
E-Learning and Its Impact on Students and Their Learning Styles

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Abstract: Electronic learning (e-Learning) is the most advance and modern method of teaching and learning process. In this process teachers and students both are involved virtually and synchronize accordingly in order to deliver the knowledge full content. These days due to COVID-19, life was stuck somewhere in every family, every school / college but then e-learning was the only medium to teach students with safety at home. In this paper, a brief discussion is done on concept of e-learning and a survey has been done in nearby society where students from middle class and lower class families lives. In future as use of technology is keep increasing, more and more education methods will be required to uplift the lower class families by supporting them and dealing with them in knowledge full way.

Keywords: Academics, e-Learning, Styles, Types of e-Learning, Education system, Content, Covid-19 Guidelines.

INTRODUCTION

Teaching is an integrated process of transferring knowledge and experience from well expert personalities that is 'teacher' to the less matured such as 'students'. Teaching is an art as well as science and it is integral combination of small steps for a period of time. The academic teaching is conducted according to curriculum and evaluation rules with a fixed time periods say six months or one year. In some courses, the time period is fixed and differ as the course vary. In recent years, lot of attention has been given to the technology based education system. The main focus in e-learning concept is that e-learning vanished the gap and distance and eliminates the classroom noise and other disturbing elements. E-learning material is arranged in the format of media based representation. E-learning platform and space is becoming vast and wider now. Its use and adoption of this method is increasing everyday passing day [1].

There are different learning styles depending upon each and every student because, thinking and learning styles cannot be same in different students. Here comes the concept of individual differences among students. Individual differences may be defined as the differences that lies in between different students in terms of learning styles, creativity, scores, grasping power, IQ, pronunciation, writing styles, and many other differences in individual students [2].

Concept Of E-Learning

It stands for electronic learning. It is a concept of learning useful and knowledgeable content electronically. Some kind of electronic medium is used in e-learning process, such as laptop, computer, mobile phone etc. there are few contents that are considered to be a part of e-learning. These components all together works as a single unit in process of E-Learning. Figure1 shows different types of contents that have been considered as important part of process of e-learning. A brief description is given about components of e-learning.

- Expertise is one of the most dominant part of e-learning because, an expertise is always required to deliver knowledgeable content. E-learning is a process that is conducted professionally and that's why, an expertise is always required to control and manage the delivery of content. Different subjects have different expertise. Special training is used to be given to students and teachers so that, use of technology can be done more efficiently with less time.
- Computer self-efficacy is one of the parameter that determines the ability of one self to do planning and preparation about how to deliver the content. It is defined as one's perception to take some action in order to complete a given task [3].

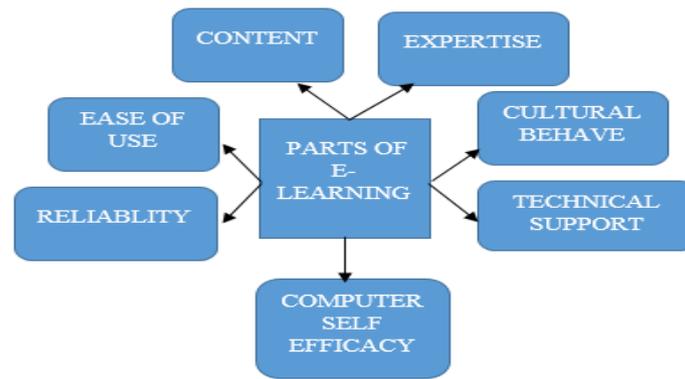


Fig.1: A typical e-Learning process

Each and every part plays a different role in process of e-learning, when all components work together, it gives a good impact on outcomes of e-learning process.

- Content is referred as the material that is core basics for any subject related lecture delivering and giving a presentation. Therefore, content should be in proper language and correctly organized for delivery. If the content is not sequenced properly, whole process may get disturbed. Content is well organized by a teacher before delivering it to pupil. Some researchers termed content as the training material and teaching aids. It is generally misunderstood by many of us that conversion of traditional content into digital form is e learning. This is not true at all, there is difference between e learning and converting traditional content into digital presentation.
- Technical support refers to the connectivity of internet/LAN with the medium used for e-learning. Internet connectivity facilitates the availability of data and contents to user. Sometimes, due to network problems, few students faces issues and leave the online session. Therefore, technical support is one the most important factor for e-learning process. Lack of internet connectivity or network issues may be proven as technical barrier in learning.
- Reliability in terms of technology is most important feature of e-learning because, if students does not feel and understand what is taught to them there will be no meaning of technology and e-learning. A system with low reliability may leads to slow learners or negative learners that may learn something wrong. Therefore, in e-learning process, high reliability is required.
- Cultural behave is considered as one of the necessary component that is required from expertise and students both. The behavior during e-learning should be fine and in accordance of culture so that, no violence and abusive words should be used by dictator or listener. In case if any on do so, complaint can be filled against that.

Modes Of E-Learning

E-Learning has its own mode in which different ways has been considered to execute the process of learning. There are different modes of e-learning such as:

- (a) Synchronous mode
- (b) Asynchronous mode

Synchronous mode of e learning is a time bound process in which teacher and students are supposed to be online at same time. It is also referred to as virtual meeting or online meeting. Some examples of synchronous e-learning are virtual classroom, webinars, chat, online conferencing and many more [4]. Nowadays, due to COVID-19 about 60% in all over the world, teachers and students learns and focus on concept of e-learning. Schools and colleges supported online system of education and examination very well. The final year examination of students used to be conducted online in which at a specific time instant, students have to be logged in at a given server.

Asynchronous mode of e-learning means learner centric approach in which, a learner can learn from online platform anytime. There is no time bounding for being online. A learner can take classes and lectures at any instance of time and just need a medium and internet connectivity. Any kind of pre-recorded lecture in the form of e-books, online lecture on a YouTube channel. Not only classes but, whole courses are available nowadays. Universities are offering online courses totally online. Students just need to enroll their selves to join the courses and after that the delivery of content will start. In asynchronous mode of e-learning, two or more parties need not to be online at same time. Its advantages are time independent and flexibility of use.

In order to understand the effect of e-learning and its consequences various surveys has been done and many observations says that, it depends on how people are aiming to use technology for education these days [5]. From studies, here a survey questionnaire is prepared and shared with samples.

LITERATURE SURVEY

Dr. S S Gautam et al. discussed about components and benefits of e-learning system. According to author, there are various components of e-learning such as course structure, usability, content engagement, page design and audience. Audience is considered to have some expectation, their job responsibilities, availability of hardware and course structure design is in accordance of logical modules and size of modules is considered. Author suggested some key points for page designing such as choice of color, ease of scanning information so that text does not hinder the learning process of user [6].

Sepher Ghazinoory et al. has presented different factors with ranking that affects e-learning outcomes. Author discussed about various components of e-learning such as content, ease of learning, technical support, reliability and many more. Author has conducted a survey case study is based upon the reliability factor analysis and regression results. Author has calculated the impact of each parameter on the learning process. In this research work, author has presented a comparison between ranking using two different techniques that are PCA & LMS technique [3].

Said S. Salloum et al. presented a research paper in which, students have been explored for the acceptance of phenomenon of e-learning and their development of a comprehensive technology based model. Author discussed about e-learning, TAM PLS-SEM technology and described a technology acceptance model. In this paper, author gave tabular form data about, searches across databases, and most commonly used external factors across databases. During this, research work, author calculated, system quality, content quality, subject norms, information quality, computer self-efficacy, perceive enjoyment and many more other factors has been analyzed [7].

Alina Zapalska et al. discussed about learning styles and online education in her research work. Author has defined different learning styles & VARK has been identified as learning style during online education and e-learning. Different characteristic of learners has been shared in tabular form such as visual, random, perceptual, cognitive, analytic, behavioral, concrete, auditory and imaginative and many more. Author discussed about its application and analysis and various teaching strategies that should be used in online education system. According to author, different type of learners should be dealt with different specific strategies. Some techniques for online learnings has been mentioned by author in this research work [8].

Abdul Rahman al Zehrani et al. conducted a research in which main focus is on flipped classroom and foster creative thinking. In this research work, author discussed about various kind of approaches of study of creativity such as mystical, pragmatic, psychodynamic, psychometric, cognitive and social personality, evolutionary and confluence. Author discussed about the characteristics of these approaches and main focus is on two aspects that are impact of flipped classrooms on creative thinking of students/learners and their views about implementation of flipped classroom in terms of general impact and perception [9].

METHODOLOGY

A survey has been done in which, 70 people took participation (parents only), out of total sample (n=70) there were (30 males and 40 females) i.e. 30M & 40F. On an average 2-3 children are there in each couple who are students from 4th class till up to 12th class. No. of students (m=140) A questionnaire has been shared with them asking about how many subjects are being studied by e-learning and online classes, this questionnaire determines many factors like awareness of online classes and e-learning, availability of technical facilities and some basic knowledge regarding whole setup of joining online meeting and joining of class. As shown in Table 1, a large no. of sample (n) participated in this questionnaire from different age group. Following are the data that is received from this survey. In this survey it has been noticed that not only students and teachers but parents also play important role in facilitating the e-learning platforms to their wards. A group discussion was also done with a no. of parents regarding whether they are able to provide their children a platform to study and learn online in period of COVID-19 (March-August).

Here are the age group of parents/couples and corresponding no. of males and females. Out of which, 80% of them are aware of online education concept and e-learning facility. Rest of the 20 % of the couples do not know about online education and e-learning, however they have provided smartphones to their children for facilitating internet connectivity.

Table 1: Age details of parents/couples

AGE GROUP	No. of males and females
20-30	25
31-40	30
41-50	15

To identify the details about how much students and parents are aware about e-learning, it is necessary to understand the compatibility of parents as well. so, age group is considered as an important factor for survey.

Interaction with students and distinguishing them on the basis of standard of class is done here is another table that represents data about no of students along with class and standard. The no. of subjects in the class and no. of online classes frequently attended in every week is given. Most of the students used common platforms for attending online classes and e-learning. These platforms are YouTube, Zoom, Google Meet, CISCO-WebEx. Working of e-learning platform is not much complex nowadays according to most of the parents? Some necessary things are asked to parents as well as students. Here are the details provided by no. of e-learners as shown in table 2&3. This data may vary from person to person and cannot be considered as a strong fact. Quality of Individual responses may depend on the thinking process of individuals (not only on parents but students as well). Therefore, any other survey may provide different data based on different questionnaire and samples.

RESULT

Among all the necessary things different responses has been received from different parents and students, some of them considered hardware as essential need where some other considered internet connectivity and pre knowledge with silence to focus on learning. These are received responses from majority of samples. The details are about no. of classes attended on different platforms on an average in a week. Students gave details about how much time they spend approximately for self-learning via e-learning. And 75% of collective samples agreed the statement that they are satisfied with e-learning and online education system.

Table 2: Different responses of samples about necessary things to setup

No. of parents	Responses(necessary things to setup e-learning)
20	Laptop/Computer/ Silence
35	Internet connectivity/ Wi-Fi/ separate room
15	Mobile phone application/ platform/basic knowledge

Table 3: Received responses of questionnaires form different students belongs to different schools/educational institutions

No. of students	Average Online class in a week	Online platform	Time spent in Self E-Learning / day (in hours)
30	18	Google meet	5
45	15	WebEx	4
25	20	Google meet	2
20	14	Zoom	6
25	12	zoom	4.5

DISCUSSION

Most of the parents and students considered in survey, said that e-learning is the fastest growing education technique which helps not only students but parents' too getting awareness about how fast technology is changing. Virtual meetings can help parents that use to go office in the pandemic situation. Most of the schools and colleges, and other educational institutes widely using this technical way of educating students worldwide. In the group discussion with parents as a part of survey, it had been discussed that now, everything is getting being done online such as ticketing, booking a flight, online cooking classes, office meetings, studies, online courses and many more thousands of things are done online, then how far education system completely online, will be successful and beneficiary to their children. As a result, most of parents considered this technique as a good idea however, some of the couples considered that children learn discipline only in school. Their social behavior is affecting with this online education system and e-learning technique. Overall response of conducted survey was good and assumed as e-learning is beneficiary and advance way of getting knowledge and learning new things at home anytime.

Table 4: Some of advantages and disadvantages of e-learning/online education system

Advantages	Disadvantages
1. With e-learning, learning time is reduced.	1. Large amount of money is required to initialize e-learning system.
2. On demands any time availability of study content.	2. Technical issue is the most troubling factor across e-learning process.
3. Self-pacing for slow learners is one of the best feature of e-learning. Students learn how to join/mute online session.	3. Acceptance of cultural behavior is one of the behavioral problem faced by teachers and students.
4. Students gain confidence by use of technology in studies and become more technical friendly.	4. Mobility of computer and Wi-Fi including whole set up of e-learning is physical issue which is not feasible all the time.
5. Direct interaction with teacher for doubts clarification is increased as compared in traditional class.	5. Less social and physical interaction is one of the disadvantage that lacks in students.
6. Online study material in form of pdf or images can be shared.	6. Students who cannot afford e-learning, may lack in covering up the curriculum syllabus of course.

These are some common features that are faced by majority of users. Where there are many plus features of e-learning, few of the negative points has been considered as disadvantages among which technical issue is faced by most of the users.

CONCLUSION

From above study and survey details, it can be concluded that there are lot of advantages of e-learning and online education for students independent of their standard/class. Few disadvantages are also there, most of the students mentioned that technical issue is one of the difficult task that obstacle the e-learning. Otherwise, e-learning platform and concept is the most flexible and comfortable method of education and learnings. There is no rush to reach school on time. Students can login anytime for self-learning. Knowing and learning about technology can help not only students but parents too that belongs to early 90s.

From future perspective, e-learning can provide students many opportunities to learn about new emerging technologies and in special scenarios such as any accident, health issue, student can learn from home through e-learning that help them to cop up with other students. From online education system and e-learning, students can learn and grow very fast. Not only local regional teachers but international expert sessions and knowledge full seminars, webinars, presentations can be attended and even conducted by anyone. This technology facilitates the new platform for next generations in the sector of education and learning.

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