Transforming LIS Education through MOOCs: A study based on University of Lucknow and Babasaheb Bhimrao Ambedkar University

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ABSTRACT

The present study aims to investigate the views and perspectives of Library and Information Science respondents towards the utilization of Massive Open Online Courses. Key objectives include understanding the motivation of respondents behind choosing a MOOC course, assessing the extent of user engagement after enrollment, determining overall user satisfaction levels, and finding out the preference among different modes of learning, namely Classroom/Online/Blended Learning. Data obtained was identified through the distribution of a mixed questionnaire. Notably, 66% of participants enrolled in MOOCs to advance their qualifications and enhance their career prospects. A significant proportion of respondents disagreed with the statement that the online environment is more attractive as compared to classroom studies. Furthermore, the study found that 29.68% of respondents prefer Classroom/Traditional Learning when compared to other alternative modes, and 55% of respondents expressed satisfaction with their overall MOOC learning experiences. The paper also delves into suggestions for enhancing MOOCs and discusses their role within Library Science, where libraries can highlight the potential benefits of this alternative and innovative method of education.

KEYWORDS: Massive Open Online Courses, Library and Information Science, Online Learning, Attitude, MOOCs and Library Science.

INTRODUCTION

In recent years, Massive Open Online Courses (MOOCs) have emerged as a groundbreaking innovation in education, revolutionizing the way people access and engage with learning materials. MOOCs aim to provide a comprehensive educational format. In 2011, MOOCs reflected significant developing trends in education and were introduced by several organizations such as Coursera, Udacity, and EDX **(Alhazzani, 2020)**. MOOCs provide an

unprecedented opportunity for individuals worldwide to access high-quality educational content from renowned institutions and expert instructors. They have democratized access to education, enabling individuals who may not have had the opportunity to pursue formal education to acquire knowledge and skills that can enhance their personal and professional lives. MOOCs have also served as a platform for lifelong learning, allowing professionals to stay updated with the latest developments in their fields and explore new areas of interest having a notable effect on the field of education. Between 2019 and 2021, the global enrollment in MOOCs increased by an astounding 70%, with millions of learners worldwide opting for online education. In 2019, around 900 universities and educational institutions were actively offering MOOCs. By 2021, this number grew to over 1,200 encompassing the expanding engagement of traditional academia in online education. The recognition and acceptance of MOOC certificates by employers and institutions also saw a substantial uptick. In 2019, 65% of employers considered MOOC certificates valuable, while this figure rose to 80% by 2021.

The introduction of MOOCs has transformed the educational landscape in a diversified way, offering unprecedented opportunities for global access to high-quality education. The flexibility, interactivity, and scalability of MOOCs have empowered learners to pursue their educational aspirations and engage in lifelong learning. However, the introduction of MOOCs has not been without challenges. MOOCs need help to overcome significant challenges like high dropout rates and low levels of learner participation in various educational activities **(Papadakis, 2023).** Issues such as low completion rates, unavailability of internet/laptop, maintaining course quality at scale, and ensuring effective assessment and feedback mechanisms have been areas of concern. Additionally, questions regarding the recognition and transferability of MOOC certificates and credits in formal educational systems have emerged, necessitating further exploration and development. While challenges remain, the potential of MOOCs to bridge educational gaps, promote inclusivity, and foster a culture of continuous learning is vast.

The primary objective of this study is to investigate the views and attitudes of various users when participating in a MOOC and to determine their preferred mode of learning in the educational landscape.

REVIEW OF LITERATURE

A few important studies which are conducted on the subject have been reviewed to identify the literature gap.

Wang et al (2023) gathered the reasons for the high dropout rate of the MOOCs. A total of 74 studies were extracted from the Web of Science and Scopus. Following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, the open-source program CiteSpace is employed, and findings revealed that MOOC dropout rates are psychological, social, personal, course-related, time factors, and unexpected hidden costs. **Pertuz et al (2023)** studied how to integrate MOOCs into traditional, face-to-face, Undergraduate Engineering Courses. Findings revealed that the MOOC-based flipped (MBF) methodology is a growing trend in Undergraduate Engineering Education with the potential to facilitate students' active learning in synchronous face-to-face sessions on the usage of MOOCs.

Bala and D'silva (2022) employed web content analysis and questionnaire methods to collect data related to the the current growth of MOOCs in India. The study interviewed 75 students and 45 faculties of St. Teresa's College, Ernakulam, to explore their perceptions of MOOCs as a higher education system. The study found that 75.3% of respondents joined/completed the MOOC courses, whereas some respondents had no idea about it. Among the 75.3% of respondents who joined/completed the course, 89.4% of respondents completed one or two certification

courses, 7.6% of respondents have completed 3 to 5 classes and only 3% of respondents have completed between 6 to 10 online courses.

Moura et al (2021) aimed to understand how MOOCs can be better integrated into blended learning. To do so, an exploratory case study was carried out in a MOOC-based BL. The results showed that the MOOC was used as a blended learning method in an introductory course, replacing part of the hours of face-to-face classes, allowing an increase in the number of students per teacher, besides making the discipline more attractive to the students. **Naskar**

et al (2021) aimed to highlight the popularity of Emerging Trends & Technologies in Library & Information Services (ETTLIS) course and investigate the learners' involvement using the YouTube Channel and Discussion Forum of the course. It was found that the learners' active participation in the online discussion forum saw an increase from time to time, and the performance of social media involvement also got popularized through the YouTube channel.

Roy et al (2021) aimed to analyze how MOOCs can be convenient for Library and Information Science (LIS) aspirants. A web-based survey has been conducted to collect data from different MOOCs providers. Five major MOOCs providers have been picked and a total number of 39 courses related to LIS were identified for this study.

Gupta and Kabra (2020) gave an overview of the courses being offered on the SWAYAM platform about Library and Information Science. LIS MOOCs are of different levels, namely, school level, post-school level, master's level, and a course for continuing education for working librarians and LIS teachers working in universities and colleges. More than 26000 students enrolled in LIS courses and focused on understanding the satisfaction of the learners from pursuing MOOCs.

Previous studies have primarily focused on topics such as the high dropout rate of MOOCs, Learner satisfaction and MOOC-based blended learning model, the philosophy and characteristics of MOOCs, and web content analysis of the growth of MOOCs in India. However, there has been an absence of research aimed at assessing MOOCs from the perspectives of students and research scholars. Therefore, this study is conducted to address the gap in the literature. The current study has been designed to gather the opinions of both students and research scholars. Its objective is to propose measures that can help MOOCs become a valuable tool for promoting learning, removing learning barriers, facilitating the democratization of knowledge, and ensuring equal learning opportunities for all.

OBJECTIVES

- ✓ To find out the purpose of opting for a MOOC program.
- ✓ To identify that after enrolling how many users continue with the MOOC program.
- ✓ To find out the starting and completion periods of MOOC users.
- ✓ To find out the completion rate of exercises and content watched/read in MOOC.
- ✓ To find out the views and attitudes of respondents towards the use of a MOOC course.
- ✓ To find out the overall satisfaction level of users while doing a MOOC course.
- ✓ To find out opinions and suggestions from the users as to which mode of learning is preferred more; Classroom learning/Blended Learning/Online Learning.

AREA OF STUDY

The current research focuses on two universities located in Lucknow:

- ❖ Babasaheb Bhimrao Ambedkar University, Lucknow.
- ❖ The University of Lucknow, Lucknow.

METHODOLOGY

For this study, the population under investigation was the LIS Community of the two universities. The LIS community includes faculty members, research scholars, students, and professional staff. In the present study, Descriptive Research Design has been adopted. A statistical investigation in which the data is collected for every element/unit of the population is termed a census method. It is useful when case intensive study is required, or the area is limited. As the area of the present study is limited to the LIS Community of Babasaheb Bhimrao Ambedkar University and the University of Lucknow, a census study was chosen and data was collected from the whole population. The data collected was obtained through surveys employing questionnaires. Considering the study's scope and objectives, a mixed questionnaire was developed, encompassing both open-ended and closed-ended questions. The questionnaire was administered to faculty members, research scholars, and students enrolled in B.Lib.I.Sc, M. Lib.I.Sc, and M.Phil programs, as well as professional staff.

Table 1: Distribution of Questionnaire to LIS Community

S. N	Type of Respondent	Babasaheb Bhimrao Ambedkar University	University of Lucknow	Total
1	Faculty	7	6	13
2	Staff	8	10	18
3	Scholar	32	6	38
4	Student	89	46	135
TOTAL				**204**

The data collection process involved conducting an online survey and manually gathering responses from the participants. The online survey was shared by distributing a URL link across various social networking sites. 204 questionnaires were distributed across the universities, resulting in 155 completed responses received. Among these 155 responses, a cohort of 100 participants completed the entire questionnaire, while the remaining individuals, lacking awareness of MOOC courses, were consequently excluded from the data analysis. All the responses were taken into an MS Excel sheet for smooth analysis. Frequency with percentage analysis and the Likert scale were employed to calculate the survey responses. To determine the percentage, the frequency was divided by the total number of responses and then multiplied by 100. Tables were constructed and different graphs were used to represent the data.

DATA ANALYSIS

Table 2: Demographic Profile of Respondents

Variable	Type	Frequency	Percentage
Gender	Male	65	41.90%
	Female	90	58.10%
Total		155	100.00%
Age	Below 25	60	38.70%
	26-30	65	41.90%
	31-35	10	6.50%
	36-40	10	6.50%
	41-45	4	2.60%
	46-50	2	1.30%
	50 and above	4	2.60%
Total		155	100.00%
Academic Status	Students	100	64.51%
	Research Scholars	32	20.64%
	Faculty	8	5.20%
	Staff	15	9.70%
Total		155	100.00%
The course pursued by Students	B.Lib.I.Sc	65	41.94%
	M.Lib.I.Sc	31	20%
	M.Phil	4	2.58%
	PhD	32	20.65%
	No Response	23	14.83%
Total		155	100.00%
University	University of Lucknow	66	42.58%
	Babasaheb Bhimrao Ambedkar University	89	57.42%
Total		155	100.00%

Table 3: Purpose of Joining MOOC

S. N	Statements	Frequency	Percentage
1	Online education is a viable alternative during the COVID-19 pandemic.	43	43%
2	Online education is better as compared to physical classroom study.	19	19%
3	Online Learning is more flexible as compared to classroom learning.	29	29%
4	Wanted to pursue a passion outside the classroom/job.	47	47%

5	Wanted to increase my qualifications and enhance my career opportunities in jobs.	66	66%
6	It was made compulsory by my university to opt for this course.	13	13%
7	Allows you to learn different languages.	12	12%
8	Other	2	2%
	Note: Respondents were allowed to tick more than one option.		

Respondents were asked to indicate their reasons for joining the MOOC, with the provision of selecting multiple options. As discerned from Table 3, it is evident that out of the total 155 participants, a significant portion of 66% (66 out of 155) enrolled in the MOOC as they wanted to enhance their qualifications and expand their career prospects. This was closely followed by 47 participants (47%) who expressed pursuing personal interests beyond the traditional classroom or job environment. Additionally, 43% of participants sought the MOOC as an adaptive response during the COVID-19 pandemic, owing to its flexibility in online education.
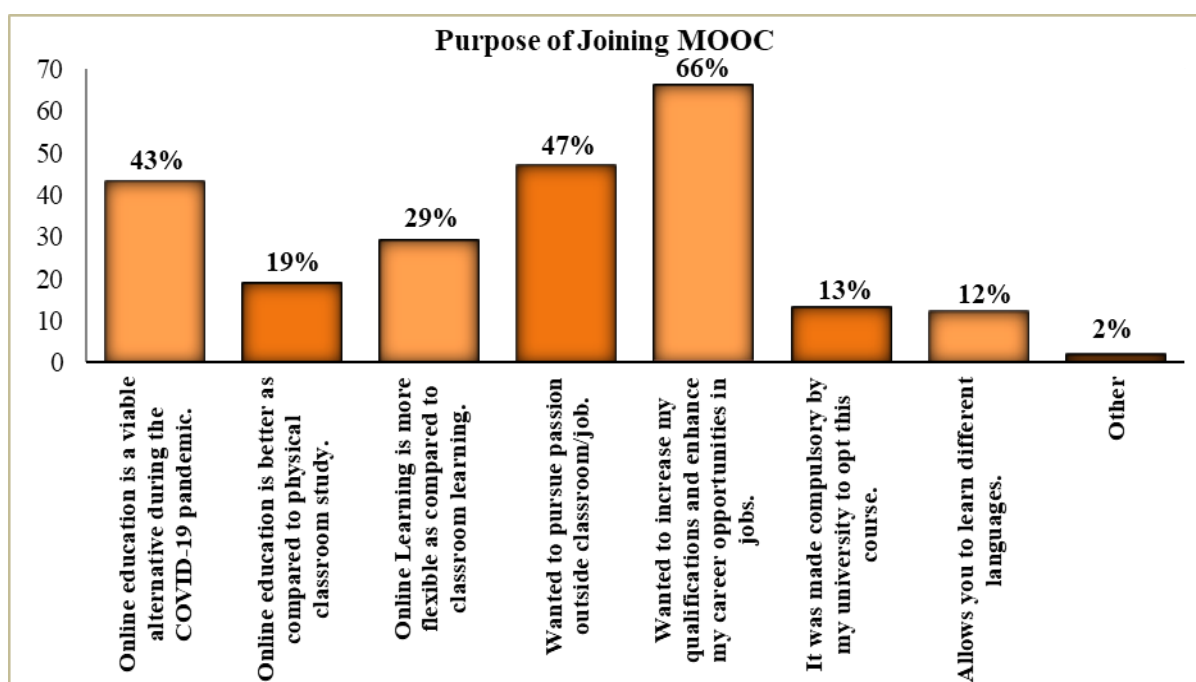
Figure 3: Purpose of Joining MOOC

Table 4: MOOC Status of Respondents

Status	Frequency	Percentage
Pursuing	63	63%
Completed	37	37%
Total	**100**	**100.00%**

Respondents were asked about their status regarding the course, and whether they were currently pursuing it or had already completed it. As indicated in Table 4, the data reveals that 63 i.e., 63% of respondents are presently engaged

in pursuing the course. On the other hand, 37%, comprising 37 individuals, have completed the course. Data from Table 4 is represented by the figure given below:
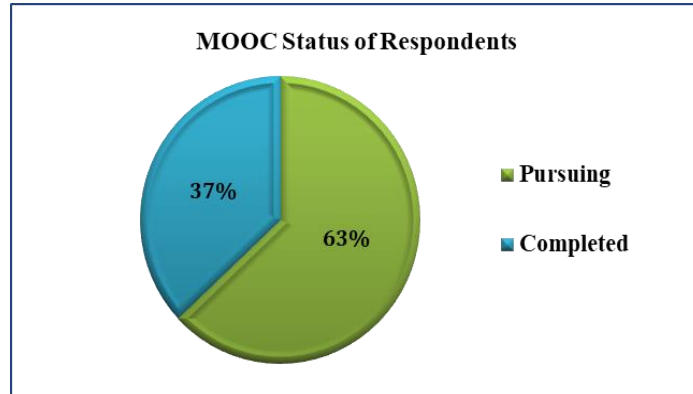

Figure 4: MOOC Status of Respondents

Table 5: MOOC: Start/End Period

S. N	Categories	START		END	
		Frequency	**Percentage**	**Frequency**	**Percentage**
1	Before the COVID era	12	12%	14	14%
2	During the Quarantine period	30	30%	16	16%
3	4-6 months back	7	7%	2	2%
4	2-3 months back	5	5%	2	2%
5	a month back	4	4%	1	1%
6	Other	5	5%	2	2%
	Total	**63**	**63%**	**37**	**37%**

The respondents were asked two questions: firstly, if they were currently pursuing a MOOC course then when they started it, and second, if they completed it then when they completed it. A set of six categories was offered to participants, from which they were required to select a single option. Table 5 shows that 30% of the respondents were pursuing a MOOC course during the Covid era and concurrently, 16% of respondents completed their courses within the same period, showcasing a notable alignment between course initiation and completion during the quarantine phase. Further, Table 5 shows that 14% of participants had concluded their MOOC studies before the onset of the COVID era. In addition, 7% of respondents were engaged in their studies 4-6 months preceding the present date.
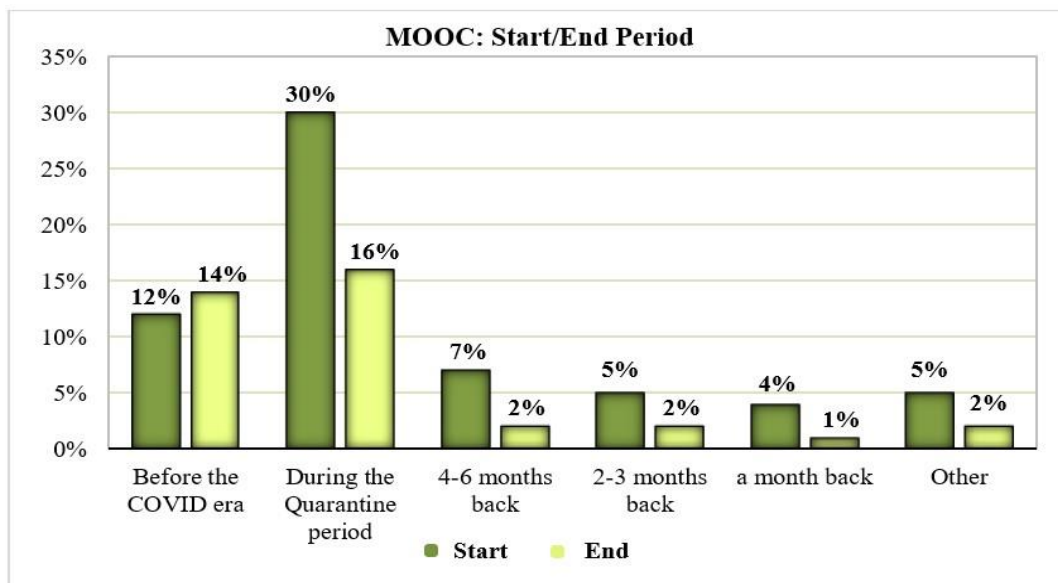
Figure 5: MOOC: Start/End Period

Table 6: Dropout Period of a MOOC

S. N	Category	Frequency	Percentage
1	First few days	4	4%
2	First few weeks	2	2%
3	Towards the middle	8	8%
4	Towards the end	6	6%
5	Just before the end	5	5%
Total		**25**	**25%**

Respondents were asked if they dropped out in between while pursuing a MOOC course and if yes then when did they drop out. This was asked to find out that after enrolling in a MOOC how many respondents continued with it and completed it. Table 6 shows that 8% of the respondents left the course towards the middle while 6% of the respondents left it towards the end. Also, 4% left it in the first few weeks and 5% left it just before the end.
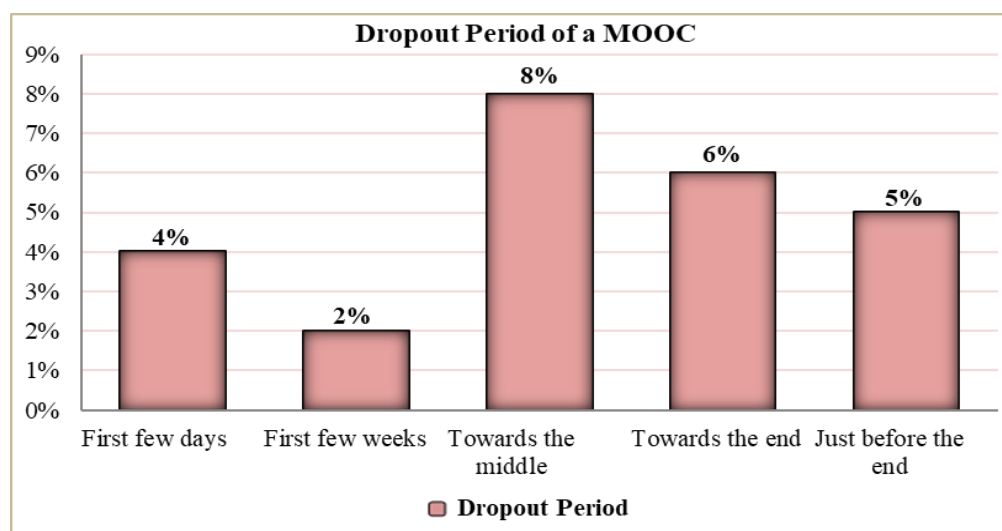

Figure 6: Dropout Period of a MOOC

Table 7: Completion Rate of Exercises and Content Watched/Read in MOOC

S. N	Category	COMPLETION RATE OF EXERCISES		CONTENT WATCHED/READ	
		Frequency	Percentage	Frequency	Percentage
1	All	34	34%	25	25%
2	Most	18	18%	26	26%
3	Around half	17	17%	20	20%
4	A few	24	24%	23	23%
5	Any other	7	7%	6	6%
	Total	**100**	**100%**	**100**	**100%**

The respondents were asked to indicate their completion rate for exercises and the extent of content consumption—whether watched or read—during their participation in a MOOC course. They were presented with a range of five categories from which to select their responses. Table 7 shows the prevailing trends. Substantial respondents, precisely 34%, affirmed that they had completed all exercises within the MOOC course. Conversely, 24% of respondents indicated their completion of only a few exercises, while 18% conveyed the accomplishment of most exercises. On the other hand, 26% of the respondents watched/read most of the MOOC content and 20% of the respondents watched/read around half the exercises of MOOC.
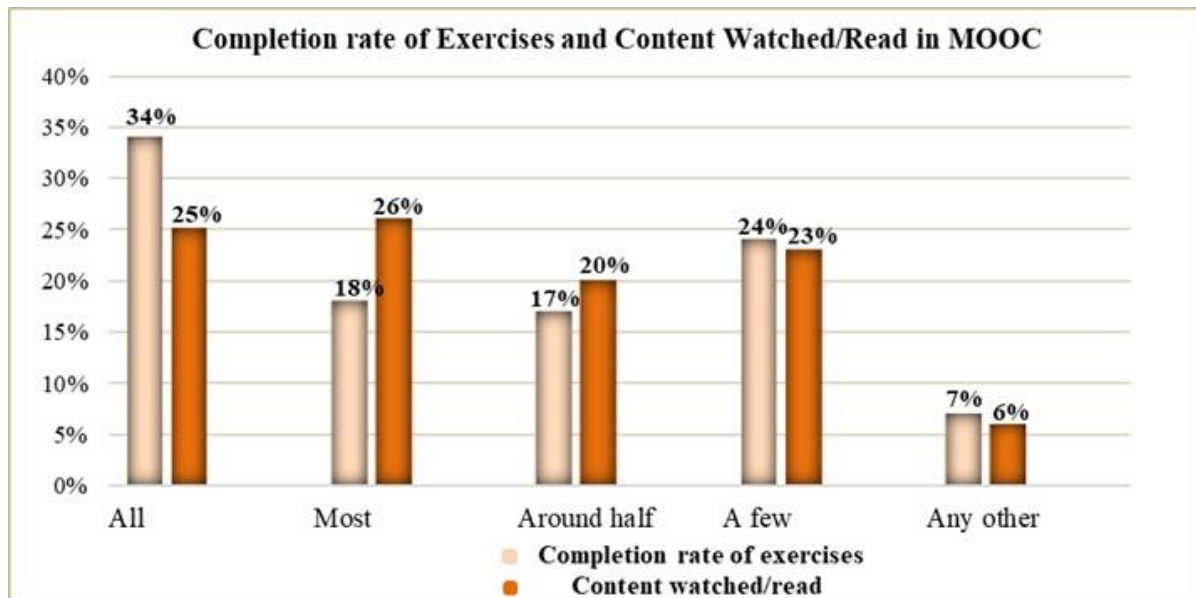

Figure 7: Completion rate of Exercises and Content Watched/Read in MOOC

Table 8: Respondents' views towards the use of a MOOC

S. N	Statements		SA	A	UD	D	SD
1	The online environment is more attractive as compared to classroom studies.	*Frequency*	5	20	7	59	9
		Percentage	5%	20%	7%	59%	9%
2	The online environment is more consistent and easier to navigate as compared to traditional classroom studies.	*Frequency*	8	18	15	55	4
		Percentage	8%	18%	15%	55%	4%
3	I felt free to ask questions throughout this course.	*Frequency*	13	55	21	11	0
		Percentage	13%	55%	21%	11%	0.00%
4	The instructor responded to my questions on time.	*Frequency*	13	59	12	14	2
		Percentage	13%	59%	12%	14%	2%
5	This course effectively challenged me to think.	*Frequency*	7	40	35	17	1
		Percentage	7%	40%	35%	17%	1%
6	I learned/gained a lot of information while pursuing a MOOC Course.	*Frequency*	17	63	9	11	0
		Percentage	17%	63%	9%	11%	0.00%
7	Online weekly tests and quizzes effectively evaluate the knowledge of students.	*Frequency*	19	62	9	8	2
		Percentage	19%	62%	9%	8%	2%
8	I felt motivated while pursuing an online course.	*Frequency*	14	59	13	12	2
		Percentage	14%	59%	13%	12%	2%
9	There was less exam stress and anxiety in doing a MOOC program as compared to other regular exams.	*Frequency*	22	28	14	35	1
		Percentage	22%	28%	14%	35%	1%
10	I felt free to express and explain my views throughout this course.	*Frequency*	12	59	16	12	1
		Percentage	12%	59%	16%	12%	1%
11	The instructor did not contribute to the discussions in this course.	*Frequency*	5	27	23	44	1
		Percentage	5%	27%	23%	44%	1%
12	I felt as if the instructor cared about my learning in this course.	*Frequency*	8	48	22	19	3
		Percentage	8%	48%	22%	19%	3%
Here, SA stands for Strongly Agree, A for Agree, UD for Undecided, D for Disagree, and SD for Strongly Disagree.							

A question was asked in the questionnaire to know the views and attitudes of respondents towards the use of a MOOC course. A total of 12 statements were given to find out the views of users towards the use of a MOOC course in which responders specify their level of agreement to a statement typically in five points: (1) Strongly Agree (2) Agree (3) Undecided (4) Disagree (5) Strongly Disagree. Table 8 shows respondents' views toward the use of a MOOC course. The maximum, minimum, and average score was calculated, and the result was found Positive. For calculating maximum and minimum scores the formula is:

➢ Strongly Agree Score * number of items * number of respondents
➢ Strongly Disagree Score * number of items * number of respondents

Maximum Score = 5 * 12 * 100 = 6,000

Minimum Score = 1 * 12 * 100 = 1,200

Average Score = Maximum + Minimum / 2; 6,000 + 1,200 / 2 = **3,600**

Total of Favorable and Unfavorable statements**: 4,075**

> **Hence, Total   4,075**
>
> Average   **3,600**
>
> Result   **POSITIVE**

Table 8 pointed out that 59% of the respondents disagreed with the statement Online environment is more attractive as compared to the classroom studies and 55% disagreed with the statement online environment is more consistent and easier to navigate as compared to traditional classroom studies. This shows that most respondents disagree that the online environment is more attractive and consistent as compared to classroom learning. 63% of respondents agreed that they learned/gained a lot of information while pursuing a MOOC Course. 22% of the respondents Strongly Agreed with the statement that there was less exam stress and anxiety in doing a MOOC program as compared to other regular exams. 35% of the respondents were not sure or undecided about the statement, this course effectively challenged me to think. By analysis of the Likert data of Table 8, it was found that the respondents have positive attitudes/views towards MOOCs.

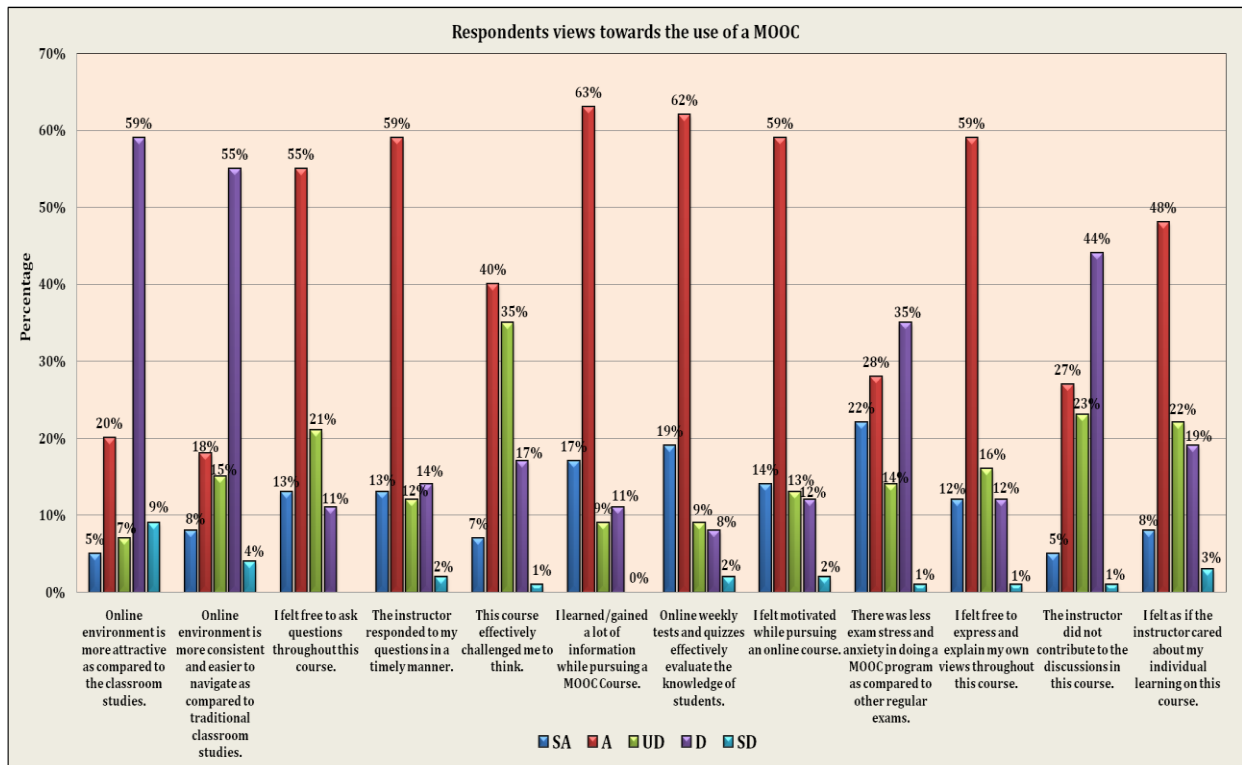Data from Table 8 is represented by Figure 8 given below:

Figure 8: Respondents views towards the use of MOOC

Table 9: Satisfaction Level of Doing a MOOC

S. N	Scale	Frequency	Percentage
1	Satisfied	55	55%
2	Somewhat Satisfied	16	16%
3	Neither Satisfied nor Dissatisfied	28	28%
4	Somewhat Dissatisfied	0	0%
5	Dissatisfied	1	1%
Total		**100**	**100.00%**

Respondents were presented with five distinct categories aimed at knowing their overall satisfaction levels while undertaking a MOOC course. Table 9 effectively outlines the distribution of these responses. The data showcases that a substantial majority, constituting 55%, expressed contentment with their MOOC learning experience. A notable proportion of 28% revealed a neutral sentiment—neither satisfied nor dissatisfied. Furthermore, 16% of participants indicated a moderate level of satisfaction, while a sole respondent, accounting for 1%, conveyed dissatisfaction with the course.
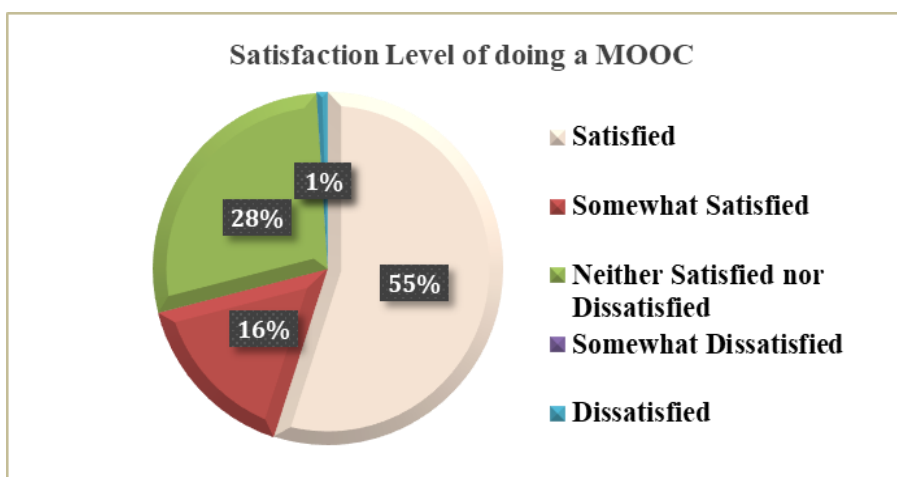
Figure 9: Satisfaction Level of doing a MOOC

Table 10: Preferred Mode of Learning

S. N	Mode of Learning	Frequency	Percentage
1	Classroom/Traditional Learning	46	29.68%
2	Blended Learning	40	25.80%
3	Online Learning	20	12.90%
4	No Response	49	31.62%
Total		**155**	**100.00%**

Respondents were asked which mode of learning they preferred in today's scenario, and they were asked to list their views and opinions about the selected mode of learning. Table 10 shows that a significant proportion, accounting for 29.68%, expressed a preference for Classroom/Traditional Learning, signifying a preference for conventional instructional approaches. Meanwhile, 25.80% of participants favored the Blended Learning mode, which combines

both in-person and online elements. Conversely, 12.90% of respondents leaned towards Online Learning, indicating a propensity for entirely digital educational experiences. Furthermore, 31.62% of respondents opted not to respond to this question. The opinions and suggestions of users as to which mode is preferred more are given below:

Respondents have stated that they prefer classroom learning more as the student-teacher interaction is face-to-face. A lot of conversation/translation is lost in the virtual environment, so it's hard to communicate and share one's thoughts and opinions.

One of the respondents wrote, *"Classroom learning helps students to clear their doubts more effectively and more clarity on concepts can be obtained whereas online learning saves time and effort which can be used elsewhere productively."*

Another respondent wrote, *"In classroom teaching, a teacher can get to know the psychology of his/her students. And physical interactions will always be helpful in the overall development of a chap. Online courses should be an alternative to those who are unable to join physically due to some reasons."*

Respondents who preferred the blended learning model stated that the *"Blended model provides an opportunity to interact with faculty as well provide a linearized availability of learning material. One of the respondents said that it's the need of the hour while the other said that is a better option as compared to traditional and online classes. Learning takes better in this mode, and it is easier and more productive".*

Also, one respondent stated, *"In blended learning, there is a great scope of enhancing student's learning and for this purpose, the first and foremost thing is teacher's interaction strategies and teaching techniques to enhance motivation and engagement of the learners."*

Respondents who preferred the Online Learning model stated that *"Nowadays online learning is important. The main benefit of online learning is timesaving, and it helps to enhance the knowledge of a subject".*

One of the respondents stated, *"Online Learning facilitates the learner to learn anywhere at any time. It is very beneficial for everyone to continue their learning in this pandemic situation."*
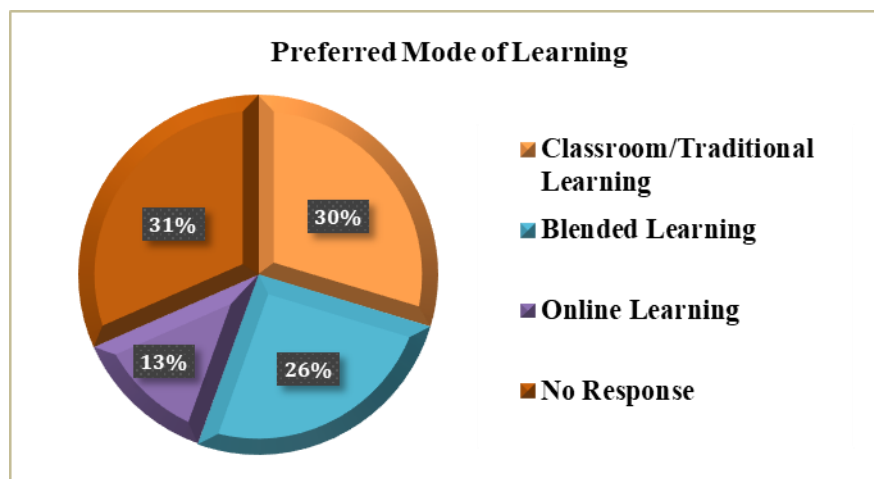

Figure 10: Preferred Mode of Learning

Respondents' suggestions/opinions regarding MOOC

In the end, the respondents were asked for their valuable opinions and suggestions regarding MOOCs. 30 responses were received, and many respondents wrote that it is a good platform for promoting online learning. One of the respondents wrote,

"While it provides a great alternative to the traditional method of teaching, it lacks execution. The authenticity and applicability in the real environment are also questionable and provide little to no substance to one's educational background."

Another respondent wrote,

"These kinds of courses and learning platforms give us knowledge of the newest and trending topics (Hot Topics) related to our subject and research fields and give us career enhancement and opportunities to learn something new, especially in circumstances like pandemics and lockdowns when we have switched to the maximum digital activities and participations."

Some of the respondents stated that they were not aware of this course while one of the participants wrote, *"Need more research to increase the participation of the students. Digital divide issue should be resolved for making a MOOC successful."*

DISCUSSION

1. It was inferred from the study that 66% of the respondents enrolled for MOOC to increase their qualifications and enhance their career opportunities in jobs which was followed by respondents' passion outside the classroom/job by 47% participants. 43% of respondents had enrolled in this course because online education was a viable alternative during the COVID-19 pandemic.

2. It was found that 63% of respondents were pursuing the course and 37% of the users completed it.

3. It was observed that 30% of the respondents were pursuing a MOOC course during the COVID era and 16% of the respondents completed it in the same period. Also, 14% of the respondents completed their MOOC course before the COVID era, and 7% were pursuing it 4-6 months back. It was discerned from the study that 8% of respondents left the course towards the middle while 6% of the respondents left it towards the end.

4. The study showed that 59% of the respondents disagreed with the statement online environment is more attractive as compared to classroom studies and 55% disagreed with the statement online environment is more consistent and easier to navigate as compared to traditional classroom studies. 63% of respondents agreed that they learned/gained a lot of information while pursuing a MOOC course. 22% of the respondents strongly agreed with the statement that there was less exam stress and anxiety in doing a MOOC program as compared to other regular exams. 35% of the respondents were not sure or undecided of the statement, 'this course effectively challenged me to think'.

5. Overall, 55% of the respondents were satisfied while doing a MOOC course whereas 28% of them were neither satisfied nor dissatisfied. 16% of the participants are somewhat satisfied and only 1 respondent was dissatisfied doing this course. Also, it was seen that 30% of the respondents preferred Classroom / Traditional Learning as compared to other modes of learning. 26% of the users preferred the Blended Learning mode whereas only 12% of the respondents preferred Online Learning.

SUGGESTIONS

To improve MOOCs and enhance their effectiveness, the following suggestions should be implemented:

1. One should consider creating interactive and engaging course materials, including videos, quizzes, simulations, and virtual labs. To make the content more relevant and practical real-world examples and case studies should be used.

2. Students should be motivated to exchange their perspectives, personal encounters, and expertise with one another. The instructor should maintain an active presence through live Q&A sessions, discussion forums, etc. and they should be available to address questions and provide guidance to the learners.

3. Learners and instructors should consistently provide input to pinpoint those areas that can be enhanced. Constructive and timely feedback should be provided to help learners improve. Techniques like flipped classrooms, case studies, and gamification elements like badges, and rewards should be introduced in online education, to enhance motivation and engagement.

4. Incorporate course materials that are accessible to learners with disabilities. They should be provided with closed captions, transcripts, and other accommodations to make them understand the content. Learners should be provided with opportunities to apply what they have learned in real-world situations.

5. Industry experts and guest speakers should be invited to share their insights and experiences. This will help learners with valuable perspectives from practitioners in the field. Courses provided should be optimized with mobile devices to facilitate learning on the go. Modules should be designed in a way that can break down content into smaller bite-sized components rather than hour-long lectures that can be easily consumed and reviewed.

6. Lastly, funding for the delivery and development of courses should be increased, currently there is a low quality of resources on Indian platforms, and courses are poorly designed. Also, for the institutes which have limited funding, investment in the training of teachers across the country should be increased.

CONCLUSION

MOOCs in India have been adopted because of various factors such as the growing demand for flexible and affordable education, skill enhancement, and the need for lifelong learning. Due to the COVID-19 pandemic, MOOCs have been particularly relevant which has accelerated the shift toward online learning and remote education. MOOCs have also been used to bridge gaps in access to quality education and supplement traditional education, especially in remote and underserved areas. Despite MOOC developments, the meteoric rise in new learner enrollments has slightly diminished in the post-COVID era. In 2021, 40 million new learners registered for at least one MOOC, down from 60 million in 2020. Despite this, MOOCs have a significant role to play for LIS professionals. Here's an overview of the role of MOOCs in Library Science and how libraries can derive benefits from them:

1. MOOCs provide access to a wide range of courses related to library and information science, covering topics such as cataloging, collection management, reference services, digital libraries, information literacy, and many more for library science professionals. Library professionals can enhance their digital and technical skills by taking MOOCs on subjects like coding, data analysis, digital marketing, and emerging technologies. This will help librarians to provide more specialized services and they will also learn to adapt according to the changing technological landscape.

2. Librarians can benefit from 'MOOCs on information literacy and research skills' while teaching these skills to library patrons. Librarians can gain insights into effective instructional strategies and tools for promoting information literacy. Library professionals who participate in MOOCs can connect with colleagues and peers from around the world, fostering a global network of professionals who can share insights and collaborate on various projects.

3. Library staff can be provided access to MOOCs without incurring significant expenses related to travel or registration fees. MOOCs from time to time offer cost-effective training options with limited budgets for libraries. Library staff should keep track of this facility for their professional growth and improve their skills within these budgetary constraints.

4. MOOCs offer flexibility which helps the library staff to learn the courses at their own pace and time. This ensures the staff that in their busy work schedules, they can maintain a balance between learning and their regular responsibilities.

5. The staff members who have gained diverse skill sets through MOOCs can apply them to their respective libraries and in their various library functions, from digital initiatives to outreach and programming. Library patrons can be offered more enhanced and innovative services from the librarians who have completed MOOCs in specialized areas, such as creating digital exhibits, managing open-access repositories, or implementing data management services.

Libraries can leverage MOOCs to adapt to the evolving needs of their patrons and to remain at the forefront of the information and education landscape. MOOCs are invasively burgeoning among Indians, and they have opted to make global classrooms a reality. For Indians, who have a thirst for quality-based Western education, MOOCs have proved exemplary in this direction. It is important to continuously develop and innovate meaningful and impactful learning experiences for learners, especially in a world affected by unforeseen disruptions like the global pandemic.

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