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Research Article

A Study On Students' Perception On Online Learning During Covid-19 Pandemic

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Abstract— The primary objective of the study is to find out the student's perception towards online learning during this pandemic situation since the educational platform has taken a sudden shift to a new platform from the traditional classroom learning methods, thus the study focuses on how students have perceived it and to identify the difficulties associated with this transition.

I. INTRODUCTION

The COVID-19 pandemic has affected educational system worldwide. It has compelled educational institutions to close, which has wedged over 90% of the world's student population. As the face-to-face learning method is no longer suitable during this unusual phase of Covid-19 pandemic, the situation led to forced absorption of learners into e-learning during this period of Covid-19 Lockdown. For uninterrupted and for reframing and continuing the teaching and learning practices in the educational institutions, our education system has resorted to e-learning, which is an imperfect or may not be an apt solution yet quick solution to the crises. Effective strategies are being taken by the government and different communities worldwide to control the situation and to limit the spread of this virus. Due to this people are advised to do nothing and are being restricted to move out. Social distancing is the only way in limiting the spread of this virus, lockdown was facilitated across the country, and people were asked to sit at home. Coronavirus disease (COVID-19) is a newly exposed transmissible disease caused by a virus named" coronavirus." The lockdown due to COVID 19 has mostly affected the lives of students as the students could no longer get to interact on a one-on-one basis with their teachers as earlier. This shift in educational system from the traditional classroom-based learning to computer-based learning might be one of the largest educational experiments to date. As the e-learning teaching-learning method has become more frequent in India due to the outbreak of COVID 19 pandemic, it becomes extremely important to know its growth and to know whether it's convenient and helping the students to achieve what they expect out of college and education. The present study was therefore intended to understand the student's perspective, attitudes, and willingness towards online classes being conducted at the University level. The lives of every individual in the country have been largely affected by the shutdown of the various organization as per the instruction of honourable Prime Minister of India Shri Narendra Modi Ji. As each individual are being adversely affected, the life of a student is no less affected than any others they are being travelling through a difficult to cope up with these scenarios. The traditional teaching and learning methods were being followed by Indian educational system, which includes a one-on-one interaction of students and teachers. The lockdown emerged due to COVID 19 has adversely affected the lives of students as they no more get the chances for their usual classroom learning with fun learning through interaction and activities. In this phase, it becomes more tough to keep the education continuous and unaffected due to this terrible pandemic. There arises the need for a system to act as a binding factor in between the students and teachers. Learning is a continuous process, and along with the lockdown of 21 days, thus as a measure the government and private institutions transformed from classroom teaching to e-learning to keep the learning process on the go without any break. Many government and private institutions have taken a leap from conventional classroom teaching to digital teaching. Thus, they have started teaching their students with the best possible way through the online classes so that the global COVID-19 pandemic does not affect the student's education. The campuses have been shut down, but lecturers are busy working from home, preparing valuable study material for their students so that there isn't any halt in the teaching-learning process. Teachers are really working hard to put the best results and are available for students at all times of the day in order to reduce the difficulty and disturbance being caused to the students across the world due to the pandemic.

II LITERATURE REVIEW

According to Liguori & Winkler, (2020) Resistance to change will not help any educational unit across the world. They will be evaluated on their pace to adjust to the shifts in such a short cycle and their capacity to maintain the quality. The status of educational units is on the stake and is being under scrutiny. How properly they conduct themself and how well they sustain their educational quality in the middle of this crisis shows their adapting capabilities. The change from face-to-face lectures to the online mode of learning were the only conceivable solution. Indeed, academic institutions would not be able to transform all of their college curricula into and online resource overnight. Distance prevailing, scale, and the mode of personalized coaching

and knowledge enhancement are the three biggest challenges for online teaching. Innovative solutions by institutions can only help us deal with this pandemic.

According to Carey, (2020) Online learning is emerging as a victor ludo rum amidst this chaos. Therefore, the quality improvement of online teaching–learning is important at this stage. Online teaching in Chinese universities has grown exponentially after the Covid-19 outburst. There was an immediate shift of the normal classrooms into e-classrooms, that is, instructors have altered their entire academic approach to tackle new market conditions and adapt to the changing situations. During this challenging time, the fear is not about whether online teaching–learning methods could provide and prevail better quality education, it is rather how academic institutions will be able to adopt online learning in such a massive manner.

According to Basilaia et al., (2020) There is a requirement of a quick shift to online learning mode; therefore, the products by Google can be really useful under such problematic situations; they are the applications like Gmail, Google Forms, Google Calendars, G-Drive, Google Hangouts, Google Jam board and Drawings, Google Classroom, Open Board Software (not a Google creation paves the path for recording the meetings in the forms of files). These tools could effectively be used as a substitute for face-to-face classes.

According to Singh & Thurman, (2019), Online learning can be termed as a tool that can 6 Journal of Educational Technology Systems 49(1) make the teaching–learning process more student-centred, more innovative, and even more flexible. Online learning is being well-defined as the "learning experiences in synchronic or asynchronous situations using different devices (e.g., mobile phones, laptops, etc.) with internet access. In such circumstances, students can be anywhere (independent) to learn and interact with instructors and other students".

According to Dashti and Aldashti (2015) also had conducted a study on "students' perceptions toward the use of mobile learning at the College of Basic Education in Kuwait" where they had circulated 300 questionnaires between the female students and found 80% were being satisfied by using mobile devices as the learning tool as well as they claimed that mobile learning improves their knowledge of English language proficiency.

According to Miller (2014), the University of Chicago is the first educational institution of the higher education to air courses over the radio in 1922. After three decades, in the year1953, the University of Huston proposed the first broadcasted college classes. The shift from the "old" mode of educational system to the modern edition of the online learning took about four more decades and was fuelled by the Department of Defence's Arpanet in U.S in the year1969 and later on the Internet. The Publicized reports depicts that the University of Phoenix was formed in 1989 to become the first privately owned academic institution to offer degree programs via synchronous online mode of delivery.

According to Pappas (2013), the phrase distance education was being initially used in the United States in 1892 in a pamphlet of the University of Wisconsin-Madison. The origins of the current Internet-based e-learning in the United States go back to the paper-based correspondence study in Boston in 1728 when Caleb Phillips advertised a correspondence course in the Boston Gazette newspaper (Ferryman, 2013). In 1800's, the admittance to higher education was extremely limited because of the geographic gap between the prospective learners and the educational institutions until 1892 when Pennsylvania State University introduced a new opportunity in the form of correspondence study program (Banas and Emory, 1998).

III RESEARCH METHODOLOGY

Data collection seems to be the most essential and important aspect of any of the research because the entire result of research depends up on the data and the information hence, the methodology adopted by me to collect the data was through the online questionnaire in the google forms final interpretation were through the studies discussed about the student's perception and attitude towards e-learning.

Student perception is basically an angle of looking differently at different things and hence the main aim of the study is to determine the student's perception and to analyse and evaluate the level of acceptance of e-learning over face-to-face learning. The study is completely relied up on the primary data and secondary data. The data for this study has been collected through online distribution of the questionnaire among the students at different colleges Methodology consist of research hypotheses, research design, tools, instruments data specification, sampling frame and method of data analysed.

IV OBJECTIVE OF STUDY

Primary Objective

- To analyse the perception of the students towards e-learning during Covid-19 lockdown phase.

Secondary Objectives

- To evaluate the effectiveness of e- learning/online sessions during Covid-19 lockdown phase.
- To analyse whether perception of the students differ with reference to demographics.
- To evaluate the acceptance of e-learning over face-to-face learning.

V RESEARCH DESIGN

The research design adopted for this study is particularly of the descriptive type. Descriptive research studies are those which are being associated with describing the characteristics of a particular individual or a

group. The major descriptive research is used for fact finding of different kinds. A survey is conducted with a focus on inference to find the perception and the attitude of the students. For data collection self-administered questionnaire was distributed among to various incumbents, from which 112 responses were received. For analysing the data, Descriptive statistics, chi square test and Wilcoxon rank sum tests were being used. The responses from the students were analysed by using some of the most reliable statistical measuring software such as Statistical Package for Social Sciences (SPSS) version 16.

The questionnaire consisted of four parts. In the initial part of the survey study, students were questioned to enter their demographic details consisting the following (age, gender, year of study), describe their IT skills, and state whether they had previously indulged in any of the online courses. In the 2nd part, the respondents were given six sets of options which depicts the advantages and disadvantages of e-learning, from those 6 options they could choose as many as which considers to be true for them. In the third part, respondents had to compare, using the Likert scale (1 = definitely ineffective, 5 = definitely effective), face-to-face learning with online learning in terms of ability to master learning objectives (knowledge, personal traits and social competences). Students were also questioned to rate their activity during classes with 5 choices (1 = extremely inactive, 5 = extremely active).

In the last part, students were bound to rate the level of acceptance of the e-learning using the Likert scale along with 5 choices from 1 to 5 (1 = extremely unenjoyable, 5 = extremely enjoyable).

VI DATA ANALYSIS AND INTERPRETATION

1. Demographic Analysis

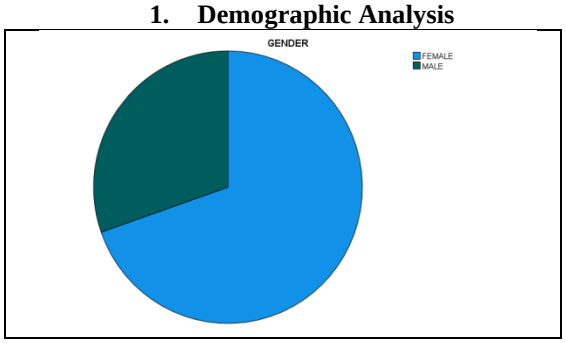

Fig. 1 Gender

The above figure depicts the gender of the respondents. It is found that 69.6% of the respondents are female and 30.4% of respondents are male. Thus, majority of the respondents for the study is female.

In this paper analysing the age It is found that 39.3% of the respondents belongs to the age group of 22 which is the majority age group among the respondents. 0.9% of the respondents belong to the age group of 26 which is the minority among the respondents age group.

In this survey nearly 61.6% of the respondents are undergoing post-graduation and 38.4% of respondents are undergoing under graduation. Thus, majority of the respondents are undergoing post-graduation.

2. Descriptive statistics

Descriptive statistics describes the basic features of the data used in the study. They give the simple summaries about the sample and the measures used. Along with the simple graphics evaluation, they form the basis of nearly every quantifiable analysis of data.

Descriptive analysis is done for evaluating the advantages of e-learning, standard deviation of 0.499 is attained for ability to record the meeting, for the mean value of 1.553. Standard deviation of 0.243 is attained for classes interactivity for mean value 1.937. Thus, most of the respondents find ability to record meeting as the advantage of e-learning and least consideration is for classes interactivity.

Descriptive analysis is done for evaluating the dis-advantages of e-learning standard deviation of 2.18034 is attained for lack of discipline, for the mean value of 1.8036. standard deviation of 0.45793 is attained for poor learning conditions.

At home for mean value 1.7054. Thus, most of the respondents find lack of discipline as the dis-advantage of e-learning and poor learning condition at home doesn't influence much among the respondents.

3. Wilcoxon Signed Ranks Test

The Wilcoxon signed-rank test depicts the non-parametric statistical hypothesis test used to compare two related samples or the matched samples or it could be used for the analysis of the frequent dimensions on a single sample to evaluate whether there is variations in the populations mean rank.

For the comparison of e-learning and face to face learning in terms of different attributes, hypothesis is to be set to conduct the analysis and infer the results, two hypotheses are set, and they are called the Null Hypothesis (H0) and Alternate Hypothesis (H1). If the results are statically significant, then Null Hypothesis (H0) is rejected and Alternate Hypothesis (H1) is accepted and vice versa if results are not statically significant.

Comparison of e-learning and face to face learning in terms of knowledge

H0: There is no significant difference between e-learning and face to face learning in terms of increasing knowledge

		N	Mean Rank	Sum of Ranks
Face to face learning - e-learning	Negative Ranks	20	33.10	662.00
	Positive Ranks	62	44.21	2741.0
	Ties	30		
	Total	112		

Test statistics	
	Face to face learning - e-learning
Z	-4.939
Asymp. Sig. (2-tailed)	.000

Wilcoxon rank test carried for comparing e-learning and face to face learning in terms of increasing knowledge. Null hypothesis could be accepted when the Z value is approximately equal to significant value zero. Since z value is -4.930, its less than the significant value so reject the null hypothesis and accept the alternative hypothesis. Mean rank is higher for e-learning (M=44.21) than face to face learning where mean rank (M=33.10) in terms of increasing knowledge.

Comparison of e-learning and face to face learning in terms of personal traits

H0: There is no significant difference between e-learning and face to face learning in terms of increasing personal traits

Ranks

		N	**Mean Rank**	**Sum of Ranks**
Face to face learning - e-learning	Negative Ranks	11	31.8	343.0
	Positive Ranks	70	42.58	2978.0
	Ties	31		
	Total	112		

Test statistics	
	Face to face learning - e-learning
Z	-6.3295
Asymp. Sig. (2-tailed)	.000

Wilcoxon rank test carried for comparing e-learning and face to face learning in terms of increasing personal traits. Null hypothesis could be accepted when the Z value is approximately equal to the significant value zero. Since z value is -6.325, its less than the significant value so reject the null hypothesis and accept the alternative hypothesis. Mean rank is higher for e-learning (M=42.54) than face to face learning where mean rank (M=31.18) in terms of increasing personal traits.

Comparison of e-learning and face to face learning in terms of social competence

H0: There is no significant difference between e-learning and face to face learning in terms of increasing social competence.

Ranks

		N	Mean Rank	Sum of Ranks
Face to face learning - e-learning	Negative Ranks	10	19.80	198.0
	Positive Ranks	60	41.87	2805.0
	Ties	35		
	Total	112		

Test statistics	
	Face to face learning - e-learning
Z	-6.710
Asymp. Sig. (2-tailed)	.000

Wilcoxon rank test carried for comparing e-learning and face to face learning in terms of increasing social competence. Null hypothesis could be accepted when the Z value is approximately equal to the significant value zero. Since z value is -6.710, its less than the significant value so reject the null hypothesis and accept the alternative hypothesis. Mean rank is higher for e-learning (M=41.87) than face to face learning where mean rank (M=19.80) in terms of increasing social competence.

Comparison of e-learning and face to face learning in terms of class participation

H0: There is no significant difference between e-learning and face to face learning in terms of class participation.

Ranks

		N	Mean Rank	Sum of Ranks
Face to face learning - e-learning	Negative Ranks	10	45.8	458.0
	Positive Ranks	71	40.32	2863.0
	Ties	31		
	Total	112		

Test statistics

	Face to face learning - e-learning
Z	-5.803
Asymp. Sig. (2-tailed)	.000

Wilcoxon rank test carried for comparing e-learning and face to face learning in terms of class participation. Null hypothesis could be accepted when the Z value is approximately equal to the significant value zero. Since z value is -5.803, its less than the significant value so reject the null hypothesis and accept the alternative hypothesis. Mean rank is higher for efface to face learning (M=45.80) than e-learning where mean rank (M=40.32) in terms of class participation.

4. Chi square test

A chi-squared test, also written as χ^2 test, is another statistical tool based on the hypothesis test which is valid to perform when the test statistic is being chi-squared distributed under the null hypothesis, specifically Karl Pearson's chi-squared test and variants thereof.

To find the relationship between IT skills and e-learning

H0: There is no significant relationship between IT skill and e-learning acceptance.

Chi-Square Tests

Value	df	Asymptotic Significance (2-sided)
7.394	8	.495
7.734	8	.460
1.579	1	.209
112		

Chi-square value is found to be 0.495 which is higher than 0.05 at 95% confidence level therefore accept the null hypothesis that is there is no significant relationship between IT skill and e-learning acceptance.

To find the relationship between gender and e-learning acceptance

H0: There is no significant relationship between gender and e-learning acceptance.

	Value	df	Asym sig (2-sided)
Pearson Chi-Square	14.171	4	.007
Likelihood Ratio	13.728	4	.008
Linear-by-Linear Association	8.370	1	.004
N of Valid Cases	112		

As the chi-square value is found to be 0.007 which is less than 0.05 at 95% confidence level, reject the null hypothesis and accept the alternative hypothesis that there is a significant difference between gender and e-learning acceptance.

II. FINDINGS

As per most of the respondents falls in the age group of 22, female respondents (69.6%) are higher compared to male respondents (30.4).61.6% of the respondents are undergoing post-graduation whereas 38.4% of respondents are undergoing under-graduation. Majority of the respondents possess moderate IT skill also have not undergone e-learning before corona, COVID-19 phase made majority of the respondents to adapt e-learning. The positive side for e-learning was found to be the ability to record the meeting along with accessibility to online materials and learning on your own space was being beneficiary to the respondents. Lack of discipline seems to be one of the major dis-advantage also the respondents have negative effect from social isolation and technical problems faced during e-learning. E-learning is being preferred by most of the

respondents in terms of increasing knowledge while comparing with face-to-face learning along with beneficiary for improving their personal traits. According to the respondent's social competence could be enhanced by e-learning too**.** Gender seems to be a factor influencing e-learning acceptance, mostly e-learning is accepted by female students. Qualification does not have any influence on e- learning acceptance.

III. SUGGESTIONS

There always exists a resistance to change attitude within the people so this sudden transition was a bit unacceptable to the students. Transitioning to online studies can be a hard move so be more interactive and participative to get aquatinted to this new transformation. One of the biggest threats when you're transitioning to online study is the increased level of distraction, and our homes tends to be filled with distraction to a greater extent. There's social media, TV, internet, video streaming, games, YouTube, family, books, and therefore the list goes on. Thus proper space free from distraction needed to be identified and keep the area as the study centre Blocking out distractions is much easier said than done, but there are some tips and applications that can help you, leave your phone on the other side of the room or in another room. The most significant thing is to keep it out of our arm's reach and make it harder for you to procrastinate. Another efficiency increasing measure towards the online learning is by the usage of some website blockers, and many offer additional productivity features that can cover multiple platforms and devices. Making a sudden switch from an active classroom environment to the solitude of home study can be a very frightening and it seems to be a difficult switch. Just because you are self-isolating, this does not mean you are alone, many of your classmates are in the same situation as you. Avoid these kinds of negative attitude and keep the desire for learning as the top priority. If you are the type of person that gets energized and motivated by speaking to your classmates and peers, then perhaps it's time to reach out and set up a virtual study group. You can find out a social media group and organize a time for your virtual study group.

IV. CONCLUSION

This study showed that e-learning is a valuable method of teaching college students. In the opinion of the respondents in our survey, e-learning is effective in increasing knowledge and is accepted. However, it is important not to focus only on increasing knowledge, but also social interactions. E-learning should not only be supported based on the delivery of the content, but students should be ready to work with the materials and receive feedback. Successful implementation of the online learning into the academics is not an easy task, it requires a well-thought-out strategy, and a more active approach e-learning is not just a change of technology. It is a part of a redefinition of how we transfer knowledge, skills, and values to our younger generations of workers as well as students. This study makes a few predictions of how e-learning and the functions it serves will continue to develop in the coming forefront and its relevance. Learners will have access to millions or billions of knowledge and data modules. Along with the utilization of web pages with simple text and graphics too. Others may consist of multimedia simulations. In many fields other than the educational sector, e-learning has become the default another way to conduct training or to provide education and counselling to the employees. There are four important aspects of e-learning. The first aspect focuses on to teach what learners need to learn in the way they most naturally learn them without any variation. The second aspect focuses to define the clear learning objectives. The third aspect defines on how to build the first two components. It is to focus on the right objectives. The final aspects rely in the power of testing. From this study, it is concluded that there is a relationship between the emotional intelligence and the academic performance. The best predictor which can be used to increase the grades is the self-motivation. The institution can focus more on the various psychological related seminars and the events which can help the student improve their self-motivation and also it encourages and motivate them to do better in their exams.

REFERENCES

1. Howlett D, Vincent T, Gainsborough N, Fairclough J, Taylor N, Vincent R (2009) Integration of a case-based online module into an undergraduate curriculum: what is involved and what is effective? e-Learning.
2. (2017). Retrieved 26 July 2017, from https://globenewswire.com/ newsrelease/2017/02/06/914187/0/en/Global-E-Learning-Market-to-Reach-325-billion-by-2025-Rapid-Growth-in-Online-Content-Digitization-Innovations-in-Wearable-Technologies-are-Flourishing-the-E-learning-Industry.html
3. Dyrbye L, Cumyn A, Day H, Heflin M. (2009) A qualitative study of physicians' experiences with online learning in a master's degree program: benefits, challenges, and proposed solutions. Med Teach.
4. Bediang G, Stoll B, Geissbuhler A, Klohn A, Stuckelberger A, Nko'o S, et al (2013). Computer literacy and e-learning perception in Cameroon: the case of Yaounde Faculty of Medicine and Biomedical Sciences. BMC Med Edu.

5. Niebuhr V, Niebuhr B, Trumble J, Urbani M (2014) Online faculty development for creating E-learning materials. Edu Health.
6. Bediang G, Stoll B, Geissbuhler A, Klohn A, Stuckelberger A, Nko'o S, et al(2013). Computer literacy and e-learning perception in Cameroon: the case of Yaounde Faculty of Medicine and Biomedical Sciences. BMC Med Edu.
7. Zehra, Khaled & Halder, Neel & Theodosiou, Louise (2011). E-Learning in medical education in the United Kingdom. Procedia - Social and Behavioural Sciences.
8. Ishtaiwa, F (2006) Factors influencing Faculty Participation in E-learning: The Case of Jordan. Unpublished dissertation. (USA: Washington University).