E-Learning: An Examination of History and Recent Literature

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Abstract- **In recent years, electronic learning or e-learning has gained wide acceptance. However, very little is known about its history and journey into its current form. The aim of this paper is to introduce the reader to the concept of e-learning, highlight what is known about its history, and examine previous studies on e-learning. At the end of the paper, the researchers have identified the existing research gap on the subject matter and have provided appropriate suggestions for future research as well..**

Key words: **E-learning, history, computers, previous studies**

I. INTRODUCTION

In the era of globalisation and information, electronic learning or e-learning is an attempt to hasten the process of receiving knowledge in a convenient and cost effective manner with the aid of modern electronic technology. The Cambridge Dictionary (2017) defines e-learning simply as "learning done by studying at home using computers and courses provided on the internet." An even more compact definition of the concept is provided by the McMillan Dictionary (2017), according to which e-learning is a combination of "methods of learning that involve the use of computers and the internet." Guri-Rosenblit in 2005 (as cited in Sangra et al., 2012), has defined e- learning as "the use of electronic media for a variety of learning purposes that range from add-on functions in conventional classrooms to full substitution for the face-to- face meetings by online encounters." The European University Association (2014) in one its studies has defined e-learning as "a generic expression for all learning involving the use of information and communication technologies (ICT) to support both learning and teaching." In other words, e-learning, as in the case of traditional methods of learning, is not a one way process involving the learner but also encompasses the role of teachers as well. The United Nations (2017) has called e-learning as "a cornerstone for building inclusive knowledge societies." This is because e-learning relies on modern electronic technology such as computers, that are now affordable to the common man and act as a catalyst for the spreading information at a faster pace than ever before in the history of mankind. The history of this remarkable revolution of learning has received very little attention from researchers.

II. THE HISTORY OF E-LEARNING

The history of e-learning has relatively short roots from what is known. Gogos (2013) has stated that the term e-learning was first used at a computer based training seminar in the year 1999. Gogos has gone to state that Issac Pitman in the mid 19th century used correspondence to teach shorthand to his students which was then a skill with a high marketplace value. During World War II, there was an urgent need to train new recruits quickly. This was the first instance where instruction media began to be used as a medium of instruction much before it was popularly employed in higher education. However, on the whole, it appears that it was in the field of higher education that the system of e-learning as a method began to be operational. After Pitman, it was Pressey, a professor of educational psychology at the Ohio State University, in the first half of the 20th century who developed a machine that resembled a typewriter and enabled students to answer multiple choice questions (Leerbeleving, 2017). As technology is a tool that requires controlled and productive channellisation for it to be useful to mankind, B.F. Skinner, a famed psychologist who is even today renowned for his experiments with rats and proved that behaviour could be reinforced through rewards and punishments, also developed a system of programmed instruction that was aimed at applying the same principle on human beings through his own teaching machine that followed a system of fill in the blanks that reinforced students when they answered correctly and punished them by having them study the answer to the same question again so as to improve their chance of receiving reinforcement the next time (Skinner, 1958). The invention of the personal computer in the year 1975, further extended the boundaries of e-learning that we witness today. Today, several universities in India as well as abroad offer a plethora of online courses.

Overall, it can be said that the origin and history of e-learning are field specific. Nicholoson (2007) has opined that in the field of industry, e-learning represents a just-in-time form of learning that is informal and is aimed at collaborative productivity. On the other hand, in higher education, e-learning is aimed at developing the meta-cognitive skills of students and ensuring that learning is reflective as well as collaborative. With the proliferation of gadgets such as smartphones on a large scale, e-learning has a strong hold and its future appears to be vibrant

III. PREVIOUS STUDIES ON E-LEARNING

Several studies have been conducted on e-learning. Some of the most recent and relevant ones that have examined the effectiveness of this method of learning as well as teaching are as follows: Chen and Lin (2002), through a study called 'factors affecting e-learning for achievement' selected a sample of 70 students studying a course titled 'computer networks and the internet' as a post graduate programme offered online by the National Sun-Yat-sen University in Taiwan. The researchers discovered that e-learning produced good learning achievement among students. Furthermore, it was found that study habits as well as class attendance had a positive and significant effect on the learning achievement of the students. It was also brought to light that the job factor had the highest influence on the success of the students with regard to web-based learning. This was followed by internet transmission speed and stability, diligence, and finally, instructor's online lecture delivery software. Davies and Graff (2005), through a study titled 'Performance in e-learning: online participation and student grades', wanted to look at the frequency of online interaction of 122 students pursuing their undergraduate degree and its impact on their grades. The researchers found that greater online interaction did not lead to significantly higher performance of the students for achieving passing grades. On the other hand, low interaction was found among those undergraduate students who failed their classes.

Keller and Cernerud (2006), conducted a study called 'Students' Perceptions of E- learning in University Education', so as to examine the perception of students with regard to e-learning at Jönköping University, Sweden. For the purpose of the study, the researchers selected a total of 150 students as sample for the study and asked the respondents to fill in a questionnaire with both open ended as well as close-ended questions. Multiple regression analysis was used and it was found that the strategy of implementing the e-learning system was the most influencing predictor among all the other variables with regard to the influencing the perception of the students on e-learning. However, it was also found

that the respondents did not regard the access to e-learning on campus as a benefit. Deghaidy and Nouby (2008), through a study titled 'Effectiveness of a blended e-learning cooperative approach in an Egyptian teacher education programme' so as to describe the results of a study that examined the effectiveness of a blended e-learning cooperative approach on pre-service teachers' achievement, attitudes towards e-learning and cooperativeness. A total of 26 pre-service teachers were selected as sample for the present study. The researchers discovered that those respondents who were in the experimental group had higher achievement levels as well as attitudes towards e-learning environment than those who were placed in a control group. Chandra and Lloyd (2008), conducted a study called 'The methodological nettle: ICT and student achievement', in order to examine the impact of information and communication technologies method of teaching on the achievement of students. The researchers used a combination of quantitative and qualitative methods and found that the method of teaching did improve the performance of the students in terms of test scores, among other findings. Lia (2008), carried out a study titled 'Investigating students' perceived satisfaction, behavioural intention, and effectiveness of e-learning: A case study of the Blackboard system', so as to investigate the satisfaction of the learners, their behavioural intentions, as well as the effectiveness of the blackboard e-learning system. A total of 424 students were selected as sample for the study and it was found that self efficacy plays an important role in determining the satisfaction of the students with regard to their satisfaction with the blackboard e-learning system. The researchers also noted that multimedia instruction, interactive learning activities, as well as the e-learning system quality, all play an important role in influencing the effectiveness of e-learning. Sun et al. (2008), conducted a study called 'What drives a successful e-learning? An empirical investigation of the critical factors influencing learner satisfaction', in order to discover the factors that play an important role in determining the satisfaction of students with respect to e-learning. The researchers conducted a survey and found that learner computer anxiety, instructor attitude toward e-learning, e-learning course flexibility, e-Learning course quality, perceived usefulness, perceived ease of use, as well as diversity in assessments important factors that helped determine the perceived satisfaction of learners. Svirko and Mellanby (2009), carried out a study titled 'Attitudes to e-learning, learning style and achievement in learning neuroanatomy by medical students' pursuing a computer aided learning course, in order to find out how successful an online course was at encouraging deep learning among students. The researchers selected a total of 205 a second year pre-clinical medical students as sample for the study

and found that the students were employing a low amount of deep approach learning. The researchers suggested increasing the clinical significance of the course to make it more enjoyable for the students. Paechter et al. (2010), conducted a study named 'Students' expectations of, and experiences in e-learning: Their relation to learning achievements and course satisfaction', and planned to find out the specific aspects of e-learning that were regarded by students to be important for learning achievements as well as satisfaction. For the purpose of the study, the researchers selected a total of 2,196 university students in Austria and employed multiple regression analysis as a statistical tool. The study revealed that the students' achievement goals were the best predictors of their success. Al-Saai et. al.(2011), through a study titled 'Effect of a Blended e-Learning Environment on Students' Achievement and Attitudes toward Using E-Learning in Teaching and Learning at the University Level', wanted to find out which among the two methods, that is, the blended e-learning method and the face to face traditional learning method had a greater impact on the achievement of students. A total of 43 female students were selected as sample for the study. The attitudes scale employed by the researchers indicated a significant difference in gain scores in favour of the blended e-learning method. Al-Qahtani and Higgins (2012), carried out a study called 'Effects of traditional, blended and e-learning on students' achievement in higher education', in order to examine and compare the impact of e-learning, blended learning, as well as classroom learning on students' achievement. The researchers used random sampling to selected 147 respondents for the study and found that there was a statistically significant difference between three types of teaching with respect to achievement. Specifically, the researchers found that the blended method of teaching had the best outcome but there was not a significant difference between the other two methods of teaching, that is, the traditional method and the e-learning method.

IV. RESEARCH GAP AND CONCLUSION

From a look at the previous studies on the subject matter, it is apparent there is a paucity of studies in the Indian context where the traditional system of learning is still going strong. Several studies have examined the blended method of learning which is not the same as a purely e-learning approach. Hence, it is suggested that there ought to be more studies that compare the effectiveness of a blended approach with an e-learning Furthermore, there is an urgent need to examine the relationship between e-learning and addiction to technology which has emerged as a serious challenge causing both mental and physical challenges to the youth. Thus, it can be stated that more than anything, the aim of teaching more and more

students in a fast paced yet less labour intensive manner combined with the computer revolution, has birthed the e-learning phenomenon which we witness today and will continue to do witness for decades to come.

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