Impacto del aprendizaje E-learning en la motivación de los estudiantes en instituciones de educación superior: una perspectiva india

Impact of E-learning on Students' Motivation in Higher Education Institutions: An Indian Perspective

Impacte de l'aprenentatge E-learning en la motivació dels estudiants a les institucions d'educació superior: una perspectiva índia

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Resumen: La mayoría de las universidades enfrentan diversos problemas y obstáculos educativos que la tecnología y los modos electrónicos de aprendizaje pueden superar. Actualmente hay muchas fuentes y herramientas de aprendizaje e-learning disponibles para su uso, como los cursos masivos abiertos en línea (MOOC), y la plataforma de aprendizaje electrónico Moodle se ha utilizado en muchas universidades de todo el mundo. Las herramientas de aprendizaje e-learning pueden proporcionar formación y educación a un gran número de estudiantes con diversos orígenes culturales y niveles educativos. El presente estudio tiene como objetivo estudiar el impacto del e-learning en el sector de la educación superior desde el punto de vista de los estudiantes. Se ha observado en el estudio que las herramientas de aprendizaje electrónico y sus características interactivas aumentan la motivación de los estudiantes de pregrado para el proceso de aprendizaje. Además, este estudio también observó que el aprendizaje e-learning podría fracasar en la educación si se sobreestima lo que logra. De este estudio obtenemos una visión global de las tendencias actuales y futuras de las herramientas de e-learning y por tanto aportamos posibles comentarios importantes para el uso de herramientas de e-learning en el aula.

Palabras claves: E-Learning, aprendizaje en línea, aprendizaje estudiantil, participación estudiantil, tecnología educativa, motivación estudiantil, MOOC, Institución de Educación Superior (IES).

Abstract: Most of the universities face various educational problems and obstacles that technology and E modes of learning can overcome. Many E-learning sources and tools are currently available for use such as Massive Open Online Courses (MOOCs), Moodle e-learning platform has been used in many universities around the world. E-learning tools can provide training and education to a large number of students with diverse cultural backgrounds and education levels. The present study aims to study the impact of e-learning on the higher education sector from a student's viewpoint. It has been observed in the study that e-learning tools and their interactive features increase the motivation of undergraduate students for the learning process. Further, this study also observed that e-learning could be failed in education when overestimating what e-learning accomplishes. From this study, we obtain a global view

of the current and future tendencies of e-learning tools and therefore we provide possible important comments for using e-learning tools in the classroom.

Keywords: E-Learning, online learning, student learning, student engagement, educational technology, student motivation, MOOC, Higher Education Institution (HEI).

Resum: La majoria de les universitats enfronten diversos problemes i obstacles educatius que la tecnologia i els modes electrònics d'aprenentatge poden superar. Actualment hi ha moltes fonts i eines d'aprenentatge e-learning disponibles per al seu ús, com els cursos massius oberts en línia (MOOC), i la plataforma d'aprenentatge electrònic Moodle s'ha utilitzat en moltes universitats de tot el món. Les eines d'aprenentatge e-learning poden proporcionar formació i educació a un gran nombre d'estudiants amb diversos orígens culturals i nivells educatius. El present estudi té com a objectiu estudiar l'impacte de l'e-learning en el sector de l'educació superior des del punt de vista dels estudiants. S'ha observat en l'estudi que les eines d'aprenentatge electrònic i les seves característiques interactives augmenten la motivació dels estudiants de pregrau per al procés d'aprenentatge. A més, aquest estudi també va observar que l'aprenentatge e-learning podria fracassar en l'educació si se sobreestima el que aconsegueix. D'aquest estudi obtenim una visió global de les tendències actuals i futures de les eines d'e-learning i per tant aportem possibles comentaris importants per a l'ús d'eines d'e-learning a l'aula.

Paraules clau: E-learning, aprenentatge en línia, aprenentatge dels estudiants, implicació dels estudiants, tecnologia educativa, motivació dels estudiants, MOOC, Institució d'Educació Superior (IES).

1. Introduction

Recent years have seen a dramatic increase in the uptake of e-learning tools within higher education and their impact on higher education institutions (HEI), students, and practitioners. The student's learning environment has changed significantly in the last few decades due to the inclusion of technology in education(Singh, 2022; Harandi,2015). E-learning is now used as an option for face-to-face education. As a matter of fact, it is increasing in direct proportion to the number of students are increasing in higher institutions. This has made teachers, educators, and

instructors exert a lot of effort to help learners, to get interactive content including multimedia as it has proved that it has a significant effect on the process of learning (Abou El-Seoud et al., 2014). E-learning ensures that students are completely involved as learning takes place together with texts, videos, collaborative learning, and interactive graphics. It may enhance the quality of teaching and learning and create the need for higher education institutions (HEI) for competitive advantage and access to future education and training in the globalized market (Al Rawashdeh et al., 2021). Presently, vast attention has been paid to online learning in higher education institutions (HEI), as it provides better access to learning resources online, and technology applications regardless of learners' geographical locations (Regmi & Jones, 2020; Singh, 2022; Kew et al., 2018: Nora et al., 2008). There are different meanings or interpretations of online learning or E-learning, but employing the technology to provide online access to learning resources for the improvement in learning is considered as principle aspect.

 E-learning has been defined as an education method that facilitates learning by applying technology and access to all the required programs. The term E-learning has been interchangeably used with the term web-based learning, online learning or education, computer assisted programs, computer based instructions, internet based learning, multimedia learning, technology enhanced learning and learning through augmented reality and virtual reality (Al Rawashdeh et al., 2021; Regmi & Jones, 2020; Singh, 2022; Yahiaoui et al., 2022; Aristovnik et al., 2017). There are different modes of E-learning which have been used in practice since many years but the most important is either face to face learning or blended learning model or pure online learning which provides maximum independence to the students. This model further divided into two sub branches, one is individual learning and another is collaborative learning. It has been accepted through most the research study published on online learning that online learning has equally effective as other traditional modes of the study. Smart learning environment also represents that online learning and students learning has significant relationship (Singh, 2022;). This has proved that online learning has transformed the education sector by enabling the student community and learners to share information and data in the easiest way.

2. Review of Literature

Online learning aims to provide holistic development of students in higher education institutions (HEI). In present era, due to the proliferation of internet technology, the E-learning has become essential method and new epitome that is widely accepted and used by the higher education institutions across the globe. Technology has made our lives easy and learning better through improved accessibility of internet or web based services. Most of the studies published on online learning revealed that enrollment into online course have increased substantially. This rapid enrollment into online courses has created concern over quality and satisfaction (Rakes & Dunn, n.d.).

2.1 E-Learning

The internet has become one of vital ways to make available sources for research and learning for both teachers and students. Technology based e-learning encompasses the use of internent and other important technologies to create learning and teach learning in varous domains of education. There has been a extensive debate about the definition of e-learning. It is difficult to find a common definition of e-learning as some of the authors revealed it range of applications, learning methods and process. E-learning as providing complete on-line courses only whereas comprise web-supplemented and web-dependent services for the provision of educational and support processes (Mohammadyari & Singh, 2015; Singh, 2022). E-learning has been described in various ways as learning that is using a number of technologies and methods of delivery i.e. computer based training (CBT), internet based training (IBT), web based instructions (WBI), advanced distributed learning (ADL), Distance learning or distributed learning and mobile learning etc.

2.2 Student Motivation

Motivation is described as a process by which individual instigate and sustains goal directed activity. Moreover, motivation is generally viewed as process of through which individual needs and desires are set in motion. Academic motivation reflects students' satisfaction, persistence and interest in the subject matter (Rakes & Dunn, n.d.). Motivation is critically important for students learning and engagement in the higher education institutions, lack of motivation is a

frequent problems with students at all levels (Abou El-Seoud et al., 2014; de Freitas et al., 2015; Mohammadyari & Singh, 2015; Rakes & Dunn, n.d.; Simamora, 2020; Singh, 2022). All learning environments presents challenges, but the online learning environments presents unique challenges as students bear more accountability for their own learning here as compared to any traditional learning environment ((Alawamleh et al., 2022; Broadbent & Poon, 2015; Rakes &Dunn, n.d.; Singh, 2022; Singh, 2024; Singh & Kumar, 2024). Intrinsic motivation is specific aspect of motivation in which individual perform tasks for inherent satisfaction rather external factors. Intrinsic motivation increases when individual perceive that they can perform or capable to perform for desired goals. Above completion of these factor of motivation students are more likely to be successful learners.

2.3 Student Engagement

Increasing use of internet technology in the education has led significant improvement in student engagement. Student engagement is the process by which students absorb the knowledge. It includes focusing attention, engaging curiosity, concentration, and flow. Student engagement refers to a state of involvement and flow refers to the concentration in one activity without paying attention to anything else (Patricia Aguilera-Hermida, 2020; Xu & Jaggars, 2013; (Alawamleh et al., 2022; Broadbent & Poon, 2015; Rakes &Dunn, n.d.; Singh, 2022; Singh, 2024; Singh & Kumar, 2024). Online learning material must be provided in such a way that enhances the learning experiences. This requires a deeper understanding of the factors that influences online learning. Online learning or E-learning has increased the student engagement through various tools and techniques applied by instructors. Most of the educational institutions have made significant financial investment to upgrade the e-learning platform for better student's engagement (Al Rawashdeh et al., 2021; Broadbent & Poon, 2015; Patricia Aguilera-Hermida, 2020, 2020; Rakes & Dunn, n.d.; Singh, 2022; Singh, 2024; Singh & Kumar, 2024) . Smart learning environment increases student focus and skills while learning through online sources. The university has to provide internet service to students and teaching staff members with enough computer devices to apply e-learning. A modern electronic library and dedicated classrooms with all types of equipment and tools needed are also necessary to apply e-learning instead of coming to the main campus (Broadbent & Poon, 2015; Maatuk et al., 2022; Singh,

2022; Singh, 2024; Singh & Kumar, 2024). There are various sources of accessing online learning and govt. sponsored platforms such Cousera, LinkedIn, MOOC (Massive Open Online Courses), NPTEL, Swayam platform, and other recommended sources like Coursera etc. Finally, after reviewing the literature in detail author has proposed the conceptual research model for the study which is representing the purpose and outcome of the study.
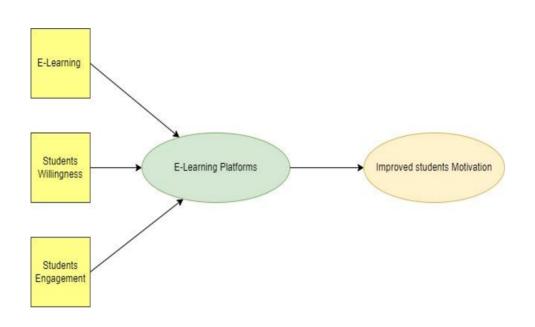

Figure 1: Author's own elaborations.

3. Research Methodology

Many researchers and philosophers explored this topic and tried to bring out the novel outcome in this domain. But this is study is unique in nature and tried to study the impact of E-learning on students' motivation in higher education institutions. The purpose of the study to describe the research carried out and outcome that are focused on the motivation of students participating in the research.

3.1 Objective

- To study the impact of E-learning on students motivation.

3.2 Statistical Population and Sampling

The population of the study includes the students of public and private universities in India. The sample volume has been calculated using GPower3.1 as 140 people. In order to select the members of sample, the random sampling method has been used. Moreover, in the present study in order to test the hypothesis an expert designed questionnaire was used for e-learning and intrinsic motivation through 20 statements on five point Likert Scale from strongly disagree to disagree, neutral, agree, and strongly agree. In this study the reliability of questionnaire was examined through Cronbach's alpha (e-learning questionnaire 0.63 and intrinsic motivation 0.74). In this study researcher collected the data through Google form which was share through social media platform such whatsapp, facebook and other platforms who are studying in the higher education institutions in India.

Table 1: Reliability Statistics (e-learning)

Cronbach's Alpha	No. of items
.639	11

Table 2: Reliability Statistics (motivation)

Cronbach's Alpha	N of Items
.744	9

4. Result Analysis and interpretation

This section intends to provide an insight of results of the study revealed through analysis and data collection.

Table 3: Demographic profile of the respondents

Category	Status	Count	Percentage
Gender	Male	58	80.6
	Female	14	19.4
Age	18-21	53	73.6
	22-25	17	23.6
	26 and above	02	2.8
Education	Bachelor degree	65	90.3
	Master degree	6	8.3
	Ph.D	1	1.4

Table 4: Gender of questionnaire respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	14	19.4	19.4	19.4
	Male	58	80.6	80.6	100.0
	Total	72	100.0	100.0	

In this study, it is indicated that more of the respondents are male (80.6%) followed by female (14%). The frequency of male is 58 out of total 72 respondents and female are 14 out of total 72 respondents hence participation of male greater than female in gender of questionnaire

respondents. Male students found more participative in the study and replied with more enthusiasm and involvement.

Table 5: *Age of questionnaire respondents*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-21	53	73.6	73.6	73.6
	22-25	17	23.6	23.6	97.2
	26 and above	2	2.8	2.8	100.0
	Total	72	100.0	100.0	

In Table 1.2 shows the frequency and percentage of Age of questionnaire respondents. The age between 18-22 is 73.6% of total respondents which shows the highest percentage of responded in the study, further the age group between 22-25 is 23.6% and the age 26 and above is lowest participant with which is around 2.8% who are pursuing the doctoral program from the universities.

Table 6: *Education level of questionnaire respondents*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor degree	65	90.3	90.3	90.3
	Master degree	6	8.3	8.3	98.6
	Ph.D	1	1.4	1.4	100.0
	Total	72	100.0	100.0	

According to Table 1.3 results, respondents of Bachelor degree is 90.3% of total respondents, respondents of Mater degree has participated with 8.3% and respondents of PhD is having

lowest participation with 1.4% as the number of students who enrolled in the PhD program in the universities are less. Moreover, the students who are seeking their careers in the research and consultancy vertical or teaching profession are more interested in the doctoral programs.

Table 7 *I am aware about the initiatives taken by Govt. regarding E-learning questionnaire respondents*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Maybe	26	36.1	36.1	36.1
	No	15	20.8	20.8	56.9
	Yes	31	43.1	43.1	100.0
	Total	72	100.0	100.0	

In above Table 1.4 indicates related to awareness about initiatives taken by Govt. regarding E-learning, the maximum respondents (43.1 %) have said that "Yes" they are aware, 36.1% respondents is Maybe and 20.8% respondents is No.

Table 8: *Descriptive statistics of items.*

	N	Minimum	Maximum	Mean	Std. Deviation
Using E-learning sources are useful in class.	72	1.0	4.0	3.042	1.2830
I think using e-learning in class will improve my skills?	72	1.0	3.0	1.361	.7747

Using online sources for learning will improves my grades .	72	1.0	5.0	2.597	1.4980
Using E-learning in class improve students motivations.	72	1.0	5.0	3.931	1.2024
I prefer E-learning in the place of traditional offline learning.	72	1.0	4.0	3.444	.9625
Using e-learning encourages me to continue learning on the Internet by myself	72	1.0	4.0	3.361	.9539
I find the subject easier when the teacher uses e_x0002_-learning in teaching	72	1.0	4.0	3.097	1.1647
E-learning increases student engagement in the class	72	1.0	4.0	3.125	1.2096
E-learning make me more interested in the subject.	72	1.0	4.0	3.361	1.0388
E-learning provides power resources for gaining academic knowledge.	72	1.0	5.0	3.236	1.2615

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E-learning methods provides an opportunity to collaborative learning in class.	72	1.0	4.0	3.389	1.0008
Valid N (listwise)	72				

According to Table 2, result indicated the items range of minimum is 1.0 and maximum is 5.0. The highest mean of item is 3.931 which is Using E-learning in class improve students motivations and similarly the lowest mean of item is 1.361 which is I think using e-learning in class will improve my skills?

Table 9: *Compare mean of gender with items.*

Gender		Using E-learning sources are useful in class.	I think using e-learning in class will improve my skills?	Using online sources for learning will improves my grades	Using E-learning in class improve students motivations	I prefer E-learning in the place of traditional offline learning	Using e-learning encourages me to continue learning on the Internet by myself	I find the subject easier when the teacher uses e-learning in teaching	E-learning increases student engagement in the class	E-learning make me more interested in the subject	E-learning provides power resources for gaining academic knowledge	E-learning methods provides an opportunity to collaborative learning in class
Female	Mean	2.071	1.000	2.857	4.286	4.000	3.643	3.643	4.000	4.000	4.000	4.000
	N	14	14	14	14	14	14	14	14	14	14	14
	Std. Deviation	1.4917	.0000	1.6575	.4688	.0000	.4972	.4972	.0000	.0000	.0000	.0000
Male	Mean	3.276	1.448	2.534	3.845	3.310	3.293	2.966	2.914	3.207	3.052	3.241
	N	58	58	58	58	58	58	58	58	58	58	58
	Std. Deviation	1.1207	.8413	1.4656	1.3086	1.0295	1.0261	1.2420	1.2605	1.1044	1.3432	1.0648
Total	Mean	3.042	1.361	2.597	3.931	3.444	3.361	3.097	3.125	3.361	3.236	3.389
	N	72	72	72	72	72	72	72	72	72	72	72
	Std. Deviation	1.2830	.7747	1.4980	1.2024	.9625	.9539	1.1647	1.2096	1.0388	1.2615	1.0008

Table 3 shows the compare mean of Gender with items. The highest mean of female item is 4.286 which indicates about Using E-learning in class improve students motivations. Similarly lowest mean of female item is 1.000 related to I think using e-learning in class will improve my skills? Further, the highest mean of male item are 3.845 which indicate about using E-learning in class improving students motivations. Similarly lowest mean of male item is 1.448 related to I think using e-learning in class will improve my skills?

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5. Conclusion and inferences

Many studies have resulted that there is significant impact of E-learning on the students' engagement and motivation in the higher education institutions. The effective use of online learning has led the class engagement and students participation. One of the crucial factors in students E-learning is self motivation. The integration of information and communication technology in the learning process is entirely depends upon the students self motivation. This study has reported some important findings from the analysis. Most of the students have revealed that using e-learning sources in the classroom are useful and more such initiatives can be explored and implemented for the benefits of students. E-learning sources have significantly enhanced the grades of students and improved the skills set required for placement purpose. When it comes to the comparison of the E-learning and offline learning, most of the students preferred offline teaching and learning better as compared to online learning. Teachers who are using online sourcing have greater impact on students' engagement and motivation. E-learning provides extra source of learning for students, classroom engagement, and learning motivation at large. Moreover, E learning also provides an opportunity to collaborative learning in the classroom teaching.

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