

FACTORS INFLUENCING ONLINE LEARNING IN HIGHER EDUCATION IN THE EMERGENCY SHIFTS OF COVID 19

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ABSTRACT

Online learning has become the only alternative in this COVID19 pandemic crisis. The present study tries to determine various factors influence online learning in higher education in this emergency shifts. A descriptive survey method is conducted with the university students of West Bengal. Confirmatory factor analysis and correlation analysis are conducted. The result shows that the teacher related factor is positively correlated with institutional factor. Students feeling of isolation with boredom and frustration are found the most influential aspects in online learning. Lack of immediate feedback is the most influential teacher related factor. Infrastructure and examinations are institute related factors which affect students' online learning. Strengths and weakness of online learning are also evolved as additional findings from learners' qualitative responses.

Keywords: Factors, Online Learning, Higher Education, Emergency Shifts of COVID 19

INTRODUCTION

The COVID 19 pandemic has drastically disrupted the education sector across the world. The education institutions are threatened by the impact of COVID 19 and are forced into closure for uncertain period. India is no exception. The conventional face to face teaching learning has been suspended since the second week of March. In response to COVID 19 lockdown the schools, universities and colleges have adopted online teaching learning as an alternative to continue teaching learning and to keep the students, faculty and staff safe from public health emergency (Martinez,2020). The sudden shifts from face to face classroom teaching learning to online mode affects students' learning. Most of the universities especially the state funded universities are not prepared for online delivery. Poor infrastructural facilities, lack of knowledge and skills among teachers, the students' readiness and inadequate course design have made online learning a cognitive load. Bhoumik & Priyadarshini (2020) defined it as 'online load'. In this COVID 19 outbreak, attending online class is just an obligatory act or it facilitates learning are the matter of discussion. Many education researchers and practitioners have made a clear distinction between high quality online learning and this emergency online teaching. Online education explores a new domain of learning that changes the way of knowledge construction and it is different from the experience that students have in conventional classroom learning (Howland & Moore, 2002).

Around 1.725 billion students as of 24 May, 2020, are affected as a result of college and university closures in response to the Corona virus pandemic (UNESCO, 2020). Since more than three months of its inception, the online learning now has become the only alternative method which necessitated learners and the teachers to acquaint themselves with the knowledge and skills of online teaching learning. In view of the prevailing pandemic situation of COVID 19, West Bengal State Government has declared that the colleges and universities will remain closed till July 31 (Government of West Bengal, GO : 15-Pr.Secy-HED/2020). Considering the rapid growth of COVID 19, this date may be extended. Consequently, the higher education institutions may discontinue their face to face classroom teaching learning for an uncertain period. Under these circumstances, higher education institutions would have to entirely depend on online teaching learning. Sudden shifting from face to face classroom teaching to the online teaching without any prior preparation and training results in parallel growth of many unpleasant issues. The online instructions which are being delivered in these pressing situations are not same as what we actually know about high quality online education. It is the temporary solution of the crisis evolved due to threat of COVID 19. It is defined as 'emergency remote teaching' (Hodges et al, 2020). Hodges et. al deliberately selected the term 'teaching' instead of 'learning' or 'instruction'. In this new system of online education what is missing is learners' contribution. Rather it is the act, practice and effort of teacher to accomplish the task. In long run, this practice may hamper quality of learning.

Therefore, it is vital to understand about various factors influence online learning. It is also vital to know the view of learners with regard to the strengths and weaknesses of online learning. This would certainly help the policy makers to formulate policies, practices, programmes and strategies for quality online education.

REVIEW

It is well established in the literature of education that learning does not merely a matter of knowledge transmission. Teaching must enable learners to utilise their full potential. In the learning environment whether it is a conventional classroom or a virtual platform, a socially constructed relationship must be developed to enhance learning. Lipponen & Christina (2011) found the role of agency in effective learning where students feel that they are the active part of teaching learning and consider their own expertise. Different mode of interactivities can create such agencies in online learning platform (Bozkurt & sharma, 2020). It is vital to know about various factors affecting online learning. The extent to which the present emergency online teaching facilitates learning community where teacher and students both feel free to seek and provide support needs to be explored. The three major components of online learning are collaborative engagement, interactivity and instant feedback (Panda, S. 2013). Learner's isolation from their peers seems to have impact on their learning. High quality instructional materials based on principles of programmed instruction remains to be the most suitable study conditions for online learners (IGNOU, MDE-416-3). In this system, various learning components are designed in a way so that the learners can comprehend learning materials according to their own pace. Study revealed that teachers use lecture method in online mode.

Unlike China, where rate of participation in online class is more than 85% in higher education (Dunrong and Jin, 2020), the education institutions in India are not prepared for this new mode of learning in terms of rapid inclusion of video conferencing, high speed internet access, exploring web resources, application of various e-tools for e-content creation and so on. Four principles have been recognised by Maryland online (2018) for quality online teaching in higher education. These are: collaborative, collegial, continuous and centred.

A considerable amount of research is conducted to understand the influence of different aspects on students' perceived learning. A quite large number of studies focus on quality on line education, effective learning, instructional design and course design. Research suggests that effective online learning results from careful planning and design of course and delivery, systematic model of design and development. The process and decisions of online design influence the quality of online learning (Hodges et al, 2020). Barbera et al (2013) found that course design and learning content significantly influence online learning.

Students' access to internet connectivity is one of the big challenges at all levels of education in India (Raju, H, 2020, Mishra, Gupta & Shree, 2020). Mukherjee, M. (2020) mentioned that only 42 per cent of urban population and only 15 per cent of rural population have internet access. 73 per cent learners felt isolated in online class (Bhoumik & Priyadarshini, 2020). Elumalai et al (2020) revealed that there is a favourable association between the collection of variables and the efficiency of online learning in the education system. Also, there is a major gap in the understanding of the students between gender, level of the course, and standard of online learning in the higher education institutions during the COVID-19 pandemic. Almaiah, Al-Khasawneh, & Althunibat (2020) found that there is a lack of consensus on the core problems that form the successful use in the COVID-19 pandemic of the electronic learning system; thus, a clear gap was found in information about crucial online learning challenges and factors during this pandemic. Dhawan (2020) revealed that online learning is threatened by many different issues, including the issues of apprentices, instructors and content. For institutions, it's a struggle to engage students and to include them in teaching. Teachers are challenged to adapt their teaching methodologies and manage their time from offline modes to online style.

Ray (2009) found that teachers should undergo technical and pedagogical training before online delivery. In India, at the higher education level, there is very little awareness about the digital pedagogy among the teachers (Mukherjee, M, 2020). Nagar, S.(2020) found that 64 per cent students strongly approved that e learning lacks interaction among students and with the teachers. This study also revealed that 69 per cent students favoured blended learning which is the combination of face to face and online learning. Learning is a partnership and the student and teacher both need to be dedicated for the best potential learning. Girardi (2016) defined it as learning community. Developing learning community is essential factor in online platform. Effective teaching depends on the extent to which online study can meet the expectations (Griardi, 2016). Teachers' unique skills and ideas are imperative in online teaching. Technology is the tool teachers can use for maximum benefits. The teachers, not the technology should facilitate teaching learning. Eom et al (2006) found that teachers' assistance and students' perceived learning are positively correlated.

Thus, from the above existing literature, it is clear that there are many factors influence online learning, but their strength is not always clear. Identifying various factors and their correlation in the same study and at the same time would increase the reliability of the result and will permit us to measure the influence of various factors in online learning and in the learners' perceived learning. The study will also allow us to estimate which factors are more influential in learners' perceived learning.

SIGNIFICANCE OF THE STUDY

The impact of pandemic has imposed various fundamental changes in the operating system of education in general and higher education in particular. Higher education is characterised by access, equity and quality. Well-planned and specially designed course is useful to bring desirable changes in the behaviour and cognitive structure of the learner. Numerous studies have been conducted to assess the effectiveness of online learning. However, very few studies focussed on the impact of online learning on students' perceived learning in higher education in this crisis of COVID 19. It is also crucial to know the extent to which different factors influence online learning. It is significant to study about which is the factors play satisfactory role in all learning domains. This study highlights the key issues related to online teaching learning and provides the information based on primary data for the researchers, professional practitioners and the decision makers. It is essential to assess the present status with regard to the problems and strengths of emergency online learning. The suggestive measures coming out from the open ended answers of learners would help to create a useful online model in higher education of India.

The main goal of this study is to present a complete scenario of online learning that has been emerged due to COVID 19 crisis in university education of West Bengal.

RESEARCH QUESTIONS

The present study is conducted with the following research questions: Is there any difference in students' perceived learning with reference to gender and locality? The extent to which different factors contribute to this emergency online learning? Whether any correlation exists between different factors? Which are the factors contributing more in effective learning?

OBJECTIVES

1. To assess the students' perceived learning in online platforms with reference to gender and locality.
2. To determine different factors influence online learning.
3. To assess whether there is any correlation exists between the factors.
4. To identify the key issues related to online learning.

HYPOTHESES

1. There is no significant difference in perceived learning between male and female students.
2. There is no significant difference in perceived learning among rural, semi-urban and urban students.

METHODOLOGY

Design

Quantitative descriptive survey method was conducted in the present study. Considering the present COVID19 outbreak and the need for lockdown and social distancing, online survey was conducted for data collection. The data were analysed statistically and the results were interpreted to arrive at appropriate conclusions.

Participants

The survey was conducted on university students of higher education from State University, Central University and Deemed University. The students were selected as sample from social sciences groups. The sample size was 100 out of which 94 complete filled in responses (94%) were collected.

Tools and Techniques

A questionnaire was constructed using Google form. Total numbers of participants were 94. In order to identify various factors influencing online learning and to understand the perceived learning, a self-developed closed ended questionnaire with 5 points Likert type scales was framed. Demographic profile was given in the first section of the questionnaire. At the last section of the questionnaire, an open ended field was left for the students to express their views about the strengths and weaknesses of online learning.

The questionnaire consists of three dimensions namely: Students' personal related, teacher related and institution related. Total items of the questionnaire were 28. One open ended option was added to get the additional information about learners' opinion in online learning.

ANALYSIS AND INTERPRETATION

Students' readiness for new content and about the delivery system is a pre requisite for meaningful learning. What we know from research is online learning provides the learners better opportunity to explore simulation and resources. Online platform when designed with various e tools and technologies can be used collaborative learning.

Table 1: Demographic Details of the Respondents

Demographic Type	Category	Frequency	Percentage
Gender	Male	42	44.7
	Female	52	55.3
University Type	State	68	72.3
	Central	18	19.14
	Deemed	08	8.51
Location	Urban	23	24.7
	Semi urban	17	18.3
	Rural	52	56.5
Online Platform Used	Zoom	7	7.4
	Skype	10	10.6
	Google Meet	68	72.3
	Cisco Webex	2	2.1
	Other	7	7.4

The above demographic details show that out of 94 respondents, 52(55.3%) are female and 42 (44.7%) are male. It indicates the growing interests of using technology among females are on increase. There are total 33 universities in West Bengal listed under UGC, out of which 18 State Universities, 1 Central university and 1 Deemed university have social sciences. Data reveals that students responded from 10 State universities, 1 Deemed university and 1 Central university. The above profile shows that most of the students (56.5%) responded from rural areas. It indicates that students from rural areas welcome the technology oriented learning. Thus it rejects the statement that very less number of rural population (15 % in rural and 42% in urban) have internet access (Mukherjee, 2020). It is also found that Google Meet is most frequently used video conferencing platform. This may be due to its good video quality, security and easy access. Using a single video conferencing platform is beneficial for learners.

Table -2: Students' Perceived Learning with regard to Gender

Gender	N	Mean	SD	SEM	df	t- value	p- value
Male	42	91.90	15.797	2.438	92	-1.281	0.203
Female	52	95.56	11.831	1.641			

Independent samples t-test is used to determine the male and female students' perceived learning through online platforms. As demonstrated in Table-2, the results allow us to accept the null hypothesis. It can be said that there is no significant difference in perceived learning between male and female students.

Table -3: Students' Perceived Learning with regard to Locality

Groups	Sum of Square	Mean Square	df	F	p- value
Between Groups	512.858	256.429	2	1.359	.262
Within Groups	17167.621	188.655	91		
Total	17680.479		93		

One way ANOVA is used to determine the relationship among rural, semi-urban and urban students' perceived learning through online platforms. The result is shown in Table-3. Before using the statistic normality and homogeneity of variance were tested. From the results obtained, it can be said that there is no significant difference in perceived learning among rural, semi-urban and urban students. Hence, the null hypothesis is accepted.

DIFFERENT FACTORS INFLUENCE ONLINE LEARNING

Confirmatory factor analysis is shown in graphical form in figure-1. The double headed arrow between two latent variables indicates covariance relationship. The values can range from -1 to +1 and the value closer to +1 indicates that there is a high level of correlation between constructs. The single headed arrow from the latent variable to the indicator represents factor loading i.e. the contribution of indicator to the latent variable. The value closer to +1 indicates that the contribution is more.

Figure-1: Confirmatory Factor Analysis (Standardized)

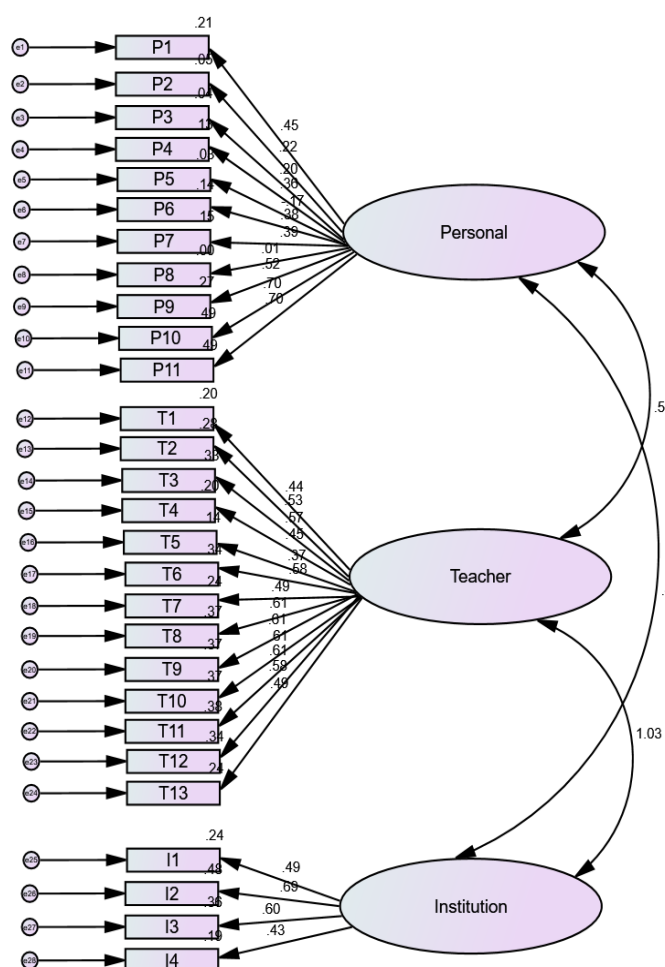


Figure-1 indicates that a strong positive correlation exists between teacher and institution related factors (+1.03). The correlation between personal factors of students and institution are comparatively low (.44). An average positive correlation exists between teacher and students personal factors. There are high positive correlation existed between boring and personal related factor (+0.70), and between frustration and personal related factor (+0.70). A high positive correlation exists between feedback and teacher related factor (+0.61). An adequate positive correlation exists between infrastructure and institution related factor (+0.69).

Table-4: Confirmatory Factor Analysis (Standardized)

Symbol	Constructs	Factor Loadings
P1	Availability of Devices	0.45
P2	Skills	0.22
P3	Internet Facility	0.20
P4	Knowledge	0.38
P5	Gender Biasness	0.17
P6	Learning Potentiality	0.38
P7	Save Time	0.38
P8	Store Information	0.01
P9	Losing Interest	0.52
P10	Boring	0.70
P11	Frustrating	0.70
T1	Trained	0.44
T2	Motivation	0.53
T3	e-tools and techniques	0.57
T4	Teaching method	0.45
T5	e-resources	0.37

T6	Presentation	0.58
T7	Collaborative Projects and Assignments	0.49
T8	Communication	0.61
T9	Feedback	0.81
T10	Activities	0.61
T11	Share Views	0.61
T12	Doubts Clarification	0.58
T13	Active Participation	0.48
I1	Own online Platform	0.49
I2	Infrastructure	0.69
I3	Online Exam	0.60
I4	Time Management	0.43

Table-4 indicates about different factor loadings of standardized confirmatory factor analysis in the present study. From the above table it is clear that P-10, P-11 have high positive factor loadings, P-9, P-1 have average positive factor loadings and P-2, P-3, P-4, P-5, P-6, P-7, P-8 have below average positive factor loadings in personal related factors. On the other hand, T-9 has high positive factor loading, T-2, T-3, T-6, T-8, T-10, T-11, T-12 have above average positive factor loadings and T-1, T-4, T-5, T-7, T-13 have below average positive factor loadings in teacher related factors. I2, I3 have above average positive factor loadings and I1, I4 have below average positive factor loadings in institution related factors.

The measurement model (Confirmatory Factor Analysis) is shown in the tabulated form as given below:

Table-5: Unstandardized Regression Weights

Factors			Estimate	S.E.	C.R.	P
P1	<---	Personal	1.000			
P2	<---	Personal	.388	.221	1.758	.079
P3	<---	Personal	.455	.278	1.638	.101
P4	<---	Personal	.788	.307	2.567	.010
P5	<---	Personal	-.311	.219	-1.420	.156
P6	<---	Personal	.902	.339	2.658	.008
P7	<---	Personal	.762	.280	2.723	.006
P8	<---	Personal	.024	.231	.103	.918
P9	<---	Personal	1.064	.327	3.253	.001
P10	<---	Personal	1.532	.415	3.694	***
P11	<---	Personal	1.389	.376	3.691	***
T1	<---	Teacher	1.000			
T2	<---	Teacher	.973	.276	3.520	***
T3	<---	Teacher	1.173	.321	3.658	***
T4	<---	Teacher	1.131	.352	3.209	.001
T5	<---	Teacher	.690	.243	2.841	.005
T6	<---	Teacher	1.226	.333	3.687	***
T7	<---	Teacher	1.011	.301	3.363	***
T8	<---	Teacher	1.197	.318	3.763	***
T9	<---	Teacher	1.226	.325	3.769	***
T10	<---	Teacher	1.252	.332	3.769	***
T11	<---	Teacher	1.118	.295	3.784	***
T12	<---	Teacher	1.357	.367	3.695	***
T13	<---	Teacher	1.150	.340	3.383	***
I1	<---	Institution	1.000			
I2	<---	Institution	1.288	.290	4.447	***
I3	<---	Institution	1.224	.297	4.123	***
I4	<---	Institution	.732	.219	3.350	***

Table-5 highlights about different unstandardized regression weights. From the above table it is clear that P1, P9, P10, P11 personal related factors have high estimates (exact or more than +1 estimate) and T1, T3, T4, T6, T7, T8, T9, T10, T11, T12 T13 teacher related factors have high estimates (exact or more than +1 estimate) and I1, I2, I3 institution related factors have high estimates (exact or more than +1 estimate).

Table-6: Standardized Regression Weights

Factors			Estimate	Factors			Estimate
P1	<---	Personal	.453	T4	<---	Teacher	.451
P2	<---	Personal	.222	T5	<---	Teacher	.374
P3	<---	Personal	.205	T6	<---	Teacher	.581
P4	<---	Personal	.357	T7	<---	Teacher	.488
P5	<---	Personal	-.175	T8	<---	Teacher	.607
P6	<---	Personal	.376	T9	<---	Teacher	.609
P7	<---	Personal	.389	T10	<---	Teacher	.609
P8	<---	Personal	.012	T11	<---	Teacher	.615
P9	<---	Personal	.522	T12	<---	Teacher	.584
P10	<---	Personal	.701	T13	<---	Teacher	.493
P11	<---	Personal	.700	I1	<---	Institution	.489
T1	<---	Teacher	.442	I2	<---	Institution	.693
T2	<---	Teacher	.530	I3	<---	Institution	.599
T3	<---	Teacher	.572	I4	<---	Institution	.432

Table-6 indicates about different standardized regression weights. From the above table it is clear that P9, P10, P11 personal related factors have high estimates (more than +0.5 estimate) and T2, T3, T8, T9, T10, T11, T12 teacher related factors have high estimates (more than +0.5 estimate) and I2, I3 institution related factors have high estimates (more than +0.5 estimate).

Table-7: Covariance

Factors			Estimate	S.E.	C.R.	P
Personal	<-->	Teacher	.156	.063	2.461	.014
Institution	<-->	Teacher	.302	.099	3.042	.002
Institution	<-->	Personal	.141	.063	2.222	.026

Table-7 demonstrates that institution and teacher related factors have high estimate (+0.302) in respect to covariance and it is significant at 0.002 level (P value=0.002).

Table-8: Correlations

Factors			Estimate
Personal	<-->	Teacher	.549
Institution	<-->	Teacher	1.028
Institution	<-->	Personal	.441

Table-8 indicates that institution and teacher related factors have high estimate (+1.028). So it can be said that strong positive correlation exists between teacher and institution.

Table-9: Variances

Factors	Estimate	S.E.	C.R.	P
Personal	.309	.152	2.034	.042
Teacher	.261	.123	2.130	.033
Institution	.331	.139	2.379	.017
e1	1.195	.189	6.314	***
e3	1.462	.217	6.734	***
e2	.896	.133	6.719	***
e4	1.310	.200	6.534	***
e5	.946	.140	6.758	***
e6	1.530	.235	6.499	***
e7	1.006	.155	6.471	***
e8	1.191	.175	6.819	***
e9	.931	.153	6.082	***
e10	.749	.153	4.886	***
e11	.622	.127	4.904	***
e12	1.077	.162	6.628	***

e13	.632	.097	6.510	***
e14	.738	.115	6.434	***
e15	1.310	.198	6.618	***
e16	.765	.114	6.691	***
e17	.768	.120	6.415	***
e18	.853	.130	6.573	***
e19	.641	.101	6.356	***
e20	.664	.105	6.351	***
e21	.692	.109	6.351	***
e22	.537	.085	6.337	***
e23	.929	.145	6.409	***
e24	1.074	.164	6.566	***
e25	1.051	.161	6.548	***
e26	.594	.105	5.655	***
e27	.885	.142	6.241	***
e28	.773	.117	6.635	***

Table-9 highlights that students' personal related factors have high estimate in respect to variance and significant at 0.042 level. All the e-values are significant at 0.01 level.

Table-10: Squared Multiple Correlations

Factors	Estimate	Factors	Estimate
I4	.186	T3	.327
I3	.359	T2	.281
I2	.480	T1	.195
I1	.239	P11	.489
T13	.243	P10	.492
T12	.341	P9	.273
T11	.378	P8	.000
T10	.371	P7	.151
T9	.371	P6	.141
T8	.368	P5	.031
T7	.238	P4	.128
T6	.338	P3	.042
T5	.140	P2	.049
T4	.203	P1	.205

Table-10 indicates that P10, P11, I2 factors have high (Above 0.4) estimate in respect to squared multiple correlations.

RESULT AND DISCUSSION

From the above discussion it is clear that different factors are influencing online learning. Boring and frustration are the most influential students' related factors which lead to feeling of isolation among the students (Bhoumik & Priyadarshini, 2020). Lack of interest and attention were also reported by the students of Mizoram university (Mishra, Gupta & Shree, 2020). Lack of immediate feedback from teacher is the prominent teacher related factor affects learning. Among institution related factors, infrastructure (Kisanjara, 2020) and appropriate online examination design are found the most influential factors. All students' personal, teacher related and institution related factors are positively correlated with each other. The constructs like Availability of Devices, Skills, Internet Facility, Knowledge, Learning Potentiality, Save Time, Losing Interest, Boring, and Frustrating are positively correlated with personal related factor. All constructs like Trained, Motivation, e-Tools and Techniques, Teaching Method, e-Resources, Presentation, Collaborative Projects and Assignments, Communication, Feedback, Activities, Share views, Doubts Clarification, Active Participation are positively correlated with teacher related factor. All constructs like Own Online Platform, Infrastructure, Online Exam and Time Management are positively correlated with institution related factor.

KEY ISSUES RELATED TO ONLINE LEARNING

The questionnaire includes one open ended option for the learners to express their opinions regarding strengths and weaknesses of online learning. This item was kept optional. 48 responses were received. The following table

presents only the exceptional comments made by the learners. The common issues like poor network, storage capacity of device etc are not mentioned here.

Table-11: Key Issues Related to Online Learning

Sl. No.	Strengths	Weakness
1.	Technical Skills Developed	Online class is not same as face to face classroom because of lack of personal contact with teacher.
2.	In this pandemic, online class is the only solution to continue students' habits of study	Noisy house and no separate room create problem in attention
3.	Online class is the only means to stay connected with teachers and friends in lockdown	In rural areas, frequent load shedding is a barrier to access online class
4.	Study from home without travelling saves time and money	Absence of interaction, immediate feedback and doubt clarification affect learning
5.	Confidence about digital learning built up.	Fails to create real classroom environment with social presence. Feelings of isolation increases
6.	Increases self- learning habits	Increases addiction in social media

A positive attitude is reflected for online studies among the learners. In this COVID19 crisis, social distancing and avoidance of public gathering are the means to stay safe. So online study is the only alternative to continue teaching learning from home. Many suggestions came out from learners that can improve online education. For example, use of discussion forum or LMS to continue study in asynchronous mode, where teacher can share learning resources and monitor learners' performance. It suggests that the encouraging trends among learners for online studies are on increase. Students prefer self- learning as per their own pace and time. Feeling of isolation is one of the weaknesses of online study. Kapsia. et al (2020) reported that about 42% undergraduate and post graduate students find online learning boring which puts them under stress. Some students prefer personal communication with the teacher for solving their problems which is not possible in online platform.

RECOMMENDATIONS

1. In order to reduce digital divide, State should ensure uniform access to online learning for all the learners irrespective of their location
2. State should make the provision for digitalisation of the curriculum in higher education and creation of universities own online platform with comparatively low data speed. It would enable learners' easy access and ensure security.
3. Capacity building of the teachers for digital andragogy must be arranged from all the HEIs.
4. A state level assessment body can be formed for continuous monitoring of quality online education in higher education.
5. The online teaching methodology must incorporate many e tools and techniques in a collaborative way to make the learning interactive where students can feel social presence.

CONCLUSION

The purpose of this paper is to determine the factors influencing online learning and factor analysis is conducted to achieve this aim. Correlation and regression analysis are conducted to find out the factors contributing more in online learning. It is revealed that two factors namely teacher related factor and institutional factors are highly correlated. It is found that among all the personal factors, boring and frustration have influenced students learning at the maximum. Lack of immediate feedback, Teacher's one way communication and lack of interactivity among students have greatly influenced online learning. In the paradigm of learner centred pedagogy, the online learning can prove the best option for self -learning if we design the course and delivery system for more learners' interaction. These results will help the practitioners, professionals and the policy makers to make necessary changes for the development of online learning. In order to take full advantage of online learning, it needs to be designed well with collaboration of many fields. Otherwise online learning will carry negative perceptions.

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