

E-Learning System in India: Students' Expectations, Experiences and Preferences

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Abstract

The growing implication of information technologies for educational institutions in general and learning in particular has been a subject of discussion. Nowadays, it has become essential for every educational institution to adopt new teaching and learning techniques. E-learning is seen as an option to deliver courses via Internet irrespective of the place. This research seeks to understand the preferences and experiences of students with regard to e-learning and also their awareness about the modules of the e-learning application (Moodle) being provided by the institution. The survey was conducted in the Tata Institute of Social Sciences, Mumbai. A questionnaire was used to collect the data from the students. 124 responses were received from post-graduate and doctoral level research students. The collected data was further analysed by using Statistical Package for Social Science (SPSS) and interpreted according to the objectives of the study. It is found that students are aware of e-learning management tool (Moodle) but, they are not aware of the various modules of Moodle and how to use these institutions should provide proper training and awareness program to the students in Moodle.

Keywords: Blended Education, E-learning, Higher Education, Moodle, Online Learning

1. Introduction

The Internet has become one of the major channels to publicize and make resources available for learning and research purposes for both teachers and students. E-learning uses the Internet and other important technologies to produce materials for learning, teaching and also for regulating the courses in the educational institution. E-learning applications in various levels of education have made a huge impact on the teaching and learning. The use of e-learning technologies has helped educational institutes in updating their traditional way of teaching by providing modern learning and teaching facilities to students irrespective of their physical location.

E-learning involves the use of digital tools for teaching and learning (Arkorful & Abaidoo, 2015). E-learning refers to the use of information and communication technologies to permit access to online learning/teaching resources. In short, it is any kind of learning that is enabled electronically (Abbad, Morris, & de Nahlik, 2009; LaRose, Gregg, & Eastin, 2006). It is a concept of

moving the traditional classroom of desks, notebooks pencils, and blackboard to an online forum of computers, software, and the Internet. Computer based systems have immense potential for delivering/ transporting teaching and learning materials. Thus, e-learning is fast becoming a leading form of learning.

Institutions making use of e-learning have their own opinions and experiences about the usability of the system in order to restore or to enhance learning and teaching. Many educational institutions are offering some kind of e-learning systems or tools for enhancing quality of teaching.

This study examines the students' perception and experiences of e-learning in the Tata Institute of Social Sciences (TISS), Mumbai, India.

2. What is Moodle?

Modular Object-Oriented Dynamic Learning Environment (MOODLE), is a free and open source software basically designed and developed on pedagogical principles for

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teaching and learning programmes (Subramanian, et al. 2014). Moodle was originally developed by Martin Dougiamas to help educationists to create online courses with a focus on interaction and collaborative construction of content (Benta, Bologna, & Dzitac, 2014). Since then Moodle is being used by thousands of educational institutions around the world to provide an organised interface for learning over the internet. Likewise, Moodle is used for blended learning, distance learning, flipped classroom and other e-learning projects in educational institutions and various other sectors. With its modifiable management features, Moodle is used to create private websites with online courses for both students and teachers to achieve learning goals (El-Bahsh & Daoud, 2016).

In TISS, Moodle is used extensively for learning purposes by the students belonging to three main programmes of the institute, viz., Postgraduate Diploma in Digital Library and Information Management Studies (PGDLIM), Elementary Education and Master's Degree courses. Moodle was implemented in TISS in the year 2007. Some modules are used as part of course module where all the readings are uploaded for the students' reference. TISS uses some important modules of Moodle e.g. Lesson module is used to upload materials for further reading; Discussion Forum module helps the students to discuss a topic with the experts and clarify their doubts; and Evaluation module is used for assessment and grading as most of the evaluation is done through Moodle.

3. Need for the Study

The use of information technologies including the Internet for teaching has brought about drastic changes. E-learning has the possibility to transform people's knowledge, skills and performance and has become important in institutions of higher education. To what extent e-learning is helpful in educational institutions and how an e-learning tool can be used for better learning and teaching are studied in this research.

Many studies have been reported on how e-learning has affected different levels of educations. This research tries to give a clear picture of students' perceptions regarding e-learning in TISS. It also tries to bring out different ways to create awareness among the students about different modules of MOODLE.

4. Objectives of the Study

This study was designed and conducted with the following objectives:

- To study student's experiences and expectations related to e-learning,
- To examine the usefulness and use of e-learning applications in their learning,
- To find the criteria used by students in their evaluations of e-learning,
- To study students' learning process and habits in e-learning, and
- To examine the usage level and most used module of Moodle.

5. Literature Review

Oproiu (2015) studied use of e-learning platform (Moodle) in university teaching process using a questionnaire. Girls showed more interest in using Moodle. Some of the students were unaware of the e-learning platform provided by the university and some did not know how to use the platform.

Benta, Bologna and Dzitac (2014) used server logs to collect the data for a study and found that using e-learning platform helps in improving the professor-students communication and also increases student's satisfaction. Researchers also found that students frequently accessing the e-learning platform performed better.

Carvalho, Areal and Silva (2011) conducted a study to assess students' preferences regarding learning management system. The data was collected by distributing online questionnaires to which 800 responses were received. Through their study researchers identified that the greater number of the students (46.5%) preferred the blackboard learning over Moodle (34.7%).

Sumak, et al. (2011) studied the factors affecting use and acceptance of Moodle using the Technology Acceptance Model (TAM). The study found that the actual use of Moodle depends on two main factors, behavioural intentions and attitudes toward using Moodle. Researchers found that the awareness or understanding of the system was the strongest and the most important predictor of attitudes toward using Moodle. Thus the study concluded that in order to make e-learning useful it is necessary to

provide adequate learning materials for the students for better learning.

El-Bahsh and Daoud (2016) studied about the use of Moodle to achieve effective and interactive learning in the German Jordanian University. The students exhibited a positive point of view towards Moodle in learning.

Marikar and Jayarathne (2016) examined undergraduate students' online and IT abilities that are basic for e-learning. The result indicates that there is a solid positive reaction on e-learning on Moodle system.

Paechter, Maier and Macher, (2010) examined how students' expectations and experiences in an e-learning course. They found that 'students' achievement goals were the best predictors for success and ranked higher than other course characteristics'. Amandu, Muliira and Fronda (2013) have mentioned that Moodle (MEP) improves students' pre-class arrangement, post-class cooperation and general inspiration for learning.

Another study identified the components which support students' use of Moodle LMS (Waheed, Kaur, Ul-Ain & Qazi)

Most studies have been done in different countries and this study is an attempt to identify students' expectations, experiences, and preferences of e-learning system in India.

6. Research Method

The data was collected by conducting a survey through the distribution of questionnaire. The questionnaire – in both print and online (web) formats - was distributed to the students of all schools. The questionnaire mainly focused on the usage of tools, their most preferred e-learning module, the problems faced by them while using this tool, how important they feel e-learning is for their learning, etc.

7. Data analysis and Interpretation

A total of 160 questionnaires were distributed among the students of TISS regardless of their courses, schools, age and gender out of which 124 (77.5%) responses were received. The highest numbers of responses were received from male respondents 69 (55.6%) and rest from the female respondents 55 (44.4%). Most of the responses

were received from respondents in the age group of 22 to 26 years (Figure 1).

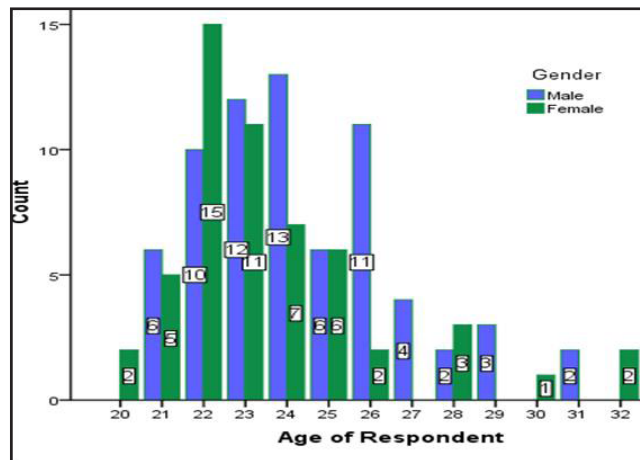


Figure 1. Responses received as per age of respondents.

It is necessary for the students to have some basic knowledge and skills to make use of the resources provided by the institution. Based on the survey, majority of the students have moderate 57 (46.0%) computer literacy skills, whereas only 18 (14.5%) students have very high skills (Figure 2).

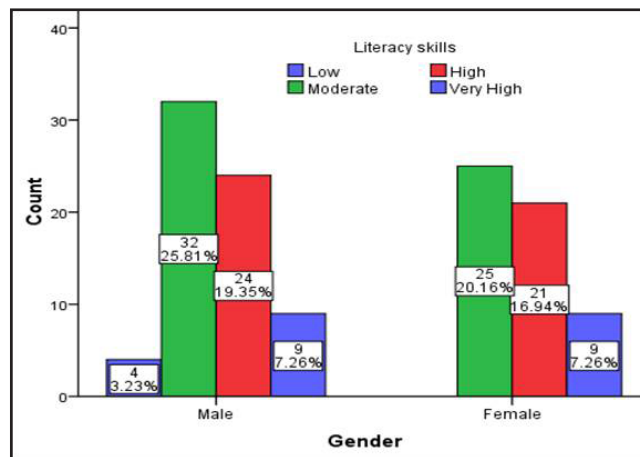


Figure 2. Literacy skills of the respondents.

In response to a question on the preferences of students, it was found that most students whether male or female enjoy studying online. Only a small number are not sure about enjoying online study. According to the received responses it is observed that 72 (58%) male 41 (33.06%) and 31 (25%) female enjoy studying online (Figure 3).

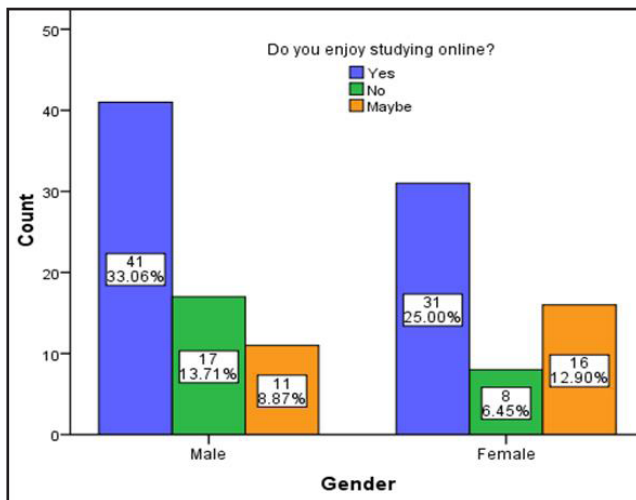


Figure 3. Rate of students' enjoyment while studying online.

8. Systems used to Access Online Courses

Table 1 presents data on systems used by students to access online courses.

9. Student's Preferred Mode of Learning

Table 2 presents data on students' preferred mode of learning. Face to face learning appears to be the most preferred mode; however, many students also suggested a combination of face to face learning with e-learning. Many still feel that only e-learning will not suffice.

Table 1. Systems used by students to access online courses

Devices	Time spent	Gender				Total	
		Male		Female		Count	Percent
		Count	Percent	Count	Percent		
Laptop	1-2 hours	27	55.1%	22	44.9%	49	100%
	3-4 hours	19	55.9%	15	44.1%	34	100%
	5-6 hours	9	50.0%	9	50.0%	18	100%
	More than 6 hours	8	61.5%	5	38.5%	13	100%
Desktop	1-2 hours	17	58.6%	12	41.4%	29	100%
	3-4 hours	4	50.0%	4	50.0%	8	100%
	5-6 hours	3	50.0%	3	50.0%	6	100%
	More than 6 hours	3	50.0%	3	50.0%	6	100%
Mobile	1-2 hours	30	57.7%	22	42.3%	52	100%
	3-4 hours	6	50.0%	6	50.0%	12	100%
	5-6 hours	8	72.7%	3	27.3%	11	100%
	More than 6 hours	1	16.7%	5	83.3%	6	100%

Table 2. Student's preferred mode of learning

Students' Preferences level	Only face to face		E-learning with face to face		Only e-learning	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Extremely preferred	42	33.9%	15	1.1%	16	12.9%
Strongly preferred	40	32.3%	33	26.6%	16	12.9%
Moderately preferred	26	21.0%	47	37.9%	35	28.2%
Preferred	12	9.7%	20	16.1%	26	21.0%
Not preferred	4	3.2%	9	7.3%	31	25.0%
Total	124	100%	124	100%	124	100%

10. Preferred modules of Moodle

There are modules in Moodle for different purposes and a few modules have been provided to the students in TISS. It was found that assignment module (mean=3.5, SD=1.193) and resource module (mean=3.44, SD=1.231) were the most preferred modules by students followed by lesson module (mean=3.44, SD=1.219) and course module (mean=3.05 and SD=1.281). The remaining modules like quiz module, workshop module, survey module, forum module, choice module, wiki module, and glossary module were not preferred modules; these modules might have been used only when there is need for it. The chat module is the least preferred module (mean=2.23, SD=1.235) because of unawareness about

the module. Many modules are not used because of various reasons such as lack of skills and knowledge to use them or it is of no use to specific program (Table 3).

11. Students' Skills Enhanced by E-Learning Management System

Various systems of e-learning help the individual in enhancing various kinds of skills which are very useful in his learning or teaching process. It has been found that the learning, technical, organisational, pedagogical and cognitive skills of students have been enhanced with the use of e-learning system. The data is presented in the Table 4.

Table 3. Students' most preferred modules of Moodle

Descriptive Statistics						
Module	Mean	Median	Mode	Std. Deviation	Variance	Sum
Assignment module	3.51	4.00	4	1.193	1.423	435
Resource module	3.44	3.50	5a	1.231	1.516	426
Lesson module	3.16	3.00	4	1.219	1.486	392
Course module	3.05	3.00	3a	1.281	1.640	378
Quiz module	2.80	3.00	3	1.300	1.691	347
Workshop module	2.76	3.00	3	1.315	1.730	342
Survey module	2.70	3.00	1	1.307	1.707	335
Forum module	2.61	3.00	3	1.208	1.459	324
Choice module	2.60	3.00	1	1.336	1.786	323
Wiki module	2.51	2.50	1	1.297	1.683	311
Glossary module	2.37	2.00	1	1.199	1.438	294
Chat module	2.23	2.00	1	1.235	1.526	276

a. Multiple modes exist. The smallest value shown
 5=Extremely preferred; 4=Strongly preferred; 3=Moderately preferred; 2=Preferred; 1=Not preferred

Table 4. Students' skills enhanced by e-learning management system

Descriptive Statistics							
Skills	Mean	Median	Mode	Std. Deviation	Variance	Range	Sum
Learning skills	3.68	4.00	4	1.166	1.359	4	456
Technical skills	3.31	4.00	4	1.232	1.518	4	411
Organisational skills	3.31	4.00	4	1.197	1.434	4	410
Pedagogical skills	3.28	4.00	4	1.200	1.440	4	407
Cognitive skills	3.27	3.00	4	1.219	1.485	4	406

5=To a great extent; 4=To a reasonable extent; 3=Uncertain; 2=To a little extent; 1=Not at all

12. Attributes that Makes E-Learning Successful

Students were asked to indicate what, according to them, makes e-learning program successful. Easy access (mean=4.35, SD=.828) is something that makes e-learning successful to a great extent. Similarly, flexibility (mean=4.18, SD=.875), quality of content (mean=4.06, SD=.961) on web platform also make e-learning a very successful mode of learning. Secondly, individualised learning (mean=3.79, SD=1.191), technical support (mean=3.73, SD=1.099) and

innovative practice (mean=3.71, SD=1.241) also contribute to the success of e-learning program (Table 5).

13. Effectiveness of e-learning

Good Internet connectivity (mean=4.43, SD=.876), quality of content (mean=4.27, SD=.866) and awareness about the value of e-learning (mean=4.03, SD=.945) are factors contributing to effectiveness of e-learning. Also, training in use of e-learning modules and some other factors are also important (Table 6).

Table 5. What makes e-learning very successful?

Attributes	Descriptive Statistics						
	Mean	Median	Mode	Std. Deviation	Variance	Range	Sum
Easy to access	4.35	5.00	5	.828	.686	3	540
flexibility	4.18	4.00	5	.875	.765	3	518
Quality of content	4.06	4.00	4	.961	.923	4	504
Individualised learning	3.79	4.00	4	1.191	1.419	4	470
Technical support	3.73	4.00	4	1.099	1.209	4	462
Innovative practice	3.71	4.00	5	1.241	1.541	4	460
Time management	3.64	4.00	5a	1.358	1.843	4	451
Pedagogical model	3.49	4.00	4	1.130	1.276	4	433
Motivation	3.48	4.00	4	1.220	1.488	4	432

Multiple modes exist. The smallest value shown

5=To great extent; 4=to reasonable extent; 3=uncertain; 2=to little extent; 1=not at all

Table 6. What makes e-learning effective?

	Descriptive Statistics						
	Mean	Median	Mode	Std. Deviation	Variance	Range	Sum
Internet connectivity	4.43	5.00	5	.876	.767	4	549
Quality of content	4.27	4.00	5	.866	.750	3	529
Awareness about the value of e-learning	4.03	4.00	4	.945	.893	4	500
Training for students in e-learning	3.96	4.00	4	.949	.901	4	491
Improved software	3.94	4.00	5	1.136	1.289	4	489
Technical support	3.73	4.00	4	1.212	1.469	4	462
Appropriate policies	3.69	4.00	4	.949	.900	4	457
Hardware (particularly computers)	3.60	4.00	4	1.168	1.365	4	446

5=To a great extent; 4=To a reasonable extent; 3=Uncertain; 2=To a little extent; 1=Not at all

14. Problems Faced in e-Learning

There are issues related to e-learning and students were asked to indicate the problems they encountered. Low Internet speed, computer illiteracy, quality of content was among the issues mentioned (Table 7).

Table 7. Main problems/obstacles to e-learning

Descriptive Statistics							
	Mean	Median	Mode	Std. Deviation	Variance	Range	Sum
Low Internet speed	4.19	4.00	5	.943	.889	4	520
Computer illiteracy	3.85	4.00	4	1.004	1.009	4	477
Technical issues	3.75	4.00	4	1.033	1.067	4	465
Resistance to change	3.52	4.00	4	1.016	1.032	4	437
Lack of self- motivation	3.49	4.00	4	.984	.967	4	433
Insufficient flexibility	3.42	3.50	4	1.068	1.140	4	424
Poor quality of content	3.36	3.00	3	1.164	1.355	4	417
Time Consuming	2.94	3.00	3	1.084	1.176	4	365

5=Strongly agree; 4=Agree; 3=Neutral; 2=Disagree; 1=Strongly disagree

15. Conclusion

Over 90% of students surveyed found e-learning valuable (Figure 4). However, it does appear that students still look at e-learning as a means of complementing and supplementing face to face learning and not as

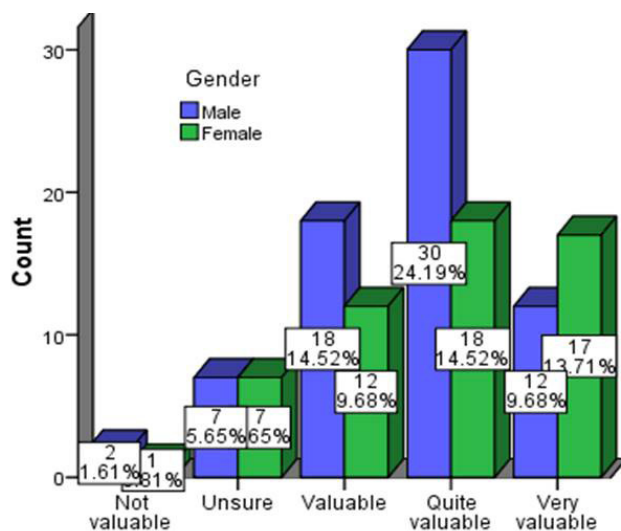


Figure 4. Value of e-learning.

a substitute for it. Institutions such as TISS should conduct training / orientation programmes so as to enable students to make effective use of e-learning. Better training and orientation program will encourage more number of students to make use of the e-learning tools provided by the institute.

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