

Student's preferences and factors affecting learning in Online Education

¹Sujatha.U, ²R. Gunasundari,

¹Research Scholar, Department of Computer Science
Karpagam Academy of Higher Education, Coimbatore

²Professor and Head, Department of Computer Applications,
Karpagam Academy of Higher Education, Coimbatore

Abstract:

COVID -19 pandemic disturbed the academic activities of the educational institutions. Without identifying the readiness, preferences of learners the effectiveness of online education does not completely provide the required outcomes expected from a graduate. Even with the limitations in accessing the network, online learning creates an opportunity for learning courses of their interest with their own phase of learning from world-class universities. An online survey was conducted to investigate students' perception of the learning process with 108 students selected randomly to explore the effectiveness, challenges, and advantages of online education. Responses were collected using Google Forms. This study investigates different perceptions of online learning among students of higher educational institutions.

Introduction

A destructive novel coronavirus, probably originating from Wuhan, China, as well as other parts of the world, has forced educational institutes to close indefinitely. With the study from UNESCO[1] many countries like India closed educational institutes for more than 82 weeks as given in Figure 1.

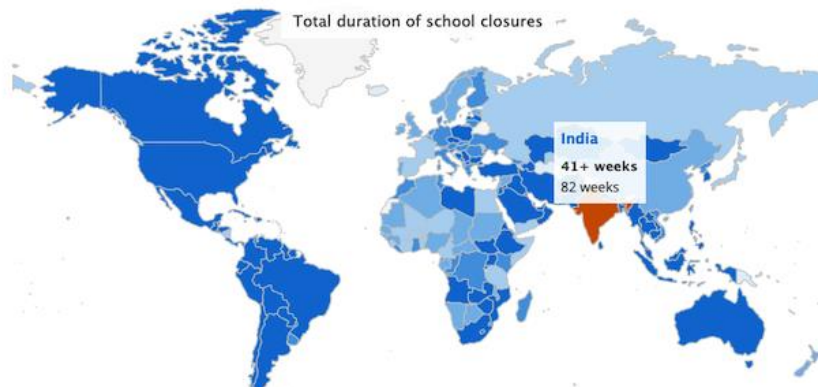


Fig 1. Lockdown duration of Educational Institutes

In spite of different variants of Coronavirus, Education systems pivoted to online learning, and deploy with different platforms Television, Google meet, Teams, Zoom, YouTube, etc.

Online education is not a new practice, before the pandemic with digitalization, many educational institutions across different program offers different blended courses to promote self-learning. Learning Analytics is an interdisciplinary field that combines teaching methods, mathematical and statistical tools to analyse and the supporting tools enhance the teaching learning methods. It improves learning practice by the pedagogical initiatives in teaching learning. It indicates shift in towards a deeper understanding of students' learning experiences during online learning.[2]

It helps the learners and instructors to identify the threats unsuccessful learning experiences. By making, informed decisions based on the mining techniques, help to deliver the innovations in teaching learning[3].The purpose of this study is to gain deeper

insight by identifying factors that students give preferences and attributes on online learning[4].It investigates the effect of the variables: demographics, Internet access, self-efficacy, satisfaction, skill set and confidence level with the reasons for online education preferences of students' on their achievement.

Literature Survey

With the advancement in technology of online learning , education institutes implement a transition from traditional classroom teaching to online teaching. Many researchers proposed the importance of identifying factors influencing student satisfaction. Although many studies are dealing with this issue, few have succeeded in identifying determinants in student's satisfaction with online education[5].

Jose A.Ruiperez-Valiente et al., identify the learners' preferences and perceptions in the various MOOC courses with the study of 15 different MOOC providers and more than eight million learners and highlighted the attraction of local MOOC courses than global courses[6]. Dan Li et al[7] proposed abled education model in the post pandemic learning.

Correlation of the online learning with the personal skill differences Jieqi Guan et al [8] identify the difficulties in the online learning. Need for personalized skill based learning and methods for promoting self-learning are given by Eugenia Smyrnova-Trybulska[9]

Patcharin Panjaburee et al [10] explore the students' perceptions on the personalized e-learning environment with learning acceptance level. Sherrilyn Coffman [11] proposed an universal learning design method to meet the needs of students with different knowledge levels.

Mohammed Arshad Khan[12] has proposed a qualitative approach to enhance the online learning process with social media to improve the learning outcomes. Information Technology(IT) enabled learning environment may have differential impact on students' productivity. Anuragini Shirish [13] identifies creativity-in-learning, depending on the extent of the IT mindfulness.

Online Education Framework:

The framework from Centre for Innovation in E-Learning, Texas university, supports excellence in teaching and learning in an online environment. Quality of Online Education (QOE) framework [14] comprises of three major aspects, faculty, students, and content in online education environments to facilitate quality online classes.

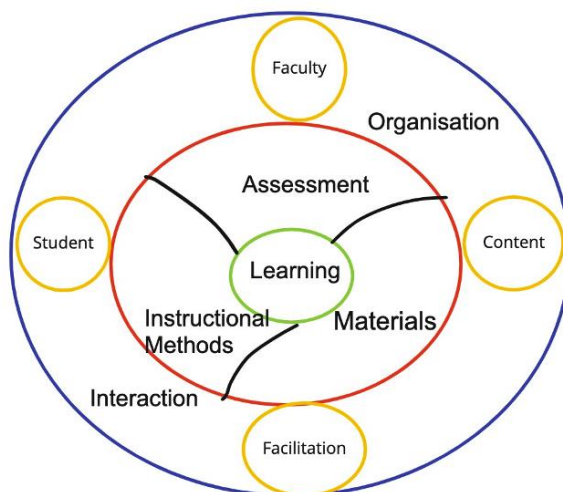


Fig 2. Quality Framework of Online Education

Quality education is a result of the collective efforts of all the stakeholders represented in the frame work. It is continuous process for the betterment and progress in the quality of education[15]. This paper identifies the impact of online education from the students' perceptions related to the satisfaction, confidence level and assessment. It helps the facilitators and education

ecosystem to incorporate the required changes in online learning and learning in the post pandemic situations. A survey questionnaire with all the parameter considering to the quality of education is taken into account while preparing the questionnaire.

Data collection and sample

Data were collected from students using an online survey with students from different higher educational institutions. The survey questions were elaborated with the detailed description, 108 respondents from various higher educational institutions responded.

Data were collected on learner’s preferences, perception, advantages and constraints in online learning. The statements were prepared based on extensive review of literature review without any biasing. To analyse and summarize the perception, statements were rated with four levels, strongly agree, agree, neutral, cannot say options were given.

Basic details of the respondents

Demographic information like age, education, and place of residence were chosen, compared to female(42%) and male(58%) respondents are high as shown in the Table 1. Students average age is below 25 and mixed students from urban and rural area are chosen for the survey.

Table 1: Demographic information

<i>Predictive variables</i>		N=108 <i>Percentage</i>
<i>Degree</i>	UG	46%
	PG	54%
<i>Sex</i>	Male	58%
	Female	42%
<i>Place of Residence</i>	Urban	47%
	Rural	53%

Preference in Online learning before pandemic

Online with blended learning was implemented only in few educational institutions before the COVID-19. Universities and Ministry of Education started enforcing them with lot of online courses with NPTEL, Swayam etc. In addition to it, world class universities offer a platform of learning with Coursera, Udemy, Edx, etc. This study reveals out the interest of online courses increased during pandemic compared to earlier days as given in the Table 2.

Table 2: Preference in Online learning

<i>Perceptions</i>		N=108 <i>Percentage</i>
<i>Undergone online course before Pandemic</i>		38%
<i>Undergone online course during Pandemic</i>		57%
<i>Platforms of interest for Online Course</i>		
	<i>NPTEL</i>	31%
	<i>Coursera</i>	38%
	<i>EDX</i>	07%
	<i>Udemy</i>	10%
	<i>Other Platforms</i>	14%

Benefits of online classes during the pandemic

Online teaching is an optimum way made a part of the education ecosystem in India during the pandemic. With online classes, learner's experiences learning with new technology(69.4%), confident on the learning(58.3%).Enhancing on soft skill(58.2%), improvements in the overall learning(48.1%) and criticised on improvements in the analytical skills(43.4%) as shown in Table 3.

Table 3:Benefits of online classes

<i>Perception</i> <i>N=108</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Cannot say</i>	<i>Disagree</i>
<i>learn about new things regarding online learning</i>	29 26.8%	46 42.6%	20 18.5%	13 12.1%
<i>confident while using online learning system</i>	28 25.9%	35 32.4%	25 23.1%	20 18.6%
<i>online learning and enhances my soft skills</i>	18 16.6%	45 41.6%	30 27.8%	15 14%
<i>Improves analytical thinking skills</i>	17 15.7%	30 27.7%	23 21.4%	38 35.2%
<i>Improves my overall learning process</i>	24 22.2%	28 25.9%	33 30.5%	23 21.4%

Teaching Learning and Assessments

Quality of online education relay on the content delivered, teaching learning methodology, interaction between the student and facilitator and the assessment. Learner's satisfaction level is measured with the feedback and outcomes of the courses. When people learn from the remote area, it is challenging to get all students participated in all the discussions. Online discussions depend on the students' access to technology like hand rise and answering to screen quizzes. Teaching learning and pedagogical methods used in traditional learning have to get adopted to the needs of the learners in online education. Students prefer to have online assessment(65.7%) with multiple choice question(69.5%). Students feedback for the facilitator(60%) highly correlated with the outcomes of the course(62.8%) as shown in the Table 4.

Table 4:Student Satisfaction in Teaching, Learning & Assessments

<i>Perception</i> <i>N=108</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Cannot say</i>	<i>Disagree</i>
<i>difficult to contribute to class discussions in Online classes</i>	44 40.7%	29 26.9%	20 18.6%	15 13.8%
<i>spend significant time and energy to engage in online learning class.</i>	20 18.3%	42 38.5%	34 31.2%	12 12.0%
<i>need to be trained before undergoing online learning activities</i>	23 21.3%	52 48.1%	23 21.3%	10 9.3%
<i>satisfied with the quality of training during COVID-19 pandemic</i>	20 18.5%	43 39.8%	30 27.8%	15 13.9%
<i>lecturers provided good content</i>	52 48.1%	33 30.6%	20 18.5%	3 2.8%
<i>confident in handling the practical examination</i>	50 46.3%	36 33.3%	18 16.7%	4 3.7%

<i>use of social media for learning</i>	33 30.5%	63 58.4%	8 7.4%	4 3.7%
<i>Feedback and Assessment</i>	50 % to 70%	70% to 80%	80% to 90%	
<i>Feedback for the Facilitator of a course</i>	28 26%	37 34%	43 40%	
<i>Marks scored in the course</i>	15 13.8%	53 49%	40 37.2%	
<i>Online Assessment</i>				
<i>Prefer for online Exams</i>	38 35.1%	33 30.6%	30 27.7%	7 6.6%
<i>Multiple Choice Questions</i>	55 51%	20 18.5%	23 21.2%	10 9.3%
<i>Descriptive Questions</i>	5 4.6%	30 27.8%	50 46.3%	23 21.3%

Conclusion:

With the shift to Online classes during the pandemic brought out several opportunities for learning in the touch time. With the sudden shift to online learning creates issues like preparation of digital content, work with ICT tools, adopting to new environment, network issues and conducting discussions and assessments. Even with distraction from social media, it consistently supports for learning with peer discussions and collaborations. The study reveals out learner's preference to learn at their own phase of learning, repeats the materials, watches again to learn better which facilitates personalised learning. To enhance the quality of learning, in the post pandemic a blended model which combined traditional and online classes with the development in digital content and real time application leads to personalised learning environment.

Reference:

1. <https://en.unesco.org/covid19/educationresponse#durationschoolclosures>
2. Keskin, Sinan & Yurdugul, Halil (2019), "Factors Affecting Students' Preferences for Online and Blended Learning: Motivational Vs. Cognitive", *European Journal of Open Distance and E-Learning*, vol 22, pp71-85, 2019.
3. T. Muthuprasad, S. Aiswarya, K.S. Aditya, Girish K. Jha, "Students' perception and preference for online education in India during COVID -19 pandemic", *Social Sciences & Humanities Open*, vol 3, issue 1, pp 45-49, 2021.
4. Adeyeye B, Ojih SE, Bello D, Adesina E, Yartey D, Ben-Enukora C, Adeyeye Q, "Online Learning Platforms and Covenant University Students' Academic Performance in Practical Related Courses during COVID-19 Pandemic", *Sustainability* vol.14(2) pp. no 878. 2020.
5. D. M. Raffo, D. W. Gerbing and M. Mehta, "Understanding student preferences in online education," *Proceedings of PICMET '14 Conference: Portland International Center for Management of Engineering and Technology; Infrastructure and Service Integration*, pp. 1555-1564. 2014.
6. Jose A. Ruiperez-Valiente, Thomas Staubitz, et al, "Large scale analytics of global and regional MOOC providers: Differences in learners' demographics, preferences, and perceptions," *Computers & Education*, vol. 180, 2022.
7. Dan Li, "The Shift to Online Classes During the Covid-19 Pandemic: Benefits, Challenges, and Required Improvements from the Students' Perspective", vol. 20 Special Issue: COVID-19 and the Future of e-Learning, 2022.
8. Jieqi Guan, Pimtong Tavitiyaman, Lianping Ren, Peilai Wang & Fang Hong, "Hospitality Students Taking Synchronous Online Classes: Are They Ready?", *Journal of Quality Assurance in Hospitality & Tourism*, 2022.
9. Smyrnova-Trybulska, E., Morze, N. & Varchenko-Trotsenko, L, "Adaptive learning in university students' opinions: Cross-border research. *Educ Inf Technol*", 2022.
10. Panjaburee, P., Komalawardhana, N. & Ingkavara, T., "Acceptance of personalized e-learning systems: a case study of concept-effect relationship approach on science, technology, and mathematics courses", *J. Comput. Educ.*, 2022.
11. Sherrilyn Coffman, Christine Draper, "Universal design for learning in higher education: A concept analysis, *Teaching and Learning in Nursing*", vol 17, Issue 1, pp 36-41, 2022.

12. Khan, M.A.; Vivek; Nabi, M.K.; Khojah, M.; Tahir, M., "Students' Perception towards E-Learning during COVID-19 Pandemic in India: An Empirical Study. Sustainability", vol 13, pp 57-60, 2021.
13. Shirish, Anuragini & Chandra, Shalini & Srivastava, Shirish, " Switching to online learning during COVID-19: Theorizing the role of IT mindfulness and techno eustress for facilitating productivity and creativity in student learning", International Journal of Information Management, 2021.
14. <http://ciel.educ.ttu.edu/qoeweb/>
15. Luu, T. M. V, "Readiness for Online Learning: Learners' Comfort and Self-Directed Learning Ability", International Journal of TESOL & Education, vol 2(1), pp 213–224. 2021.