

Perspectives, Challenges and Opportunities of E-Learning in Higher Education – A Brief Review

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ABSTRACT

Purpose: *In this developed world education plays an important role at all stages of an individual. From last one decade the education has been grown and advanced in the form of E-learning process. The advancement and usage of e-learning is varied from developing to developed countries. Today in this internet generation, the individuals including teachers and students are connected with various e-learning modes via worldwide internet connection, which makes e-learning process necessary in the field of learning and education. E-learning provides the formal and informal learning atmosphere which encourages the students and learners with live interaction. The recent studies also shows that the e-learning improves the self-assessment, teaching performance and participation of the students. This paper provides the descriptive review of different-learning methodology used in various applications.*

Methodology: *This comprehensive literature analysis includes more than 50 high-quality review articles, research papers, and case studies on e-learning and online education systems. The study takes into account both the teacher's and students' perspectives on the use of e-learning techniques.*

Findings/Result: *The idea behind empirical methods in e-learning was to better comprehend the complicated approach that is employed when it comes to teaching methodology over the internet. Many ways have been created to make this process competent, including on-the-job learning, in-class assignments, and team-based learning.*

Originality: *The e-learning process is still a multi-dimensional and sophisticated technique in terms of study. Although technical advancements have seized this field, research and regular case studies are still in short supply. It is necessary to comprehend topics such as the infrastructure utilised to produce technology, pedagogy, admirative supports, and social usage in order to implement the e-learning process.*

Paper Type: *Literature Review.*

Keywords: E-learning, Edu-tech, Student perspective, Teacher perspective, Higher Education

1. INTRODUCTION :

Education plays a vital role in the human life whether it is through virtual mode or physical mode, which is also one of the measures to find any countries growth. Learning and knowledge of is directly connected with the people perception which is also correlated to social and economic development [1]. From last one decade an advancement in technologies also impacted the education and learning process. At present the concept of learning are move towards the flipped classroom learning, which uses different communication technologies and useful for teacher and students [2]. There are various perspective and view of e-learning process with regards to teacher or students. Specially the concentration of e-learning is more focused towards the learning achievement of students with their expectation and experience [3]. The students experience and perspective are more important whole introducing the new learning or teaching approaches are introduced [4, 5]. In context of higher

education system e-learning process has grabbed an attention which owns the mode of achievement in learning, easy connectivity, technical support and distant education system [6, 7]. There are many factors which effect the e-learning process such as learner characteristics, family conditions, convenience and readiness of the learner. There is still big debate is going on whose is best face to face or online learning process, literature supports and gives equal weightage to both till date.

1.1. Students Perspective:

However, if we discuss about e-learning process, it provides broad range of way for effective learning for students, researcher and professionals, with the flexibility. Continues studies and research commemorate that e-learning is one of the important tools for both student and teachers in higher education system [8, 9]. The flexibility in learning process which provides biggest opportunity and utilization for student irrespective of the geographical location of the student [10]. E-learning system also increases the student enrolment worldwide for any courses which can be connected with global universities for discussion as well [11]. Another important element of e-learning is a drastic switch from traditional teaching learning process to online learning process which could also be economically feasible for many. Researcher also described that the e-learning process in higher education goes for long term with the effective cost and low maintain [1, 12].

1.2. Teachers Perspective:

Another strong pillar for proceeding e-learning process is tutors or trainer or teachers and their skills for handling online platform. Cultural and technological background plays an important to decide whether the teacher will be able to proceed effectively to prepare the content for e-learning platform [13, 14]. The teaching practices, training and technological development and self-efficiency skills make any teacher feasible for online learning platforms. Research related to teacher perspective says that, organization, instructional development and structural formation are not an easy task in e-learning process [15]. According to many researchers it also found the emotional dis-attachments between teacher and student during the online class. In spite of this many teachers are highly enthusiastic and approachable for adopting the e-learning process. According to them the e-learning process is not only a teacher-oriented education but also provides excellent learning and high order thinking for the students.

In this present literature review we will be providing the detailed and systematic research works which supports the e-learning process for higher education system. The technological improvement and advancement of learning and its beneficial and gaps from student and teachers' perspective will be presenting in this survey.

2. DISCUSSION OF RELATED WORK :

The development of technology increased the concept of distant education and learning with different names such as web-based learning, online learning, e-learning, flipped classroom, blended learning etc [16, 17].

In year 2003 and 2004, Floyd et al, and Koehler et al., respectively explained the detailed survey of implementing the internet dependent concept for all the process, including class, recruitment, training through online in most of the universities. The survey also explained that the online learning process will be drastically increases in corporate and education field [18, 19].

Meyen et al., in 2002 also explained survey towards the development of online learning and teaching process [20]. According to their studies the e-learning platform creates an atmosphere where learner is actively engaging and can access the materials at anytime from anywhere and can update their knowledge in the continuous manner [21].

According to Singh et al., in 2019, demonstrated the online learning process in asynchronous and synchronous manner by using different electronic gadgets such as laptops, mobiles etc [22]. The synchronous learning method is structured in the manner that students can attend live classes, session and live interaction between tutor and students. However, asynchronous learning is not structured in proper manner.

McBrien et al., in year 2009, explained the survey regarding the usage of different platforms used for the e-learning process [23]. The survey was done and analysed that the discussion during the online classes keeps the environment organic and also allows freedom to student for accessing the lectures as a recorded video whenever they required [24].

In 2009, Gonzalez et al., described the relationship between the e-learning with higher education [25]. The analysis also described the teacher’s perspective about the usage of technologies and tools for e-learning process. The conclusion says that, finding the beliefs of teachers towards the concept of e-learning in the developing countries was quite difficult, as due to mindset of different people and different settings.

Andersson, in 2010 also clarified and explained that the implementation of e-learning process in educational institutes in developing countries are excellent and reliable to proceed it further in the education sector [26]. But in general, many institute correlate this e-learning process with technological problems and expensive. According to the results found in these studies, this is the major reason which restricts developing countries to implement this method in fast pace.

Maconnel et al, explain the same perspective of e-learning implemented in UK [27]. The concept of studies was to understand whether the students position after gone through e-learning process are quite better than the others. But the studies were having contradict with the Chinese research studies. This might be due to lecture method and implemented tools for the e-learning process

In year 2020, Mavri, described about the barriers among the higher education for adopting the e-learning process [28]. The results demonstrated the “same place and same time” concept which is still active in most of the educational institute. The authors argued for the teachers centred which was approach and suggested the regular and strict assessment to implement e-learning in the broad way.

Research done by Forsyth et al, in 2010 explained their survey done in Sydney among teachers and students who presented their thoughts towards the technological development in educations [29]. They have concentrated and proved that the centralised system and coordination of e-learning is completely valid and effective. Some student might feel the system isolated but majority are confident and expressed their commitments towards e-learning process.

In year 2009, Mapuva et al., also described the obstacles and hurdles related to the applying and implementing e-learning process in higher education system [30]. The results also explained that the change in working pattern with adopting the technologies affects teachers.

Hiltz et al, in 2005, has shown lots of positive remarks and believed that e-learning process is a best substitute for the traditional teaching learning process [31]. They also explained that the implementation of new technologies always has some disruption at the initial stage. Results and survey from this particular studies clearly warned the Universities that, if they fail to implement e-learning process soon, they will face danger towards the ranking and fall behind in technological development. Mangan et al, in 2001, described that the e-learning and distance learning is always come s as a combination [32]. The study supported the technology and increased market demand to eclipsed the ability of institutions. The apparent study and literature expressed the collective response and instructional delivery of e-learning services.

In year 2001, Young et al., described the inside knowledge of e-learning process, within the specific organization which builds on intranet and internet usability [33]. The studies described that the e-learning process, shows the accountability, opportunity and accessibility. The studies proves that the e-learning process allows organization and individual for eliminating distance, barrier of schedule and socio-economic and support long term learning.

Table 1: Summary of Reviewed Literature

S. No.	Summary	Focus	Reference
1	The role of e-learning in higher education, as well as its benefits and drawbacks.	It examines the many academics' definitions of e-learning, as well as the function that e-learning plays in higher educational institutions in terms of teaching and learning processes, as well as the benefits and drawbacks of its acceptance and implementation.	Young, K. (2001). [34]
2	Some organisational perspectives on campus-wide e-learning—critical success elements for e-learning and institutional transformation	This study provides a brief overview of educational technology advances before identifying crucial success elements for e-learning from the perspective of six UK higher education institutions.	White, S. (2007). [35]

3	The Student Experience of E-learning in Higher Education: A Review of the Literature	This article examines the student experience with e-learning in higher education in order to highlight topics that should be researched further. The emotionality of the student experience and a worry about time and time management are two common characteristics in the student's e-learning experience that this review underlines and proposes implications for practice.	Sharpe, R. & Benfield, G. (2005). [36]
4	Challenges of E-Learning System Adoption in Jordan Higher Education	The goal of this study is to describe and examine the underlying challenges and problems in e-learning adoption, as well as the benefits, drawbacks, and risks Jordan Higher Education faces.	Alkhawaja, M. I., & Halim, M. S. B. A. (2019). [37]
5	Designing and Evaluating E-Learning in Higher Education: A Review and Recommendations	This article focuses on issues related to online course design and delivery, propose a framework for dealing with the institutional, technological, and student challenges that must all be addressed at the same time in order for online courses to be successful.	Tham, C. M., & Werner, J. M. (2005). [38]
6	Students' Experiences of e-Learning in Higher Education	The purpose of this study is to provide an overview of the extent to which e-learning is employed in higher education, as well as to investigate e-learning from the perspectives of students and teachers. It also provides a quick overview of the current state of e-learning, which employs interactive technology to promote learning.	Ayu,M. (2020). [39]
7	Use of e-learning at higher educational institutions in Bangladesh: Opportunities and challenges	According to this report, the majority of students are really excited about online courses. They are eager to communicate and participate in online platforms, which are constrained in traditional classroom settings. However, there are a number of institutional, administrative, and technical barriers to e-learning implementation.	Sarker, M. F. H., et al. (2019). [40]
8	E-learning: research and applications	A framework for success with e-learning has been built based on an understanding of the relevance of information systems and attempts to ensure that professors utilize technology, as well as a recognition of the marketplace.	Gunasekaran, A., McNeil, R. D., & Shaul, D. (2002). [41]
9	Sustainability factors for e-learning initiatives	The obstacles that 'grassroots' e-learning projects encounter in becoming sustainable are examined in this research. A multi-institutional study focused on local initiatives rather than those directed from the top down. A number of effective e-learning innovations have been identified, many of which were inspired by talented teachers looking for solutions to real-world educational issues.	Gunn,C. (2010). [42]
10	E-learning challenges faced by academics in higher education	This paper also examines University's usage of e-learning technology and some of the issues they confront. Finally, this paper	Islam, N., Beer, M., &

		identifies gaps in the e-learning literature and advocates for additional research on the topic.	Slack, F. (2015). [43]
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3. OBJECTIVES OF THE REVIEW :

- (1) To understand the usage and implementation of e-learning process in higher education sector.
- (2) To understand technological advancement, implementation and future of e-learning technique in education sector.
- (3) To identify the best practices and challenges related to teachers' perspective for adopting the process.
- (4) To identify student learning process, interest and feasibility of e-learning process.
- (5) To understand different methodology, samples and survey from literature which can be implemented for the proposed research work.

4. METHODOLOGY OF DATA/INFORMATION COLLECTION AND REVIEW :

This detailed literature review of more than 50 high quality review articles, research papers and various case studies on e-learning or online education system provide broad collection of data. The study also incorporates the teacher and student perspective individually towards the implementation of e-learning technique. There are several disadvantages in addition to advantages of e-learning process in higher education system. The detailed literature review and data analysis of various studies suggested different point of view for implementing e-learning process which can be highly useful and efficient for the proposed research work.

5. SIGNIFICANCE OF THE STUDY :

Technological advancement in education sector in view of e-learning process has grabbed an attention of many industries and researchers [44, 45]. Therefore, the detailed literature review and case studies are focusing on e-learning process and implementation in higher education system. The adaptation, implementation, teacher and student perspective, advantages and disadvantages towards e-learning process in higher education are discussed in detail.

6. IMPACT OF RESEARCH :

E-learning process is also known as separate training due to implementation of emotionally supported system for separation learning even the idea of e-learning is very small. The e-learning technique is used to provide training, cooperation, preparing and utilization of various electronic devices towards the learning process of student. The e-learning method developed the critical thinking, easy understanding and other methods among students. The e-learning has impacted through three steps extraction and finding, filtering and sorting and finally conclusion. E-learning process have great impact on researchers and professional which allows the effectiveness, flexibility and solution at any stage. Explaining many parameters of e-learning process can deal with inspiration and reflection in order to utilize the effectiveness and enabled learning process [46].

7. KEY ISSUES AND CHALLENGES :

The present pandemic situation has shown the rapid growth in online learning/ e-learning and distance learning method during last two years. As it was the last option left during the pandemic for both educators and learners, which grabbed an attention especially through webinars and conferences. But still there are few challenges and hurdles in e-learning process [47].

(a) Perceptible Learning:

There are some groups of students who are good in visual learning in comparison to conventional classroom education. Therefore, the e-learning content with many media designed are improved the knowledge retention among that group. But unfortunately, this is not the common learning process, and many find it difficult and challenging to adapt this new approach.

(b) Lack of Conceptual Clarity:

The internet is vast source of knowledge from different providers. Student are so capable to explore any kind of knowledge and can access from any place. But there is no actual measure of the relevance of the information. There is another possibility known as "lost in internet", which gives a negative

impact on students. Therefore, still the debate between real time class and e-learning class is an important issue to get resolved [48].

(c) Decrease in Knowledge Remembrance:

Many e-learning subjects and courses which is structured in condensed matter including many junks of knowledge which is separated from required portion. This micro-learning process sometimes helps students to remember the things but the remembrance is very short term. Therefore, it is important to keep student busy with regular assessments [49].

(d) Reduced Intellectual and Critical Thinking:

The technological advancement in learning process enables students to do many works using many apps and online tools. But unfortunately, the intellectual and logical thinking is drastically reduced due to dependency on internet. The conceptual and critical learning is left behind by the use of e-learning process.

8. FINDINGS AND OBSERVATIONS :

The majority of research for finding the effectiveness of e-learning process concentrated on measuring the effectiveness using quantitative methods. The concept of empirical methods on e-learning method was to understand the complex technique used when it comes for teaching methodology on the online platform. There are many solutions such on job learning process, in class assignment and team-based learning are some approaches developed to make this process competence [50, 51]. The qualitative approach and analysis of teacher's participation and involvement in e-learning process shows three important strategies, that teacher's try to ignore in the substantial changes: (1) Finding the inappropriateness in e-learning content, which can give an excuse to teachers for proving the e-learning process faulty. From research it was also observed some teacher s to prefer the e-learning process but situation doesn't allow for it. (2) The unmodified content which makes the e-learning process more repetitive and less demanding. This practice also doesn't match with the upgradation of the technology. (3) Tutor are much concentrated towards the e-content which can be easily developed and modify. From the studies it has been observed that the quantitative and qualitative analysis of the teacher's perspective can define the applications based on lesson content on e-learning process. Self-assessment, quizzes and visual materials can increase the efficiency and motivation among the learners.

From different studies including the case studies and comparative survey, we have found that the success of e-learning process can also depends on how effectively any learner or students perform in comparison to traditional teaching method. Slowly as the -learning method is grasping the generation, making the face-to-face studies outdated. Therefore, it is also important to understand the critical thought process of learners to find the effectiveness of e-learning process in higher education system. There are certain factors such as interaction and continuous approach of practice which was also an important observation in many research work.

9. SCOPE FOR FURTHER STUDY :

The world is dedicated to the easy access with the usage of technology and same implies for learning and gaining information as well. It was old days when learning and education was only available around the four walls of school and colleges. In this digital arena, the learning process is completely open without any obstacles of place and time. The e-learning process has revolutionized the overall education system in addition to the economic growth. The process kept many factors aside such as background, knowledge level and time duration [52].

There are many scopes of e-learning process specifically in India [53, 54]:

(a) Online certification programmes which help to students to upgrade their skills in addition of regular class syllabus.

(b) The e-learning content is developed by certified trainer and tutors and institutes which provides large number of courses with different interest of students.

(c) It breaks a traditional brick of learning and provide an interaction globally on any topics. Tutors from different institute on the same course may give a flexibility to the student to choose as per their understanding level.

The implementation of e-learning process in higher education system also increased the opportunities among the learners:

(a) Master in business courses through the e-learning process provides a flexibility and professional expertise. This also provides a global opportunity for the learners to get excellent knowledge in business analysis.

(b) Big data professionals is an another area which is great demand and needs a skilled development among learners. This a great opportunity for working people, to upgrade their knowledge and skills to improve their job profile.

Learn from anywhere with your pace, learn the course which is in demand, reducing cost on infrastructure, centralized virtual learning and secured virtual environment.

10. IDENTIFIED RESEARCH GAP :

As a research area, e-learning process is still a multi-dimensional and complex methodology. The technological development might have grabbed this area, but still the research and regular case studies are in minimal quantity. To implement the e-learning process, it is important to understand areas such as: Infrastructure used to develop technology, pedagogy, admirative supports and social usage. Many of the research on e-learning process represents only the short case studies and lack of evidence on advantages. This process also has restriction in design and repetitive content for specific learning courses. There is huge lack of evidence which proofs the great future of e-learning for the higher education system [55, 56].

Many research work on e-learning process demonstrated only the micro level perspective which can also be known as local advantages. There is only limited research is available on meso and macro level implementations. In spite of many advancements in technologies, it is still hard to find the effect of e-learning on students and teachers which is big reasonable debate. Huge number of works might have been done in area of monitoring and evaluation technique of students but still the process cannot decide the student's level of understanding. Many more work is also required to understand and solution to cut the cost effectiveness of the e-learning process.

11. CONCLUSION :

This study summarizes the overall technological development towards the usage, implementation and hurdles of e-learning process in higher education system. It shows that the discourse of e-learning method and its related survey and studies are currently is in boom. The studies and refereed data were concentrated on teachers and students' perspective at a time. The case studies on teachers' perspective demonstrated the knowledge level, confidence, technological adoption and comfort level of the teachers. The literature survey also defines the existing obstacles towards the implementation of e-learning process. The overall studies describe that, the internet connectivity, student with required gadgets, established e-learning policy are some important requirements to speed up this method. However, this process of learning is having great and positive future.

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