STUDY ON EFFECT OF E-LEARNING PROCESS DURING COVID 19 PANDEMIC

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Abstract

The present study emphasizes the global impact of the e-learning process during COVID 19. The implementation of lockdown and social distancing has been enforced as one of the preventive measures to spread the coronavirus infection which has resulted in complete paralysis of global activities. Especially the education system which is completely shut and to proceed with the academic curriculum, there is a shift from the regular learning process to electronic learning. This can be cited with an increased number of online classes, conferences, meetings, etc. It can be noted that the world is completely dependent on information technologies during this crisis. Hence, the present study provides an insight into the process of electronic learning and its advantages along with the updated version of its usage. To the best of our knowledge, there have been scanty scientific reports on this particular situation of the impact of e-learning during COVID 19. The present study is a compilation of the components of e-learning tools along with the future perspective on education using information science.

Keywords: E-learning, COVID 19, Global platform, Google apps, online learning

1.1 Introduction

During the present pandemic crisis when the entire globe is sailing amid the storm, technology has played a pivotal role. Technological development and the internet have changed the lives of people immensely and have also brought a huge change in various fields (Nadikattu,2020). Especially in the education system E-learning has been found to be a significant tool for effectively continuing the teaching-learning process during the lockdown. The web has become one of the important mediums of learning that opens the door for people around the world to access education easily at free or lesser cost (Noor-Ul-amin, 2013). E-learning has fixed its root specially in the field of modern education. The need of modern learners is quite different and e-learning has been found beneficial for fulfilling their needs. The mediums of E-learning and principles of artificial intelligence are gradually gaining popularity in the world (Misko et al., 2004; Soni, 2020). It is providing a solution to the learners who are unable to access the traditional means of education due to the present pandemic situation. The

present paper is going to unfold the aspects and impact of various E-learning platforms that the educational institutes have been following globally in diverse fields during the pandemic crisis of COVID-19.

The COVID–19 pandemic has disrupted teaching in a variety of institutions, especially in colleges and schools. In many countries, the typical face-to-face classes had to be suspended to ensure the safety of students and lecturers. To minimize the impact of lockdown, schools and colleges had to enter into another approach to teach students. Fortunately, current technology enabled electronic learning (e-learning) to be the core method of teaching the curriculum during the COVID–19 pandemic.

Currently, online teaching is commonly used in the training of undergraduates—not as a sole method, but combined with the traditional teacher-led approach. The success of e-learning depends on many factors, including accessibility, usage of appropriate methods, course content, and assessment criteria. E-learning, like any method of teaching, has its advantages and disadvantages for both students and teachers.

1.2 Review of Literature

Education is one of the key factors in building a good nation (Baiyere et al., 2016). The outbreak of the COVID-19 virus has caused a sudden suspension of schools, colleges, universities and other government institutions. Amid these hard times, teachers have been utilising e-learning platforms to impart education to the students. E-learning refers to a learning system that is conducted via electronic media. It was first used in 1999 at a CBT systems seminar. It is also described as virtual or online learning. It offers a way to share reading materials using internet through emails, documents, presentations or webinars. IT has become an important part of modern education and it shows huge involvement of ICT in the present teaching-learning process (Anderson, 2005). Educators can share study materials and lectures in the form of PPT, PDF or Word document by uploading them on their respective university webpages, on whatsapp or through e-mails to maximum students during this lockdown. According to Felix, (2020), Lectures have been also taken through WeChat, by sharing audio-visual videos through e-mails, by different online teaching apps like Voov, Zoom, Superstar, g-suite cloud meeting and so on. The development in technologies has offered a favourable domain for teaching-learning processes. It offers teachers to change their pedagogical approaches. It enhances the teaching and learning procedures (Thamarana, 2016). The teachers can motivate students to enhance their learning skills through innovative ways. E-learning has brought a huge change in the traditional methods of teaching and learning. Due to ongoing of COVID-19 an increased number of students are found to use the learning platform and apps. Some of the platforms are already established like ED-TECH and cloud computing as they are available in reasonable prices and are easy to access (Naik, et al., 2017). Global-transition to online-education in Educational institutes during the pandemic crisis Since the outbreak of the COVID-19 virus, educational institutions from all around the world have migrated from the traditional methods of learning to imparting education through online means. The education system has been suddenly shifted from the conventional classroom environment to electronic

devices and online applications (Mnyanyi & Mbwette 2009) Most universities in India have asked the Professors and students to opt for e-learning platforms for educational purposes and to motivate students to study from their respective residents (Li, et al., 2013). The faculty members were urged to provide study materials in the form of PPT, PDFs or Word documents and other forms such as audio, videos to upload on online platforms. Most universities are uploading study materials on their respective university websites. In this pandemic situation, well-known companies like Google, Microsoft, Zoom and Slack have offered many features of their products that could be beneficial in the field of education for free to the educational institutes. According to the recorded report Microsoft team users were 750 as of 10th March but by 24th March it has risen up to 138698 which is indeed a significant growth. (OECD, 2020). Zoom has elevated the video calling time limits in Italy, Japan, US and China on request (Rani Molla, 2020). The world still demands much more access to Zoom and Google Meet communication solution facilities. Thus, globally there has been a huge and sudden change in the field of academia with the spread of the deadly COVID-19 virus. There has been a global transition to online methods of teaching and learning (Basilaia, et al., 2020). The conventional classroom atmosphere has been replaced by digital means to stop the spread of the virus and to ensure safety of the educators and learners.

1.3 Statement of problem

India is not as resourceful as other countries when it comes to infrastructure. This was a huge barrier for starting online education. Unlike most developed nations where universities had a well developed online teaching platform, Indian universities except a few had no solid knowledge on how to build an online education platform. The situation in Kerala was no different. Barring a few teachers who had indulged into online teaching before the pandemic, others were quite inexperienced in the workings of the online world. The same can be said about the students . Even though these millennials have access to the latest technology they too were sceptical about the effectiveness of online classes. Even though there were doubts this new age method of teaching was implemented in June of 2020 throughout Kerala. There were many obstacles after this. Internet connection and its stability was a major hindrance. Online education will not give the students a personal connection with their teachers. It was yet another predicament that had to be overcome. Online classes call for very attractive methods of presentation and considerable amount of preparation from the side of the teachers. It easy for an online class to be monotonous if not presented in the right way. These teachers have to be wary of this issue. Unlike the classroom atmosphere which provides the student a better environment for learning, online classes as it is attended in the confines of a student's bedroom may provide ample opportunities for being distracted. Some students don't have a quiet place at home where he or she can attend their online classes peacefully. Yet another issue will be regarding the study materials. Will the students be able to adapt to electronic media for reading their daily notes? Will the online mode of submitting assignments be too much to ask for from the students who have no prior experience in doing so? Most of the

problems mentioned above might have solutions but one question that is looming large is whether online teaching and learning be able to completely replace the conventional mode of education.

This study aims to find out how effective these new methods are. We are trying to find out the perception of students towards online learning. A few studies have suggested that online education and blended education (which is a combination of conventional education model and online system) has been effective but we have not had many studies that focus on the effectiveness of online education alone. Here we delve into the opinions of students regarding online classes in an attempt to establish the truth regarding the effectiveness of online classes.

1.4 Objectives

1.4.1   To reveal the various forms of online teaching-learning modes adopted during COVID-19 pandemic.

1.4.2   To study the perceptions of students on online teaching-learning during COVID-19 pandemic

1.4.3   To examine the challenges faced by students in adapting to the online teaching-learning process during COVID-19 pandemic.

1.5   Hypotheses

1.5.1   H1: The perceptions of students on online teaching-learning during COVID-19 pandemic are different

1.5.2   H1: The perceptions of students from different colleges on online teaching-learning during COVID-19 pandemic are different

1.5.3   H1: The challenges faced by students are varied among the three colleges.

1.6 Research Methodology

The researcher used both quantitative and qualitative data to study the perceptions of stakeholders based on the online teaching-learning process in HEIs during the lockdown period.
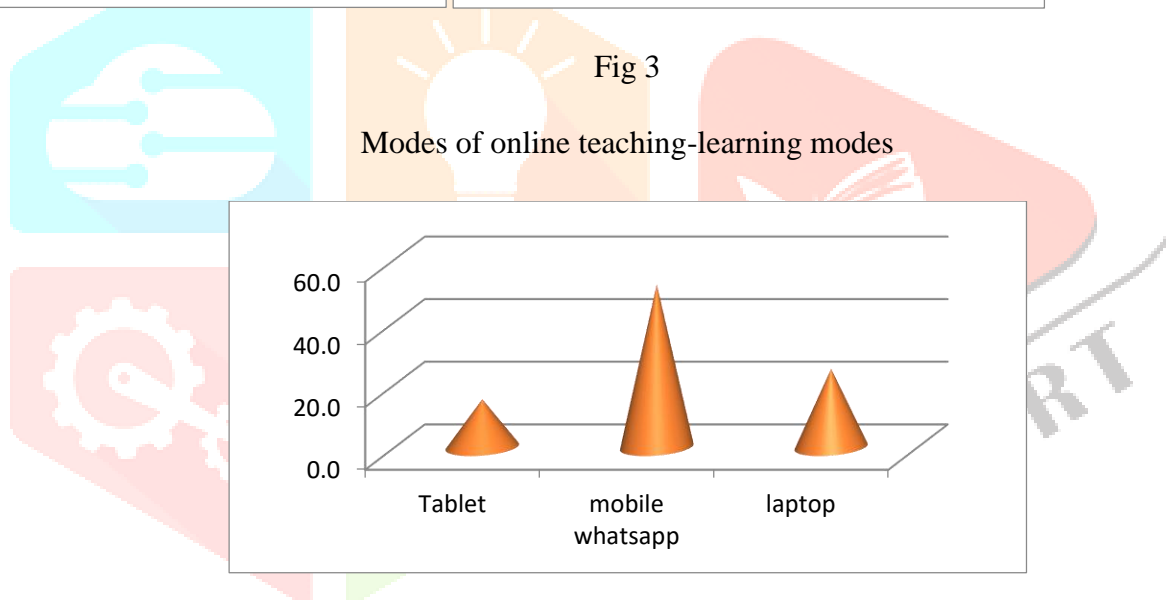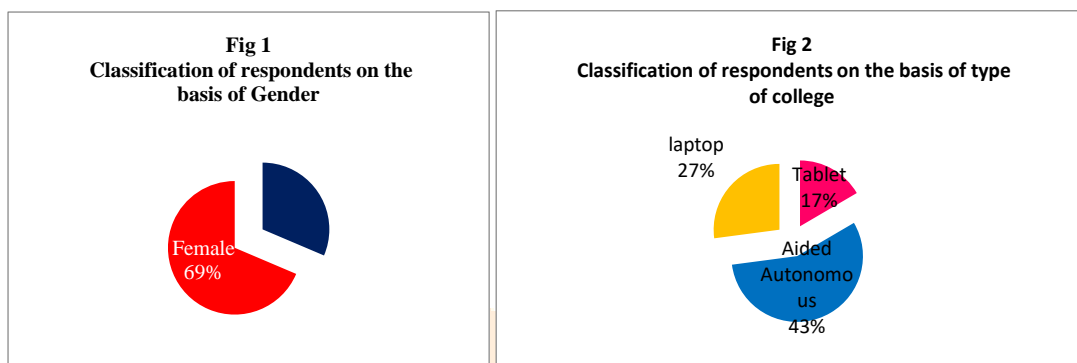
1.7 Population and sample

This study is delimited to Thrissur District in Kerala state. Purposive non-probability sampling method used for selection of sample units. This particular study includes samples from three popular colleges in Thrissur district in the state of Kerala. The three college that have been selected are Christ College (Autonomous), Irinjalakuda, Sahurdaya College (self-financing), Kodakara and Shri Achutha Menon College (Government), Kuttanellur**.** Due to this pandemic situation the survey was conducted by distributing an online questionnaire (Google form) to students Whatsapp groups. Here the completed 255 questionnaire constitute the sample size for the execution of data analysis. Thus, the total of 255 students participated as a sample in the survey to assess their perception towards online teaching-learning. Data gathered from the survey was analyzed with statistical software SPSS.

Part II

Data analysis and Findings

Both descriptive and inferential statistical tools used for data analysis. Descriptive Statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. To get the findings of objective one, researchers conducted a survey study in which percentage analyses have been done to reveal the different types of online teaching-learning modes adopted by the teachers and students during the lockdown period.

Fig 1
Classification of respondents on the basis of Gender

Female 69%

Fig 2
Classification of respondents on the basis of type of college

laptop 27%
Tablet 17%
Aided Autonomous 43%

Fig 3

Modes of online teaching-learning modes

The fig-3 shows that most of the students depend on their mobile phone for online teaching-learning.

Here an attempt is made to study the perceptions of students on online teaching-learning during COVID-19 pandemic. The content analysis of the questionnaire on the perception of students over online teaching-learning has been done. In order to analyse the perception level the researcher framed a hypothesis.

H1: The perceptions of students on online teaching-learning during COVID-19 pandemic are different

<table>
<tr><td colspan="11" align="center">Table 1-Independent Samples Test</td></tr>
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		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	**Sig.**	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total	Equal variances assumed	11.456	**.001**	-.615	253	**.539**	-.39821	.64784	-1.67406	.87764
	Equal variances not assumed			-.543	116.856	**.588**	-.39821	.73316	-1.85021	1.05378

The levene's t test for equality of variance among male and female respondents. The equality of variance is checked through SPSS, the result of analysis shows variance is not significant in the perceptions of students on online teaching-learning during COVID-19 pandemic. The P values are greater than the significance level of 0.05. Thus, the null hypothesis is accepted.

H1: The perceptions of students from different colleges on online teaching-learning during COVID-19 pandemic are different

<table>
<tr><td colspan="6" align="center">Table 2- ANOVA</td></tr>
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	Sum of Squares	df	Mean Square	**F**	**Sig.**
Between Groups	203.063	2	101.532	**4.540**	**.012**
Within Groups	5635.344	252	22.362		
Total	5838.408	254			

Table 2 portrays the details of the perceptions of students from different colleges on online teaching-learning during the lockdown period of COVID-19 outbreak. The P value is 0.012 which is less than the significance level of 0.05. Thus, the null hypothesis is rejected. The result of analysis shows that the variance is significant in the perceptions of students on online teaching-learning during COVID-19 pandemic.

Challenges of E-learning

Due to the pandemic crisis there has been a huge, disruptive shift from existing educational system to online education system. An online course requires detailed lesson plans to design good study materials. Certain challenges of online education include, lack of online teaching skills in educators, online preparation of lesson plans as it is very time-consuming, lack of appropriate support from the technical teams, and traffic overload in online educational platforms. Not only the teachers but the students are also facing challenges due to their deficiency of proper learning attitude, lack of suitable materials for learning, more involvement in classroom learning, incapability of self- discipline, and the inadequate learning environment at some of their homes during self-isolation (Brazendale, et al., 2017). In order to examine the challenges faced by students in adapting to the online teaching-learning process during COVID-19 pandemic. The researcher used one way ANOVA by framing the following hypothesis.

H1: The challenges faced by students are varied among the three colleges.

Table 3 ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.001	2	4.001	.106	.900
Within Groups	6356.011	168	37.833		
Total	6364.012	170			

The result of analysis shows variance is not significant on online teaching-learning during COVID-19 pandemic. The P value is 0.9 which is greater than the significance level of 0.05. Thus, the null hypothesis is accepted. It means that the challenges faced by students in adapting to the online teaching-learning process are same.

<center>

Part III

Findings, suggestions and conclusion

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This paper intended to study the perception of students on the online teaching-learning process during the COVID-19 lockdown period. While keeping the theoretical lens at the base the research provides varied perspectives on the challenges facing online teaching-learning today. New insights come to the forefront while understanding students' perceptions about the new trend.

- Some students reported a lack of interest and attention during the online classes as they were not accustomed of learning with smart phones and computers turned into the major setback for them.
- The major challenge while teaching online was the unstable network connection.

- It was perceived that some of the students had not essential resources to join online; here it appeared like pushing the digital divide further. So, the difficulties with online teaching were both technical and ideological.

- Most of the challenges were related to the students and their responses to the needs of online teaching, which include uninterrupted electricity connection, intermittent signal issues. Among others, level of understanding, lack of scope for meaningful interaction.

- It was found that teachers were unable to read the face and mood of students, and thus difficult to change the teaching pattern. Besides, a lack of motivation as immediate feedback was not possible in this online teaching-learning transition phase perceived by both teachers and students.

Suggestion

- Student's mental health should be taken into consideration and various suitable measures should be taken by the educators to relieve their mental stress and anxieties during the COVID-19 crisis, to ensure that the students could regularly, effectively and actively participate in their online learning sessions.

- Educators should enhance their knowledge and skills that is required for the maximum usage of technological devices, E-learning tools, educational apps and other online platforms like TV School, Online portals, Google Meet, Slack, Zoom, Edu-Page etc. Students should be encouraged to use different educational apps and should be provided with easy, effective and interesting study materials by the educators to drag student's attention towards E-learning.

Conclusion

In this survey study, we evaluated students' perception of online learning during the COVID–19 pandemic. Ease of access to educational materials and the ability to choose the time and place to study were shown as the strongest advantages of online learning among respondents in our survey. Remote access is of particular importance during the COVID–19 pandemic, but it can also reduce the cost of accommodation and transportation in other settings. E-learning enables learning materials to be quickly delivered to students, standardized, and if needed, updated. E-learning is not without its disadvantages. The main problem for respondents in our survey, especially internet connection. E-learning requires a reliable internet connection and the necessary hardware and software. Both students and teachers must be familiar with the equipment and they should receive technical support and guidance from the IT department before and during an online course. Poor interaction between learners and facilitators, and a lack of clarity of the purpose and goals of the learning can impede the learning process. Though there are few challenges related to E-learning, it has actually emerged as a benefit to learners and educators around the world. The global crisis has specially manifested the immense importance of e-learning in today's modern world. Without the means of e-learning platforms education would have come to a sudden halt since the outbreak of the virus.

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