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LEARNERS' PERSPECTIVE TOWARDS ONLINE LEARNING & EXAM DURING POST COVID-19 OUTBREAK

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Abstract

The education and knowledge can now be obtained outside of formal institutions of learning due to COVID-19. Learning and exam can take many forms, which making it simple to assist the wider population obtains an education. Among these various and facilitated forms, online learning and examination is the most common and widely accepted strategy to enhance academics at reputable educational institutions around the world. The goal of online learning is to alter the structure of the proposed academic process (ObaidUllah et al, 2017). The main aim of this study is to analyze the effectiveness of online learning and to study the attitude towards online exam. A sample of 43 respondents has been taken for the study by adopting purposive sampling techniques. Tools such as percentage analysis, descriptive statistics, ANOVA and factor analysis have been employed to analyze the data. The study reveals that educational qualification and place of residence plays a major role in influencing the effectiveness of online Learning and with attitude of online exam at 5 per cent level of significance. Further it is concluded that, online learning and exam has made the students to become slaves to the technology during post COVID-19.

Keywords: Online learning & exam, COVID-19, Educational Institution, Technology and ANOVA

INTRODUCTION

Education is critical to the development of a nation. Following independence, the Indian government took a number of steps to ensure that education was available to all citizens. Education has an impact on all aspects of human life, whether directly or indirectly. The Government of India established a number of committees and commissions that made important recommendations to enhance the quality of teaching in India. COVID-19 has had an impact on educational institutions all over the world. In a pandemic situation, the entire student community is affected, and they have only been able to overcome this situation through the concept of online learning & exam. Adopting technology-based learning has benefited a greater number of educational institutions and students.

The use of the internet will have greatly accelerated the process of human communication. Scientific advances have had an impact on all aspects of human life. Science and technology have come to prominence in today's society. Science and technology are used in all sectors, including hospitals, banks, and industries. During a pandemic, its success is also generalized to the teaching and learning sectors. It is a teaching learning process that makes teaching learning systematic, effective, and faster not only during the pandemic, but also in various forms such as submitting assignments, posting lectures in student communities, conducting quizzes, and so on, using technology-based learning.

The term "online learning and exams" refers to computer-based teaching and learning. It entails incorporating information technology, information and communication technology, the internet, CDs, DVDs, and other media into the teaching and learning process. Online learning and exam involves a large number of technology applications such as audio and video, Power Point presentations, PDF, and so on. The novel coronavirus (COVID-19) pandemic has posed challenges for all educational facilities, necessitating a rapid shift from traditional face-to-face instruction to online learning & exam (Gregor Leonhard Olmes at el, 2021).

Social distances is the best method, Stay home, be safe, Be hygiene, Soonly introduce some medicines to recover people and live a healthy and happy life.

Review of Literature

Students are enthusiastic about using Learner-Generated Digital Media (LGDM) for science learning. Students valued group work and creativity, and they saw digital media support as an important part of their learning experience (Jorge Reyna and Peter Meier, 2018). Students rated all digital teaching formats as excellent. The medical students' broad acceptance of the online course during COVID 19 pandemic indicates that digital learning options can partially replace byconventional face-to-face teaching. Online teaching may be an alternative or supplement to traditional education for lecture-based content. However, bedside teaching remains an important component of medical education (Gregor Leonhard Olmes at el, 2021).

According to Muthuprasad at el (2021), students preferred to learn online using their smart phones. Students also prefer recorded classes with a quiz at the end of each class to improve learning effectiveness. Students believe that the flexibility and convenience of online classes make it an attractive alternative, whereas broadband connectivity issues in rural areas make it difficult for students to participate in online learning initiatives. There is a significant difference between the mean scores in attitude towards online learning of higher secondary school boys and girls, Government and Private schools and Rural and Urban higher secondary schools (Kotreshwaraswamy A Surapuramath, 2021).

A satisfactory level of students' emotions toward schools and education during the closure of schools and institutions indicates that students demonstrated enthusiasm for learning despite the imposed situation. (Alireza Mirahmadizadeh at el, 2020). Students' negative anxiety as a result of the pandemic is reflected in their e-learning processes. The digital learning process's and digital citizenship behaviour has a positive response to the COVID-19 closure period (Umut Akcil and Mert Bastas, 2021). According to the students, online learning is not the same as in- person learning. The students have also stated that they were nervous about completing a semester online so quickly. They proposed that, with the majority expressing anxiety about online learning as well as disappointment about the graduation ceremony and online learning (Shem Unger, William R. Meiran, 2020).

There is no significant relationship between students' curiosity in computer, usefulness of computer to students and easiness in using online learning at undergraduate level. Slow and inadequate internet facilities, with least understanding of students about online learning, often develop negative approach among students concerning online learning. Policy makers should include online learning topics in the curriculum and the government needs to organize workshops and seminars for teachers to equip them with knowledge and application of computer in academic process (Obaid Ullah, Wasal Khan and Aamir Khan, 2017).

Online examination is more advantageous than conventional paper-based exams. The outcome also applies to the authenticity of grading and the overall efficiency concerning the time, effort and expenditure on conducting the examination. Contrarily, the participating students also recognized numerous hurdles in implementing e-exams concerning security, validity, and impartiality. Online examination is especially relevant for formative assessment of learning instead of summative assessment, provided authenticity, security, and flexibility are used as fundamental tenants in the proper implementation of e-exams (Mohammed Arshad Khan at el, 2021).

Research Gap

The literature review revealed that most of the research studies are undertaken to showcase the students' perception and attitude towards the online learning during COVID-19. However, empirical studies to examine the perspective of students towards online learning & exam during the post pandemic are very few and far between.

Objectives of the Study

- To analyze the learners perceptions towards the effectiveness of online learning during post COVID-19.
- To study the levels of attitude towards online exam during post COVID-19.

Hypotheses of the Study

1. There is no significant difference in the effectiveness of online learning and personal factors.
2. There is no significant difference in the level of attitude towards online exam and personal factors.

Research Methodology

The respondent who have knowledge and experience in E-Learning and E-exam alone considered for the study. A sample of 43 respondents has been taken for the study by adopting purposive sampling technique in Coimbatore city.

Source of Data

The study is mainly based on primary data. Questionnaire has been designed for the learners' perspective towards online learning & exam. A final structuring of questionnaire has been based upon the reliability and validity test. Cronbach's alpha test has been applied to test the reliability of the research instrument. The alpha coefficient has been found to be ranging from 0.711 to 0.791 which is above the standard value (proposed by Nunnally, 1978) of 0.70. This shows that the instrument is reliable.

Necessary secondary data have also been collected from the journals, books, magazines, websites and unpublished research works.

ANALYSIS AND INTERPRETATION

Demographic Factors Vs. Effectiveness of online learning

ANOVA has been used to test whether the scores obtained for 'Effectiveness' has differed significantly among the respondents classified based on 'personal factors' with the following null hypothesis.

H₀: The effectiveness score does not differ significantly among the demographic factors.

The null hypothesis has been tested for each of the demographic factors separately and the results are presented in the following table no: 1

Table No: 1 - Demographic Factors and Effectiveness of online learning

Demographic Factors	Groups	N	Mean	S. D	F	Sig.
Age	Below 10 years	9	3.5356	.76616	.796	.458(NS)
	10-20 years	26	3.8715	.74448		
	20-30 years	8	3.6375	.75337		

Educational Qualification	Secondary School Level	8	3.3075	.65404	1.209	.049 (*)
	Higher Secondary School Level	8	3.8538	.68742		
	UG	24	3.8646	.80095		
	PG	3	3.8467	.43097		
Family Monthly Income	Below Rs 20,000	18	3.9500	.64593	2.183	.105(NS)
	Rs 20,000-Rs 40,000	12	3.6150	.77291		
	Rs 40,001-Rs 60,000	5	4.1460	.78344		
	Above Rs 60,000	8	3.2963	.74978		
Place of residence	Rural	20	3.8650	.66628	1.451	.040 (*)
	Urban	19	3.6363	.81004		
	Semi Urban	4	3.7975	.94154		

(Source: Computed NS- Not Significant *- Significant at 5% level **- Significant at 5% level)

The respondents whose age between 10-20 years with a mean score of 3.8715 has higher level of effectiveness score than others. In educational qualification, it is found that the under graduate students have scored the maximum of 3.8646. It shows that the mean score is found to be high (4.1460) among the respondents who has an family monthly income of between Rs.40,001 - Rs. 60,000. The respondents who are in rural area with a mean score of 3.8650 have higher level of effectiveness score. It shows that there is no significant difference in the level of effectiveness score with respect age and family monthly income. Hence, the null hypothesis has been accepted whereas the null hypothesis has been rejected with respect to educational qualification and place of residence.

Demographic Factors Vs Attitude towards online exam

ANOVA has been used to test whether the scores obtained for 'Attitude' has differed significantly among the respondents classified based on 'personal factors' with the following null hypothesis.

H₀: The attitude score does not differ significantly among the demographic factors.

The null hypothesis has been tested for each of the demographic factors separately and the results are presented in the following table no.2

Table No: 2 - Demographic Factors and Attitude towards online exam

Demographic Factors	Groups	N	Mean	S. D	F	Sig.
Age	Below 10 years	9	3.8889	.71574	0.518	.600(NS)
	10-20 years	26	3.8181	.67984		
	20-30 years	8	3.5788	.57653		
Educational	Secondary School Level	8	3.7588	.60322	1.164	.030 (*)

Qualification	Higher Secondary School Level	8	3.7025	.83464		
	UG	24	3.7979	.68492		
	PG	3	4.0200	.03464		
Family Monthly Income	Below Rs 20,000	18	3.9728	.55260	1.791	.165 (NS)
	Rs 20,000-Rs 40,000	12	3.5675	.72018		
	Rs 40,001-Rs 60,000	5	4.0880	.82309		
	Above Rs 60,000	8	3.5175	.61005		
Place of residence	Rural	20	3.7790	.60448	1.159	.053 (*)
	Urban	19	3.8326	.69609		
	Semi Urban	4	3.6250	.93714		

(Source: Computed NS- Not Significant *- Significant at 5% level **-. Significant at 5% level)

The respondents whose age below 10 years with a mean score of 3.8889 has higher level of attitude score than others. In respect of educational qualification, it is found that the Post Graduate students have scored the maximum of 4.0200. The table shows that the mean score is found to be high (4.0880) among the respondents who has an family monthly income of between Rs.40,001 - Rs. 60,000. The respondents who are in urban area with a mean score of 3.8326 have higher level of attitude score. It is understood from the significant value that, there is no significant variation in the level of attitude score based upon their age and family monthly income. Hence, the null hypothesis has been accepted whereas the null hypothesis has been rejected with respect to educational qualification and place of residence.

Factor Analysis

The factor analysis technique has been applied to identify the underlying dimensions in the set of statements relating to the **effectiveness of online learning during post pandemic**.

The Rotated Factor Matrix using varimax rotation (Table titled Rotated Component Matrix) has been given in table where each factor has identified itself with a few set of variables. The variables which have been identified with each of the factors have been highlighted against each column and row.

Table No:3 - Rotated Component Matrix for effectiveness of online learning

Rotated Component Matrix	Component			Factors Identified
	1	2	3	
	The usability and expertise in computer ensures the effectiveness in computer mediated learning.	.092	.133	
Quality of teaching and learning can be increased through Online learning because it integrates various types of media.	.321	.183	.853	
Using online learning makes learning interesting.	.405	.157	.721	

Online learning highly motivates the students for taking extra/advance courses	.281	.823	.296	Learningscope
Online learning ensures the effectiveness in terms of coping up with missed lectures.	.366	.771	.259	
Online learning is economic in terms of time for students and teachers.	.245	.801	.053	
Students and teachers interaction is good through online learning.	.671	.419	.029	Operative learning
Online learning ensures the effectiveness for presenting the work in class.	.816	.383	.043	
Online learning offer maximum engagement of students.	.807	.413	.018	
Productivity of students can be enhanced through online learning to strengthen educational concepts.	.597	.269	.463	
Access to education increases through online learning.	.789	.270	.255	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations.

It is found from the table that, 11 variables have been reduced to three factor models and each factor has been identified with the corresponding variables viz., Technological Adoption, Learning scope and Operative learning.

Attitude towards online exam

The factor analysis technique has been applied to identify the underlying dimensions in the set of statements relating to the **students attitude towards online exam during post pandemic**.

Table No:4 - Rotated Component Matrix for attitude towards online exam

Attitude towards online exam	Component			Factors Identified
	1	2	3	
Using cutting-edge technology in online exams allows students to take a new learning approach, i.e., online learning.	.346	.277	.456	Perception
Online exams help a more adaptive learning approach than pen-paper-based ones.	.174	.109	.796	
Online exams are more efficient in terms of time, effort and money spent.	.199	.515	.715	

Online exams are more accessible than traditional exams.	.128	.281	.834	
Online examinations reduce stress and exam anxiety.	.034	.283	.861	
Online exams are appropriate for any subject area.	.709	.127	.517	Assessment
Online exams are suitable to test the learners' level of knowledge.	.729	.123	.359	
Online exams are more accurate assessment than traditional methods.	.594	.578	.249	
Online exams are more valid and reliable than traditional exams.	.856	.278	.143	
Test materials and results of online exams are safer than traditional methods.	.728	.148	.414	
Setting up an automated timer for the whole exam or per question means that online exams are more secure than traditional ones.	.604	.592	-.074	
Online exam system offers speedy and accurate solutions within the desired time limit compared to traditional method.	.476	.603	.320	Accuracy
Using online exams allows students to focus and concentrate more on the questions.	.198	.839	.170	
Students feel more comfortable while appearing in an online exam than a traditional one.	.361	.445	.311	
The technology used in online exams is sufficiently effective in dealing with cheating and plagiarism.	.068	.855	.027	
Immediate feedback in online exams helps students to get a deeper understanding of the subject.	.347	.502	.306	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations.

It is found from the table that, 16 variables have been reduced to three factor models and each factor has been identified with the corresponding variables viz., perception, assessment and accuracy.

DISCUSSION AND IMPLICATIONS

The primary objective of this study is to know the Learners' Perspective towards online learning & exam during post COVID-19 Outbreak. It is observed from the study that most of the respondents are in the age group of 10-20 years of male students who have been pursuing under graduation in urban areas. Most of the learners' family monthly income

has been Rs.20,000 - Rs.40,000. Highest mean score has been found for the statements “The usability and expertise in computer ensures the effectiveness in computer mediated learning” under effectiveness of online learning and “Students feel more comfortable while appearing in an online exam than a traditional one” under attitude of online exam. It shows that the learners’ are more comfortable with the online learning & exam during post COVID 19, since they have experience in usability and adoptability of technologies.

The respondents have opined that online Learning has not been providing adequate platform for quality interaction among students and teachers with maximum engagement along with lack of strengthening on productivity of students in educational concepts. Therefore, educational institution should take necessary steps such as providing face to face learning for major and elective core papers along with E-materials, lecturer videos, posting assignments in virtual groups etc., can be shared among the students to strengthening on productivity of students in educational concepts. Hence, the educational institutions can adopt online learning & exam for extra/additional course, Value added course, conducting E-Quiz etc., in order to go for technology based learning along with face to face learning in this post COVID-19 era.

The study reveals that the automated timer for online exam, valid & reliability of online exam and focus & concentration more on question have exposed the least mean score under attitude of online exam. It shows that the educational institution should orient the students about the discipline practice during online exam. Educational institution can conduct the e-exam with shuffle question along with personal/video monitoring helps to maintain the decorum on the online examination hours. Online exam is one of the important concepts in eradicating the paper based traditional exam. Hence, the Educational institution has given priority now-a-days slowly towards online examination during post COVID-19.

Educational qualification and place of residence plays a major role in influencing the effectiveness of online learning and with attitude of online exam at 5 per cent level of significance. It is inferred that the variation in educational qualification (especially Post Graduate students) influences the level of effectiveness towards online learning and under graduate students particularly influences the attitude of online exam. Differences in place of residence (especially urban area respondents) also influence the effectiveness level of online learning and specifically rural area residence influences the level of attitude towards online exam. Educational institution can implement the online learning & exam during post COVID-19 based upon the learners’ qualification and place of residence.

Online learning & exam has made the students to become slaves to the technology. To overcome this fact, parents, educational institutions and governments should prevent the students in getting addict towards technology by giving proper guidance, counseling and assist them about the usability of technology. It is found that, eleven variables have been reduced to three factor models and each factor has been identified with the corresponding variables viz., Technological Adoption, Learning scope and Operative learning under effectiveness of online learning. The three factor model has been identified with the corresponding variables viz., perception, assessment and accuracy under attitude of online exam.

CONCLUSION

Online learning & exam is one of the most trusted areas for imparting education using educational tools and communication media. It is the learning and assessment facilitated by information and communication technology. The government has supported various online learning & exam programs to develop various tools and technologies to promote it. A large number of internet users are accessing the internet from their smart phones, tablets, laptop and computer increasingly. The government of India has taken several initiatives through the ministry of education and university grant commission, which launch online learning & exam platforms for students during pandemic and post pandemic. The study reveals that usability and expertise in computer ensures the effectiveness in computer mediated learning and students feel more comfortable while appearing in an online exam than a traditional one.

The respondents have opined that online learning has not been providing adequate platform for quality interaction

among students and teachers with maximum engagement along with lack of strengthening on productivity of students in educational concepts. The study reveals that the automated timer for online exam, valid & reliability of online exam and focus & concentration more on question have exposed the least mean score under attitude of online exam. Educational qualification and place of residence plays a major role in influencing the effectiveness of online learning and with attitude of online exam at 5 per cent level of significance. Online learning & exam has made the students to become slaves to the technology.

LIMITATIONS OF THE STUDY

The study is subject to the following limitations

- The study is restricted to Coimbatore city within the territorial limits.
- The information obtained from the learners is assumed to be unbiased.

SUGGESTIONS FOR FURTHER RESEARCH

The below noted suggestions can be considered for further studies,

- A comparative study can be made related to the attitude of students and teachers towards online learning.
- A comparative study can be made to study the factors that influence the online learning among different region.
- An elaborate study can be made based on the online learning and assessment towards students and teachers.

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Declaration of competing interest

The authors (we) declare that there is no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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