




Students' Perceptions of Learning Management System (LMS) and the 'Real' Classroom: A Case Study of an Indian Higher Education Institution

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STUDENTS' PERCEPTIONS OF LEARNING MANAGEMENT SYSTEM (LMS) AND THE 'REAL' CLASSROOM: A CASE STUDY OF AN INDIAN HIGHER EDUCATION INSTITUTION

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ABSTRACT

The present quasi-experimental study was undertaken to study students' perceptions of the advantages and disadvantages of the LMS and the 'real' classroom. The data was collected using the online survey method (Google Form), which included questions related to students' perceptions of the effectiveness of both modes in enhancing knowledge, critical skills, and social competence. The study found that although the ratio of students who preferred 'real' classroom learning to learning through the LMS was higher, many students were also comfortable with online learning. The present study concludes that a blended mode of learning, i.e., using digital learning tools with a more traditional classroom, can be a better option to meet the needs of both kinds of learners.

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INTRODUCTION

Many higher education institutes worldwide have been exploring the possibility of providing online education to students who cannot enroll in the regular education mode due to personal problems (Darius et al., 2021). Nonetheless, the e-learning platforms have not yet become the substitutes for 'real' classrooms. Only recently, especially during the COVID-19 situation, have the discussion on the use of the Learning Management System (LMS) and the 'real' classroom (face-to-face learning) gained wide-scope currency. Although many researchers (Fortune et al., 2011; Darcy, 2012; Kemp and Grieve, 2014; Bali and Liu, 2018; Chitra & Raj, 2018; Tratnik et al., 2019; Turekeeva, 2021; Elaoufy, 2023) among others have explored the advantages and disadvantages of e-learning, LMS, etc., its efficiency in terms of inculcating knowledge, critical skills, and social competence among the learners are yet to be verified. The Government of India has also taken initiatives in promoting the MOOC (Massive Open Online Course) through SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds), National Programme on Technology Enhanced Learning (NPTEL), ePathshala, etc. for quite some time now. In its draft guidelines, the University Grants Commission (UGC), New Delhi, proposes to allow higher education institutions (HEIs) in India to teach up to 40% of the syllabus of each course through online mode and the remaining 60% through offline teaching (Ram, 2021). The government of India has made,



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in its Union Budget 2022, the provision for the formation of a digital university to provide online education to Indian students (ETV Bharat, 2022). Before, the COVID-19 conditions compelled students across the world to learn online. To overcome the hurdles in the teaching-learning process, the institutions were obliged to adopt learning management systems (LMS) like Google Classroom, Moodle, Canvas, etc., for the asynchronous and Zoom meeting/Google Meet for the synchronous teaching mode.

In light of the increased need and support for online education, the present research explores students' perceptions towards the virtual classroom, i.e., LMS (an e-learning platform) and 'real' classroom (face-to-face/in-person learning). The study investigates the relevance of the LMS and 'real' classroom in knowledge enhancement, critical thinking, social interaction, and competence among both undergraduate (UG) and postgraduate (PG) students of one of the higher education institutions (HEIs) in India.

Research Questions

1. What is the perception of the students about the advantages and disadvantages of learning through the LMS and in a 'real' classroom?
2. How do students perceive the efficacy of the two modes in enhancing their knowledge?
3. How do students perceive the efficacy of the two modes in developing critical skills?
4. How do students perceive the two's efficacy in developing social interaction and competence?
5. Which of these two modes do the learners find more exciting and joyful?

RESEARCH METHODOLOGY

Research Design

The present quasi-experimental study investigates the relevance of the LMS and 'real' classroom in knowledge enhancement, critical thinking, social interaction, and competence among both undergraduate (UG) and postgraduate (PG) students of one the higher education institutions (HEIs) in India through a Google questionnaire.

Research Respondents

The students' survey was conducted at one government-aided HEI in Sangamner (19.5761° N, 74.2070° E), a semi-urban area in the Ahmednagar district of Maharashtra, a state in western India. The college offers courses (co-education) in the Faculty of Arts, Commerce, Science, and Computer Science at both UG and PG levels. Besides, it imparts UG courses in business management and computer application. The vocational courses in hospitality and tourism, software development, agriculture, and dairy science at the UG level. Around 7000 students enroll under the courses mentioned above for the regular (offline) mode of education. In all, 380 faculty students responded to the online questionnaire using the Google form.

Research Instrument

The data was collected through Google Forms (questionnaire). The questionnaire included questions about students' perceptions of e-learning during the COVID-19 pandemic. The questionnaire is based on the model used by Bączek et al. (2021) for their survey study of Polish medical students' perception of online learning.



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Most participants have schooling in Marathi, a primary medium of instruction at all Maharashtra education levels. Considering the students' limitations in understanding English, the questionnaire was developed in Marathi.

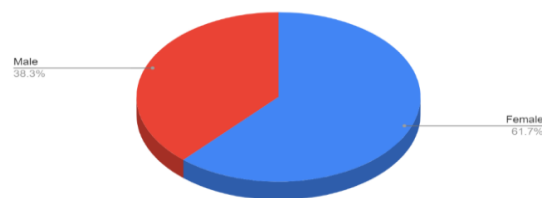
Data Analysis

The data collected through Google Forms was analyzed and compared using an Excel sheet. The significant findings are presented below.

RESULTS AND DISCUSSION

In the first part of the survey, information related to basic demographics: names, class, gender, IT skills, and experience in e-learning was sought. The student respondents (N=380 [F=235 and M=145]) in the present study belonged to all these faculties studying at both UG and PG levels (in some cases).

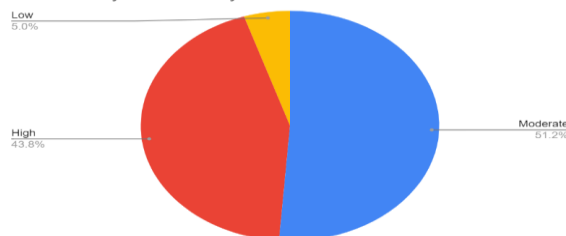
2. Gender



Graph 1: Gender of the Respondents (Source: The Author)

Responding to the question on IT skills, 193 (51.1 percent), out of which 66 belonged to computer-related courses, reported their IT skills as 'moderate,' 166 (43.9 percent) as 'high,' while only 19 (5 percent) thought that their IT skills are 'low.'

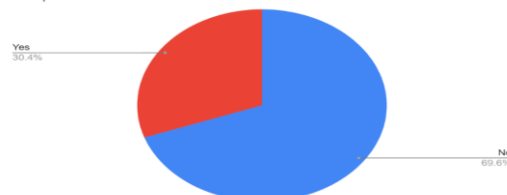
1. How will you describe your IT skills?



Graph 2: IT Skills of the Respondents (Source: The Author)

Regarding their participation in e-learning before the outbreak of COVID-19, 265 (69.8 percent) of the respondents registered no involvement in the e-learning activity. In comparison, 115 (30.2 percent) recorded their participation in the e-learning.

2. Have you ever participated in any type of e-learning before the pandemic?



Graph 3: Participation in e-learning before COVID-19 ((Source: The Author)



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Advantages and disadvantages of the LMS and 'real' classroom

In the second part of the questionnaire, the participants responded to questions about the advantages and disadvantages of the LMS and 'real' classroom learning. About the advantages of the LMS, the significant advantages reported by the participants include access to online reading material and resources (58.7 percent), the ability to stay and study at home (67.9 percent), the ability to listen to recorded lectures (60.3 percent) and to pause videos and take notes as per convenience (57.9 percent). Besides, the respondents thought that using LMS has enabled them to not spend money on buying books (text/reference) and not to spend time and money traveling to college.

However, the significant advantages of 'real' classroom learning, as reported by participants, incorporate factors like interaction with teachers (88.2 percent) and fellow students (74.5 percent), an opportunity for social interaction and support (76.1 percent), and access to on-campus student facilities (70.5 percent). These responses show the upper edge of the 'real' classroom learning over the LMS. Table 1 below shows the contrastive perception of the advantages of the LMS and the 'real' classroom.

Table 1: Advantages of the LMS and 'real' classroom (Source of Questionnaire: Bączek et al., 2021)

The advantages of e-learning	LMS (%)	The advantages of learning in the 'real' classroom (in-person learning)	Real Classroom (%)
Access to online materials/Availability of reading material and resources	223 (58.7%)	You can ask questions to teachers.	335 (88.2%)
Ability to study at my own pace	207 (54.5%)	You can discuss issues with fellow students.	283 (74.5%)
Ability to stay and study at home	258 (67.9%)	More opportunities for socialization	289 (76.1%)
Class interaction	95 (25%)	Availability of on-campus student facilities	268 (70.5%)
Ability to listen to recorded lectures	229 (60.3%)		
Ability to pause videos and take notes at convenience	220 (57.9%)		
There is no need to spend money on buying textbooks/reference books	215 (56.6%)		
Comfortable surrounding	111 (29.2%)		
No need to travel to the college; it saves time and money.	202 (53.2%)		



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An opportunity to 146
interact with peers on (38.4%)
academic topics

Disadvantages of the LMS and 'real' classroom

In Q2 and Q4 of this section, the participants responded to the options related to the disadvantages of learning online and in the 'real' classroom. The respondents reported that factors like reduced interaction with the teacher (75.5 percent), technical problems (71.3 percent), and network issues (78.4 percent) were the significant disadvantages of the LMS. Half the respondents considered the non-affordability of mobile data (50.3 percent) as one of the disadvantages of the LMS. Besides, some of the participants pointed out factors like lack of self-discipline and self-motivation (33.9 percent), social detachment (46.8 percent), lack of interaction with peers/classmates (54.5 percent), poor learning conditions at home/lack of facilities at home (38.4 percent) and non-availability of laboratory and library facilities (65.5 percent) as some more disadvantages of the LMS. However, the number of respondents who pointed out the disadvantages of learning in the 'real' classroom is less than 45 percent. Table 2 below shows the comparative data on the disadvantages of the LMS and the 'real' classroom.

Table 2: Comparison of disadvantages of the LMS and 'real' classroom (Source of Questionnaire: Bączek et al., 2021)

Disadvantages of e-learning		LMS (%)		Disadvantages of Real learning in the 'real' classroom (in-person learning)		
1.	Reduced interaction with the teacher	287 (75.5%)		1.	Travel time and cost	229 (60.3%)
2.	Technical problems	271 (71.3%)	The number/percentage of respondents who marked the disadvantages of the LMS is less (avg. 51.97%) compared to those who talked about the disadvantages of the 'real' classroom.	2.	Restrictive or inconvenient attendance times	173 (45.5%)
3.	Network issues	298 (78.4%)		3.	Students may feel shy while approaching the instructor.	141 (37.1%)
4.	Buying mobile data is not affordable	191 (50.3%)		4.	Obligation to attend lectures, although most of the material is known.	116 (30.5%)
5.	Lack of self-discipline and self-motivation	129 (33.9%)		5.	You need to buy textbooks compulsorily.	169 (44.5%)
6.	Social detachment	178 (46.8%)				
7.	Lack of interaction with peers/classmate	207 (54.5%)				
8.	Poor learning conditions	146 (38.4%)				



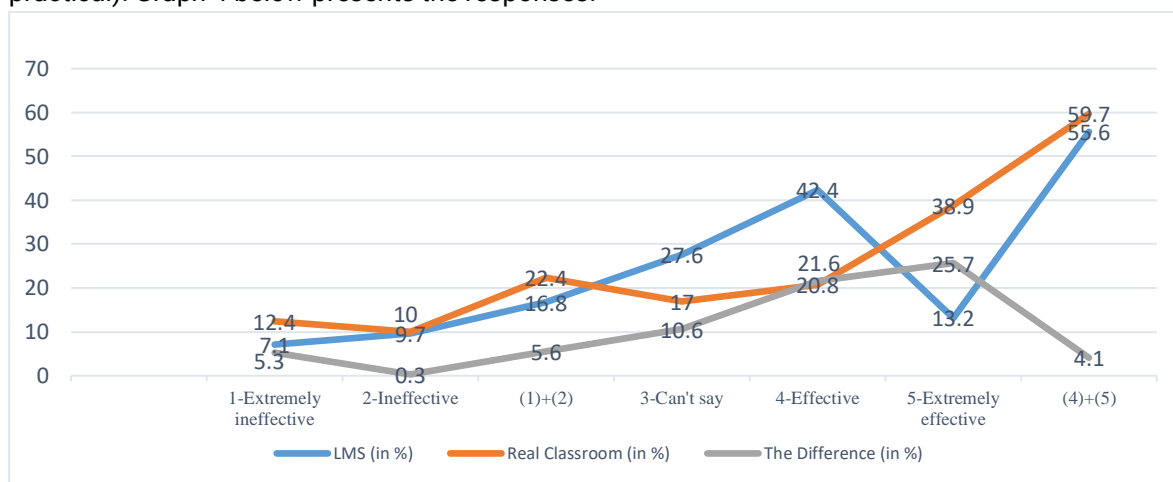
9. non-availability of 249
laboratory and library (65.5%)
facilities

Comparative perception of face-to-face learning and e-learning

The relative perception of face-to-face learning and e-learning was sought in the third part of the questionnaire. The respondents rated how much they enjoyed e-learning during the COVID-19 pandemic by selecting the options describing their perceptions.

The effectiveness of the two modes in increasing knowledge

In Q1 and Q4 of this section, the participants rated the efficacy of the LMS and traditional face-to-face learning in enhancing knowledge by using a five-point scale (1-extremely ineffective, 5-extremely practical). Graph 4 below presents the responses.



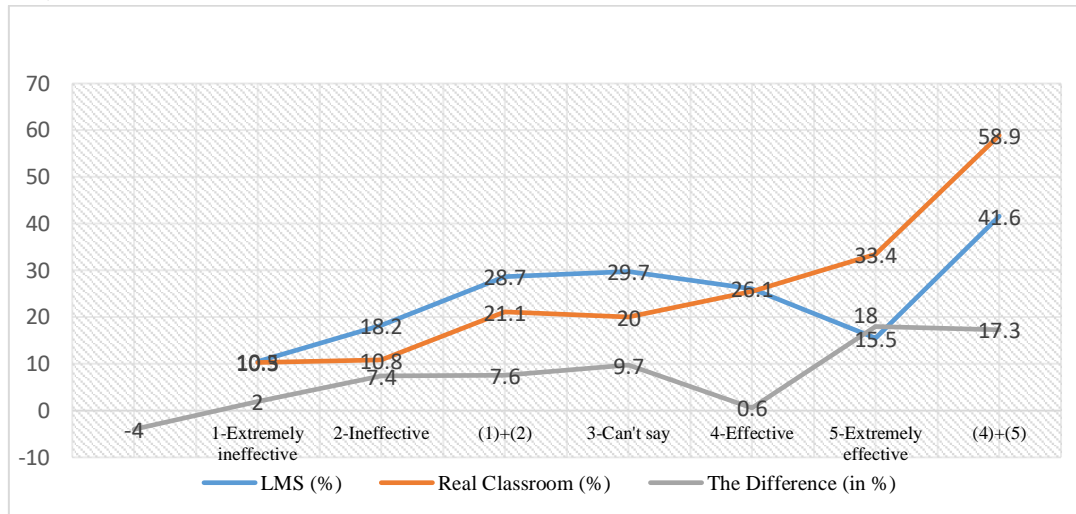
Graph 4: The effectiveness of the LMS and 'real' classroom in increasing knowledge (Source: The Author)

55.6 percent of the respondents found the LMS effective (42.4 percent) and highly effective (13.2 percent), while 59.7 percent of them found the 'real' classroom effective (20.8 percent) and highly effective (38.9 percent). Thus, the study observed that the number of respondents (79 [effective]+148 [extremely effective]=227) who thought that the 'real' classroom was more effective than the LMS (161+50=211) was more.



The effectiveness of the two in increasing critical skills

In Q2 and Q5 of this section, the participants rated the efficacy of the LMS and traditional face-to-face learning in enhancing essential skills by using a five-point scale (1-extremely ineffective, 5-extremely practical). The responses are presented in Graph 5 below.

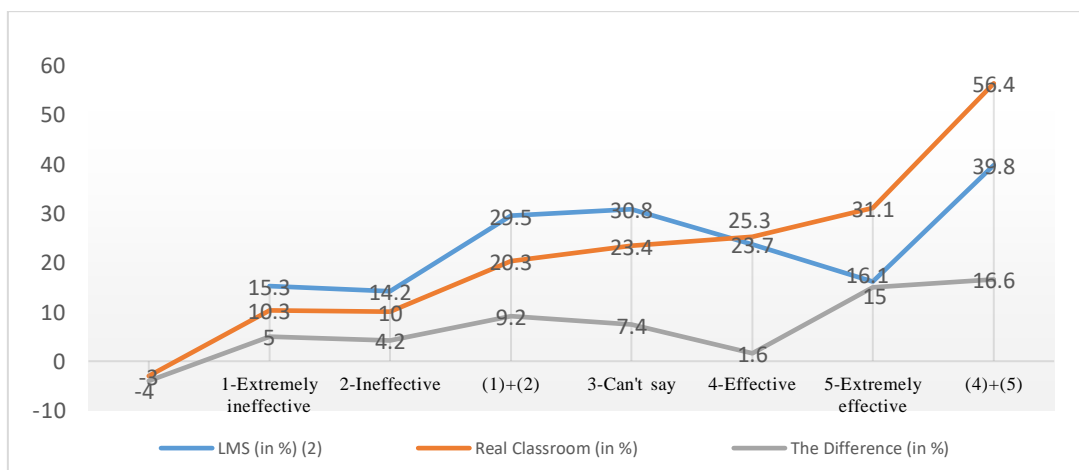


Graph 5: The effectiveness of the LMS and 'real' classroom in increasing critical skills (Source: The Author)

41.6 percent of the respondents found the LMS effective (26.1 percent) and highly effective (15.5 percent), while 58.9 percent of them found the 'real' classroom effective (25.5 percent) and highly effective (33.4 percent). Thus, the study observed that the number of respondents (97 [effective]+127 [extremely effective]=224) who thought that the 'real' classroom is more effective than the LMS (99+59=158) is more.

The effectiveness of the two in increasing social competence

In Q3 and Q6 of this section, the participants rated the efficacy of the LMS and traditional face-to-face learning in developing social competence using a five-point scale (1 extremely ineffective, five extremely practical). The responses are presented in Graph 6 below.



Graph 6: The effectiveness of the LMS and 'real' classroom in increasing social competence (Source: The Author)

39.8 percent of the respondents found the LMS effective (23.7 percent) and highly effective (16.1 percent), while 56.4 percent of them found the 'real' classroom effective (25.3 percent) and highly

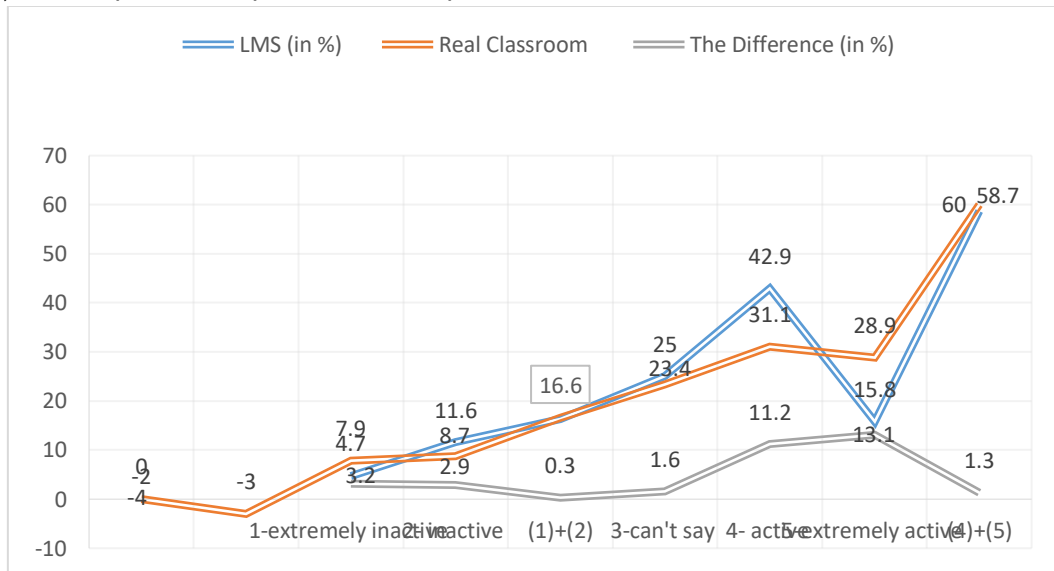


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effective (31.1 percent). Thus, the study observed that the number of respondents [96 (effective) +118 (extremely effective) =214] who thought that the 'real' classroom is more effective than the LMS (90+61=151) is more.

Activities in the virtual classroom (LMS) and 'real' classroom

In Q7 and Q8 of this section, the participants were asked to describe their activity during e-learning and traditional face-to-face learning using a five-point scale (where 1-extremely inactive, 5- extremely active). The responses are presented in Graph 7 below.

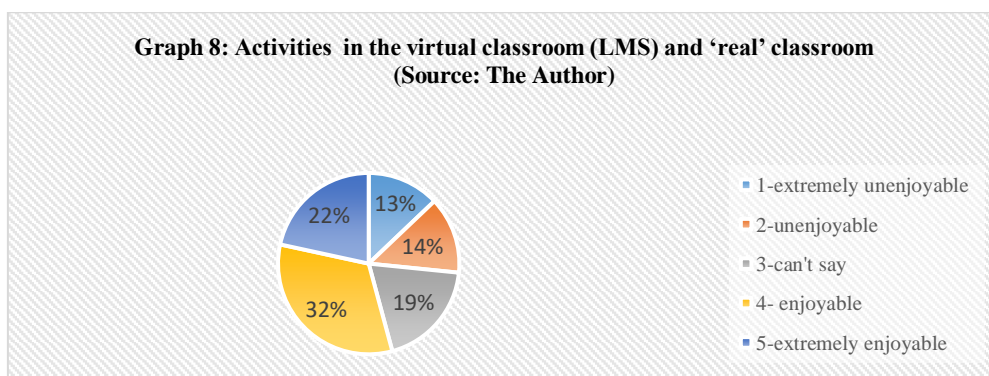


Graph 7: Activities in the Virtual Classroom (LMS) and 'Real' Classroom (Source: The Author)

58.7 percent of the respondents found the LMS effective (23.7 percent) and highly effective (16.1 percent), while 60 percent of them found the 'real' classroom effective (31.1 percent) and highly effective (28.9 percent). Thus, the study observed that the number of respondents (118 [practical] +110 [extremely effective] =228) who thought that the 'real' classroom is more effective than the LMS (163+60=223) is more.

Pleasure in Learning

In Q9, the participants were asked to rate how much they enjoyed the LMS (e-learning classes) during the pandemic. The respondents (54.2 percent) informed that they found (enjoyable [32.6 percent] and extremely enjoyable [21.6 percent]) the LMS (e-learning classes) during the pandemic. In comparison, 26.6 percent found it (extremely unenjoyable [12.9 percent] and unenjoyable [13.7 percent]). Some of them (19.2 percent) could not say if they enjoyed it or not. Graph 8 below shows the responses.



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Graph 8: Activities in the virtual classroom (LMS) and 'real' classroom (Source: The Author)

IT Skills and E-learning

Regarding the IT skills that are required among the learners for the effective implementation of any e-learning platforms, it may be said that the majority of the students are good ('moderate' [51.1 percent] and 'high' [43.9 percent]). In comparison, only 5 percent considered their IT skills 'low.' It suggests that the students may not confront problems using the LMS. Nonetheless, the data reveals that most of the learners (69.8 percent) had not participated in any e-learning activity before the outbreak of COVID-19.

Advantages and Disadvantages of the two modes

The ratio of the respondents who marked the advantages of the LMS is less (avg. 50.1 percent) compared to those who kept the advantages of the 'real' classroom (avg. 77.3 percent). It suggests that more respondents thought the 'real' classroom was more advantageous. The ratio of the respondents who found the LMS functional is approximately 60-70 percent. They found the LMS helpful mainly for:

1. Getting access to online materials and resources.
2. Being able to study at their own pace.
3. Listen to recorded lectures and be able to pause videos and take notes as per convenience.
4. Not buying textbooks/reference books.
5. Saving both time and money.

However, the respondents (70-90 percent approximately) preferred the 'real' classroom to the LMS for the following reasons:

1. It allows them to interact with teachers and peers.
2. There is enough scope for socialization and interaction.
3. They have access to on-campus student facilities.

The data suggest that most students favor the 'real' classroom for social interaction and on-campus facilities. Besides, the disadvantages of the LMS reported also accentuate the usefulness of the 'real' classroom. One of the significant disadvantages of the LMS, according to 75.5 percent of participants, was a lack of interaction with their teachers. An average of 75 percent of the respondents reported factors like 'technical problems' and 'network issues' as the other disadvantages of the LMS. Further, the non-availability of laboratory and library facilities (65.5 percent) is another disadvantage of the LMS. In contrast, the 'real' classroom 'travel time and cost' was the only major shortcoming reported by the respondents (60.3 percent).

The Effectiveness and joy of learning

Regarding the effectiveness of the LMS (41.6 percent) in increasing critical skills in contrast to the 'real' classroom (58.9 percent), the effectiveness of the 'real' classroom was found to be higher than the LMS by 17.3 percent. Similarly, learning in a 'real' classroom was reported to be more effective in increasing social competence. The effectiveness was observed to be higher by 16.6 percent. This data supports the conclusion drawn above. Further, learners favor the 'real' classroom for learning critical skills and social competence. However, there was no considerable difference in students' active participation in the class in both cases (LMS=58.7 percent and 'real' classroom=60 percent). The difference is very marginal, i.e., merely 1.3 percent. Around 55 percent of respondents said they enjoyed the LMS (e-learning classes) during the pandemic.



CONCLUSION

Based on the findings, the present study concludes that although most of the students prefer the 'real' classroom for interactive and practical learning, quite a few learners support the use of LMS for its usefulness in accessing online materials and resources, studying at one's own pace, listening to recorded lectures and pausing videos and taking notes as per convenience, etc. Therefore, a blended mode of learning, i.e., the use of digital learning tools with more traditional classrooms, can be a better option to meet the needs of both kinds of learners.



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