) Study Material Flexibility: Study material is flexible. That means it can be easily modified as needed.

(17) Interactive Learning: Using approaches like CAL and CAI can provide opportunities for students to engage in interactive learning.

(18) Use of Virtual Classroom: In addition to CAI, virtual classrooms can use technologies such as audio conferencing and video conferencing to provide personalized learning experiences to students.

Limitation of E-Learning

The limitations of e-learning can be pointed out as follows:

(1) Expenditure arrangement: E-learning systems are expensive, requiring all students to own computers individually, and also incur significant costs to purchase or develop software for the same.

(2) Requirement of certain skills: It expects certain skills on the part of the students. Must have knowledge of driving. Not all students have the required knowledge. So not all students can use.

(3) Mechanical Process: The learning process becomes mechanical rather than lively. It works like a machine. The social process does not take place.

(4) Lack of social interaction: Education is a social process, but in such a system there is no social interaction between students and between students and the teacher. Works like a machine.

(5) Emphasis on Cognitive Purpose: It is helpful in achieving cognitive aspects of purpose, but not useful in developing emotional and psychophysical aspects. Emphasizes only certain purposes.

(6) Cost of repairs: The maintenance and upkeep of the computers and equipment used in it incurs certain periodical expenses, moreover, due to continuous innovations in the field of ICT, computers and other equipment once purchased become obsolete very quickly, so the student has to bear the cost of constant renewal.

(7) Need for physical convenience: Physical facilities are required to facilitate e-learning. A separate room has to be arranged for that. Equipment has to be installed.

(8) Unsuitable for weak students: This kind of system becomes useless for weak students. Weaker students have a slower pace of work. Cannot absorb knowledge quickly.

(9) Difficult to teach all subjects: Not every subject can be used with equal effectiveness to teach.

Review of Literature:

Swati Kirange (2021) A Comparative Study of E-learning Platforms and Associated Online Activities. E-learning provides an opportunity of skill development and knowledge gain from anywhere, anytime and anyplace. Schools and higher education institutes are facing closures due to the spread of the COVID-19. During this period a noticeable impact is observed in take up of digital learning by students and professionals. Now a day there is variety in e-learning platforms. These platforms can be a mobile app, video conferencing apps or LMS software. The purpose of this research is to study various activities performed in e-learning environment. This paper will present the comparative analysis of widely adopted e-learning platforms. This study would be beneficial for educationalist while adopting an online learning platform.

Yilmaz S., Erol İ.E (2019) presented a comparative content analysis of popular platforms preferred by universities in Turkey. The study as carried out to examine how online education is transformed into a more effective structure with the help of developing technologies. This study has determined that Augmented Reality and Virtual Reality make significant contributions to the instructor control, interaction and the experiential learning.

Samsuri, Nadzri and Rom (2014) A study on the student's perspective on the effectiveness of using e-learning the study mainly focuses on the utilization of e-learning methodologies while our study is more general on how students perceive e-learning effectiveness measured from the perspective of the e-learning environment and the available ICT support.

Research Methodology:

Objectives:

- Well, Describe What is E-learning?
- What is Advantage and Disadvantages of E-learning to the Student/Teacher.
- What is Virtual Classroom? Benefits and limitations of Virtual Classroom.
- What is the Role of Teacher's in Effectiveness of Virtual Classroom?

Virtual Classroom Meaning, Concept:

A group of students present geographically at the same place or at different places, teachers and an information technology-based system that interacts with education experts where the teaching learning process is done through multi-way live interaction can be called virtual classroom.

I.T. In based approach there is no interaction between teacher and student within any fixed four walls, but

teacher and student interact through computer network.

Both teacher and student do not meet directly, indirectly through computer network both can interact together.

Advantages of Virtual Classroom:

The advantages of virtual classroom can be highlighted as follows.

(1) A large area consisting of: A virtual classroom covers a large area. Large area can be covered with internet based network and satellite area network.

(2) Benefit to an expert: Within the virtual classroom, expert persons are benefited, subject-wise different persons can be invited to lecture in the virtual class.

(3) Incorporation of a greater number: Larger numbers can be accommodated within virtual classrooms as they include a larger area. A greater number of students can benefit from virtual classrooms.

(4) Quiz programme: Questions can be asked in between while the virtual class is in progress. A quiz program can be conducted between the teacher and the student. If there is any question regarding the subject matter, the question can be asked.

(5) Direct Exchange: A teacher can be seen in a virtual classroom. Exchange can be done by direct questioning.

(6) The content may be clarified: As questions can be asked in between when necessary, the subject matter can be clarified. A student can ask questions if he does not understand.

(7) Use of modern technology: Modern technology is used inside the virtual classroom. Technology can be leveraged.

(8) Self-study work: By recording the discussion presented in the virtual classroom, students can use it whenever needed. A student can self-study if he wants to.

(9) Increase in self-confidence: Which is the knowledge gained in that unit and can get information by asking questions in between so students' confidence increases.

(10) Problem Solving: If students have any problem they can solve the problem by asking questions in between. Content information is clarified.

(11) Knowledge of new technology: New techniques are learned in the virtual classroom. Different techniques are used. Students become familiar with it.

Limitations of Virtual Classroom:

Despite some advantages of virtual classroom, it has some limitations which can be mentioned below.

(1) More expensive: The new tactic of virtual classrooms is more expensive. Installing equipment in classrooms costs more. Internet also has to be connected.

(2) Cost of repairs: The equipment is more expensive as well as the cost of repairs and the cost of connecting to the internet.

(3) Issues of Internet: Internet connection is required for virtual classroom. Virtual classes are not used if

there is no internet. Often the internet is slow or rural areas pose more problems.

(4) Question of rural areas: Virtual classroom facilities require physical facilities. Lack of physical facilities is seen when school conditions are poor in rural areas. Internet connection is also not working properly.

(5) Inaction of the teacher: It is not used if the teacher is inactive. As the responsibility of the teacher increases, it avoids using it. Some teachers do not use because they are lazy.

(6) Lack of physical facilities: Physical facilities should be provided in the school. It is not possible to run if there is no physical facility. In particular, there is a lack of physical amenities in rural areas. The seating arrangement is also not found suitable.

(7) Lack of virtual classroom environment: The environment for virtual classroom arrangements has not yet been created. Students are not used to learning this way. Even the teacher is not ready to create the atmosphere.

(8) Less interest to the governing body: The governing body is less interested in virtual classroom arrangements. Not ready to create physical facilities. Internet connection is not ready. Not willing to create financial burden.

Role of Teacher's in Effectiveness of Virtual Classroom:

(1) Arrangement of physical amenities: Physical facilities should be arranged in the class. Seating arrangement, internet connection has to be taken. Equipment for virtual classrooms has to be installed.

(2) Assistance of experts: For the teaching work in the virtual class, one has to select the teacher according to the subject, contact him, tell the date, time, unit etc.

(3) Teacher Preparation: A teacher has to prepare more. Other teacher selection, seating arrangement, unit selection, date, time etc. have to be decided. If a teacher comes from Bahar, he has to be welcomed.

(4) Art of the student: The teacher has to act keeping in mind the level of the student of the class. If there are middle type students in the class, then the program should be done accordingly. If another outside teacher is to be taken advantage of, he has to be informed.

(5) Seating arrangement: The seating arrangement should be properly arranged for working in the study class. There should be a seating arrangement in such a way that all students can see, ask questions.

(6) Planning in Advance: To do the teaching work in the study class, one has to plan in advance, select another teacher, date, time etc., get information about the unit to be discussed in advance.

(7) Informing the student in advance: Using a study class requires students to be notified in advance for work, so that the student is not absent that day. Date, time should be mentioned.

Finding

The findings of this study aim to contribute to the existing body of knowledge on E-learning by shedding light on the critical role teachers play in ensuring its success. The research outcomes will provide practical recommendations for teacher

training programs, educational institutions, and policymakers seeking to optimize the effectiveness of E-learning through virtual classrooms. Ultimately, understanding and enhancing the teacher's role in this context will contribute to the ongoing improvement of virtual education methodologies, fostering a more engaging and productive learning environment for students in the digital age

Conclusion

This paper provides a comprehensive exploration of e-learning and the role of teachers in the effectiveness of virtual classrooms. E-learning, facilitated by advancements in information technology, has emerged as a significant component of modern education, offering flexibility, accessibility, and a wide range of resources to both students and teachers. The study elucidates the concept of e-learning, highlighting its characteristics, benefits, and limitations. It also delves into the notion of virtual classrooms, detailing their advantages and challenges.

Moreover, the paper underscores the pivotal role of teachers in the success of virtual classrooms. Teachers play a crucial part in not only implementing virtual learning environments but also in preparing materials, facilitating interactions, and ensuring effective communication. The paper emphasizes the importance of adequate infrastructure, teacher preparedness, and proactive planning to optimize the benefits of virtual classrooms.

Overall, the findings underscore the transformative potential of e-learning and virtual classrooms in modern education. However, it also acknowledges the need for addressing challenges such as infrastructure limitations, teacher training, and equitable access to technology. By recognizing the multifaceted nature of e-learning and the essential role of teachers, this study provides valuable insights for educators, policymakers, and stakeholders seeking to harness the potential of digital education for enhanced learning outcomes.

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Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper

References:

1. Samsuri, N. N., Nadzri, F. A., & Rom, K. B. M. (2014). A study on the student's perspective on the effectiveness of using e-learning. *Procedia-Social and Behavioral Sciences*, 123, 139-144.
2. Yılmaz S., Erol İ.E (2019), Comparison of the Online Education Platforms, and Innovative Solution Proposals.Communication and Technology Congress – CTC
3. Swati Kirange (2021) A Comparative Study of E-learning Platforms and Associated online Activities
4. Arkorful, Valentina, and Nelly Abaidoo. "The role of e-learning, advantages and disadvantages of its adoption in higher education." *International Journal of Instructional Technology and Distance Learning* 12.1 (2015): 29–42.