

Learner's Satisfaction with E-Content: A Case Study among University Libraries in Rajasthan

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Abstract

Among the learning technologies, Web-based learning offers several benefits over conventional classroom-based learning. Its biggest advantage is the reduced costs since a physical environment is no longer required, and therefore, it can be used at any time and place at the convenience of the student. The present paper studies the student perception on impact of e-content projects of MHRD. Findings indicate that students agree with the fact that e-learning systems provide benefit by improving content and delivery, with anytime, anywhere access; increase student interaction with other learners; improve teaching pedagogy; make learning more interesting; and will improve learning outcomes.

Keywords: E-Learning, E-Content, Library, Student Satisfaction

Introduction

The rapid growth in the e-content development using Web technology, and its ever-increasing usage, has given unprecedented opportunities to educators to extend teaching material to students not only within the four walls of their classrooms, but also in the comforts of their home all over the globe (Arora & Kumar, 2012; Juhary, 2010). The Indian government has taken several initiatives and awarded several e-content development projects under NME-ICT for the growth and development of content environment. The targeted users are not fully availing the opportunity of such initiatives. The bigger challenge is to get the attention of the target users or, in other words, spread the awareness among its target users so that the

online learners not only get the maximum benefits from the projects, but also participate in its creation and evolution through interactive Learning Management System (LMS) platforms (Du et al., 2013). With increased use of ICT in education and setting up of the National Mission in Education through ICT (NMEICT) in 2009, e-content has become the most popular learning method that helps a learner to learn at their own pace. The content will be made available to both teachers and students in the Indian university system throughout the world. The purpose of this scheme is to enable individual teachers, faculty, and university group experts in curriculum creation and digital production to produce instructional content in electronic format that is appropriate for use in different teaching and learning programmes. This scheme is available to teachers of all subjects and disciplines. The objectives of this e-content scheme is to promote generation of e-content in all subjects (Hamid et al., 2021; Joseph & Abraham, 2017); develop teachers' and experts' resources in e-content creation; make available the e-content to teachers and students through various delivery modes for formal and informal education (Malhotra & Bhatia, 2021); supplement and complement the process of teaching and learning in higher education (Keržič et al., 2019); and develop partnerships between educational institutions and the IT industry for the continuous development of new content and methodology, taking into account contemporary technology (Hamid et al., 2021).

With the growth in the number of students, education contents, and services that can be offered and resources made available, e-learning system dimensions grow at an exponential rate. Further, students should be taken proper care of for challenges like students preferring classroom teaching, technical problems like slow Internet

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connection, network overload, and inexperience with e-learning environment for using e-learning systems (Arora & Kumar, 2012). Electronic content is a very powerful educational tool. It is valuable for learners and useful for teachers of all individual education systems (Malhotra & Bhatia, 2021). It is the latest facility to access the required information. E-content includes all kinds of content created and disseminated through various electronic media. E-content is available in many subjects and at almost all levels of education. It can be used by a wide variety of learners with diverse needs, different backgrounds, experience, and skill levels.

E-content development is meant to understand the meaning and standards of e-content, learning objectives, designing and development of digital resources for teaching and learning, and development. Online learning has become a mandatory component of all educational institutions around the world due to the COVID-19 pandemic. The study and physical classes were shut down from March 2019 till June 2021, and it is not clear how long it will take to get back to normal classes. Thus, the role of e-content during this period has increased to a very high extent, where e-content can fulfill the requirements of the students. This deadly situation has turned the process of offline education upside down, by offering an effective teaching method that brings out the best in students.

Objectives

The purpose of the present study is to find out the impact of e-content projects of MHRD. The specific objectives of the present investigation are as follows:

- Student perception on impact of e-content projects of MHRD.
- To analyse the use of e-content.
- To identify learner's satisfaction towards e-content.
- To identify learner's satisfaction from the e-content availability and use.

Reviews of Literature

E-learning is a widely used terminology to address online-based learning because it covers information systems,

which include technology, users, strategies, and business processes (Venkataraman & Sivakumar, 2015). Online learning systems enhance instructors and students to share instructional materials, make class announcements, submit and return course assignments, and conduct conversations with each other online. E-learning is a knowledge framework that supports online learning and procedures, stores and disseminates instructional resources, and encourages the control and collaboration of teaching and learning (Benta et al., 2014). E-learning, like distance learning, requires more up-front investment (compared to campus-based teaching), but offers a low cost and sustainable model over several years if large numbers of students continue to register (Bologaa & Dzitaca, 2014).

However, e-learning's adoption should accommodate dynamic interactive and alternative learning experiences to students, where knowledge management from multi-channels and social networks are blended to provide comprehensive learning experiences. Depicting the history of e-learning, Phankokkruad (2012) explained that the evolution of learning solutions focuses on adoption of technology in education from years 2000. At that time, e-learning was a system where universities store learning materials online and students retrieved those materials for learning. Kop and Carroll (2011) revealed that for regular students, e-learning is seen as supporting tools of learning. One of the crucial factors in e-learning is knowledge management.

An important feature of the e-learning approach is that students are able to easily interact with the learning environment and resources at their own convenience (McPherson & Nunes, 2008). Venkataraman and Sivakumar (2015) engaged students in a student-centred approach group-based learning scenario using e-learning techniques, and realised that the approach causes a huge impact on students' performance and produces an effective learning environment. Mahdizadeh and Mulder (2008) research the usage of the e-learning network to promote conventional face-to-face learning, and their findings suggest enhanced teacher-learner connectivity and increased overall student satisfaction. The advent of e-learning offers both universal and direct connections to efficient and qualitative education. However, the usefulness of

information and communication systems relies on the manner and the intent with which they are used.

Educator Martínez-Caro (2011) believed that motivation is the key to success and delivery of effective results, and therefore, e-learning usage in different settings and applications has its advantages as well as disadvantages and limitations. Currently, only feedback of our own students is available, which is encouraging. In the current period, the students welcomed the task-based experiments to design a virtual system and found them to be more productive.

Research Methodology

For the current research work the methodology adopted includes the selection of five universities from Rajasthan, i.e., MLSU, RU-Jaipur, JNVU-Jodhpur, Kota University-Kota, and MDS-Ajmer; 100 students were selected from each university using convenient sampling method. A questionnaire is prepared as a data collection tool, having the questions related to the demographic profile and close-ended 5-point Likert-scale-based questions regarding their satisfaction of the e-content availability and use. The demographic profile is presented in Table 1.

Table 1: Demographic Profile

<i>Age-Wise</i>	<i>Frequency</i>	<i>Percent</i>	<i>Gender-Wise</i>	<i>Frequency</i>	<i>Percent</i>
10-15	141	28.2	Male	334	66.8
16-20	186	37.2	Female	166	33.2
20-25	114	22.8	Total	500	100.0
Above 25	59	11.8	<i>Discipline-Wise</i>		<i>Frequency</i>
Total	500	100.0	Engineering	47	9.4
<i>Qualification-Wise</i>			<i>Frequency</i>	<i>Percent</i>	
Diploma	50	10.0	Computer Science	20	4.0
Graduate	117	23.4	Commerce & Management	172	34.4
Post-graduate	333	66.5	Social Science	151	30.2
Total	500	100.0	Core Science	110	22.0
			Total	500	100.0

The demographic profile shows that the students who have selected the course for e-learning includes a maximum (66.8%) of male students; the remaining 33.2% were female. The courses are moreover technical, and thus normally preferred by the male students. According to the age-wise distribution, the maximum (37.2%) students are between 16 and 20 years, followed by students in the 10-15 years age group. The courses are more popular among the students in the 10-20 years age group. Qualification-wise, post-graduates (66.5%) are followed by graduates (23.4%). The courses are more popular among the students with a post-graduate degree. The maximum number of students were from commerce and management (34.4%), followed by social science (30.2%), and core science (22%). Since the students of technical and rich commerce faculty universities were selected, this ratio is on their side.

Data Analysis

The data analysis is started with the point of the student's knowledge regarding the e-contents and its sources. The result is presented as follows:

Table 2: Source of Knowledge of E-Content

	<i>Frequency</i>	<i>Percent</i>
College/University	170	34.0
Family and friends	146	29.2
Teachers and trainers	127	25.4
Web advertisement or newspaper	41	8.2
Announcement of workshop or e-mail	16	3.2
Total	500	100.0

As per Table 2, it is clear that the students have selected the course for e-learning study having been informed by their college/university mostly (34%), followed by family and friends (29.2%), and teachers and trainers (25.4%).

Further, the implementation of e-learning is also measured to know that they are aware and using the e-content for their growth, before asking them about their satisfaction. The results are presented in Table 3.

Table 3: Extent of E-Learning Implementation

Activities	Percentage
Students are admitted online	87%
Online access to student records	70%
Online access to results	68%
Study material is provided online	56%
Assignments are submitted online	49%
Video lectures are recorded for online users	27%
Examinations are conducted online	18%
Classes are taken online	17%

The universities are using present the e-learning facilities largely for admitting trainers online, accessing student records, and providing examination results online. However, there has been less interest and effort by institutions and trainers towards providing access to study materials online and submission of assignments online. Only 27% of respondents agreed on providing video lectures for online users and conducting exams online

(18%). Around 17% of the trainers agreed to conduct classes online, but not on a regular basis.

Identifying Factors of Satisfaction of Students

To find factors of student satisfaction in implementing open-access online/e-content system, the multiple regression analysis technique is used. Present analysis used variable name 'satisfaction' as the dependent variable and other variables as independent variables. Results of analysis are presented below.

H0: The factors of learner's satisfaction insignificantly influence satisfaction towards e-content.

H1: The factors of learner's satisfaction significantly influence satisfaction towards e-content.

Table 4 presents the results of the hypothesis testing, with part A presenting the scale items with their mean and standard deviations, part B presenting the model summary, and finally, part C presenting the coefficients.

Table 4: Multiple Regression Analysis for Satisfaction

A – Scale Items	SPSS Code	Mean	<i>s</i>
Level of satisfaction with the instruction, material, and e-content available for the selected course	Satisfaction	1.6600	.47418
Course materials are relevant as per your course	Satis_1	3.4660	.97711
Course materials are clear and understandable	Satis_2	1.4520	.54432
Advanced course materials and stand-alone teaching materials	Satis_3	4.3460	.82683
Materials contribute to effective communication in the class	Satis_4	4.1120	.76198
Course materials meet your individual needs	Satis_5	4.2920	.74286
Course materials contain sufficient animations and illustrations	Satis_6	3.8660	1.1074
Course materials contain sufficient visuals and images	Satis_7	4.3760	.68962
Promoting greater student participation and interaction	Satis_8	3.7760	1.062
Flexible learning time	Satis_9	4.2220	.9243
Better teaching/Learning benchmarks that removes difficulty level for the students	Satis_10	3.5000	.9611
Course layout on the Web facilitates easy access	Satis_11	3.0040	1.0593
Motivation level in using online tools	Satis_12	3.0420	1.0948
Course materials are sufficiently interactive	Satis_13	2.7980	1.0580
Appropriate current e-content format	Satis_14	3.0160	1.1252
Contents sufficient	Satis_15	2.7180	1.0643
Sequence of e-content presentation is correct	Satis_16	2.9200	.99779
Presentation of e-content is relevant	Satis_17	4.4800	.50010
Provided access to sufficient library resources	Satis_18	4.3400	.72488
Useful e-content with access to sufficient library resources	Satis_19	4.3900	.59885
Frequently Asked Questions (FAQs) are useful	Satis_20	4.4340	.70045

<i>A – Scale Items</i>		<i>SPSS Code</i>	<i>Mean</i>	<i>6</i>
Level of satisfaction with the instruction, material, and e-content available for the selected course		Satisfaction	1.6600	.47418
Course materials are relevant as per your course		Satis_1	3.4660	.97711
Course materials are clear and understandable		Satis_2	1.4520	.54432
Adequate time for expression of your views and appropriate response to your queries during online interaction		Satis_21	4.2640	.64741
<i>B – Model Summary</i>				
<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>	<i>ANOVA</i>		
		<i>F</i>	<i>Sig.</i>	
.526	.32635	51.407	.000 ^m	
m. Predictors: (Constant), Satisfaction_2, Satisfaction_18, Satisfaction_5, Satisfaction_21, Satisfaction_7, Satisfaction_19, Satisfaction_10, Satisfaction_15, Satisfaction_9, Satisfaction_13, Satisfaction_4				
Dependent Variable: satisfaction				

<i>C – Coefficients^a</i>									
	<i>Model</i>	<i>Unstandardised Coefficients</i>		<i>Standardised Coefficients</i>	<i>t</i>	<i>Sig.</i>	<i>Correlations</i>		
		<i>B</i>	<i>Std. Error</i>				<i>Beta</i>	<i>Zero-Order</i>	<i>Partial</i>
13	(Constant)	1.114	.179		6.217	.000			
	Satisfaction_2	.200	.034	.229	5.941	.000	.426	.260	.183
	Satisfaction_18	-.300	.027	-.459	-11.066	.000	-.409	-.448	-.341
	Satisfaction_5	.204	.024	.320	8.408	.000	.220	.356	.259
	Satisfaction_21	.256	.028	.349	9.119	.000	.058	.382	.281
	Satisfaction_7	-.227	.026	-.330	-8.633	.000	-.239	-.364	-.266
	Satisfaction_19	.135	.027	.170	4.987	.000	.002	.220	.154
	Satisfaction_10	-.123	.020	-.249	-6.187	.000	-.040	-.270	-.191
	Satisfaction_15	.097	.018	.217	5.367	.000	.080	.236	.165
	Satisfaction_9	.051	.017	.099	2.950	.003	.095	.132	.091
	Satisfaction_13	.058	.020	.129	2.874	.004	.394	.129	.089
	Satisfaction_4	-.053	.022	-.085	-2.399	.017	.072	-.108	-.074

a. Dependent Variable: Satisfaction

Part A of Table 4 presents the demographic presentation of the variables used in the study. The regression results show that the value of Adjusted R square is 52.6% (part B of table) with dependent variable, i.e., satisfaction, and the significant predictors as Satisfaction_2, Satisfaction_18, Satisfaction_5, Satisfaction_21, Satisfaction_7, Satisfaction_19, Satisfaction_10, Satisfaction_15,

Satisfaction_9, Satisfaction_13, and Satisfaction_4. The model fit ANOVA is 51.407, which is also significant ($p = 0.000$). Part C presents the contribution of each variable in the model under the unstandardised coefficients beta value. It is also supported by the standard error, which is reduced. Fig. 1 revealed that the above model is fit to predict the satisfaction of the learners from e-content (Du et al., 2013).

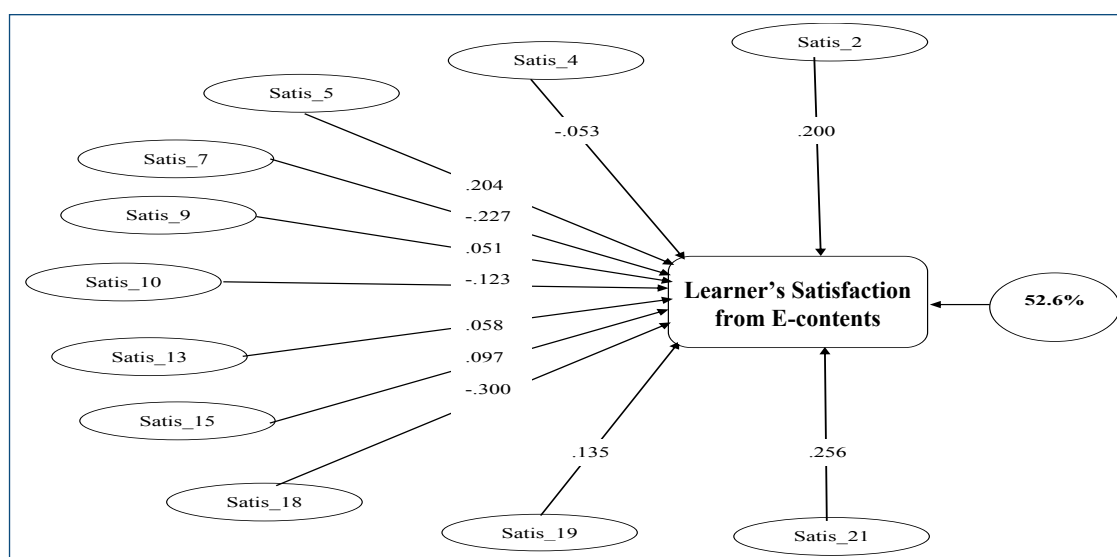


Fig. 1: Regression Model

Conclusion

The rapid growth in the e-content development using Web technology, and its ever-increasing usage, has given unprecedented opportunities to educators to extend teaching material to students not only within the four walls of their classrooms, but also in the comforts of their home all over the globe (Arora & Kumar, 2012; Juhary, 2010). An important feature of e-learning approach is that students can easily interact with the learning environment and resources at their own convenience (Li et al., 2021). Students in a student-centred approach experience a huge change in their performance and have an effective learning environment (Camac, 2018). Usage of the e-learning portal to support conventional face-to-face learning, and the findings, indicate better teacher-learner connectivity and enhanced overall student satisfaction (Kant et al., 2021). The advent of e-learning offers both universal and direct connections to efficient and qualitative education.

As per the above result points, it can be revealed that the students were satisfied with the following variables: course materials are clear and understandable; adequate time for expression of views and appropriate response of queries during online interaction; courses contribute to effective communication in the class; takes suggestions for modification for enabling its use; course materials contain sufficient animations and illustrations; useful

e-content; difficulty level for the students is reduced; contents sufficient; course materials are sufficiently interactive; motivation level in using online tools; and course materials meet your individual needs. Findings indicate that students agree that e-learning systems will provide benefits by improving content and delivery, with anytime, anywhere access; increase student interaction with other learners; improve teaching pedagogy; make learning more interesting; and will improve learning outcomes (Alqahtani & Mohammed, 2020).

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