

E-LEARNING DURING COVID-19 PANDEMIC

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ABSTRACT

E-learning has become the essential component of all educational institutions like schools, colleges, and universities in and all around the world as a result of pandemic crisis of COVID-19. This deadly situation has totally changed and flipped out the offline teaching process. E-learning claims to provides an effective teaching method that brings out the best in students. To find out the various student's attitude towards e-learning, primary data has been collected through google forms from national and international wise which include the student community from various schools, colleges, and universities. This research paper aims to study the E-learning process among various students who are familiar with web-based technology and are using e-learning process during these days. It also helps to find out solutions to improve the learning process and self-study skills of students. The stratified sampling method has been adopted in this study and the sample size is 190 across the world. The findings of this study reflect the impact of E-learning, students' interest in using E-learning resources, and their performance. In conclusion, this study shows that E-learning has become much popular among the students of all over world particularly, the lockdown period due to the COVID-19 pandemic.

Keywords: E-learning, Web-based Technology, Self-Study Skill, COVID-19 Pandemic, Students' Performance.

1. Introduction

The purpose of education is to mould a person to some extent or to be perfect. Education provides the way to reach their destiny. Education helps in developing social responsibilities as well. The main core of education is to learn. Learning is a process of acquiring knowledge and skills through study, experience, or being taught. Any freak accident which happens in the world will always leave its impact on education. And so, the epidemic of COVID 19 has its impact on education. The outbreak of this dangerous virus across the globe has forced educational institutions to shut down and remain closed to control the spread of this virus. This happening made the teachers think of alternative methods of teaching during this lockdown. And thus, it provides the way towards web-based learning or e-learning or online learning. In today's scenario learning has become digital in the world. In which teachers and students are virtually connected. E-learning is quite simple to understand and implement. The use of a desktop, laptop, or smartphones and the internet forms the major component of this learning methodology. E-learning provides much rapid growth and proved to be the best in all sectors, especially in education during this lockdown.

2. Significance of the Study

This study will help to find out the students' attitude towards online education i.e. E-learning during COVID – 19 Pandemic. This study was done for the students who are studying in various colleges and universities and even schools to gain information regarding the contribution of e-learning during this pandemic. It can be a learning platform in educational institutions to enhance the knowledge of students and skills through digital technologies. Government and Education Department of India has to provide better infrastructure for e-learning for the betterment of students.

3. Objectives

1. To know the national trend of using E-learning resources among students.
2. To identify the interest and attitude of students towards E-learning resources across the nation.
3. To suggest prospects in using E-learning resources by students across the nation.

4. Methodology

This study is based on primary data. The data has been collected from students, who are currently pursuing their undergraduate degrees in different colleges and universities. The online questionnaire through Google Forms has been designed for collecting data. Among the students, only 190 samples are scrutinized based on the stratified sampling method. The period of study is the month of May 2021.

5. Analysis

5.1 Willingness towards the E-learning

The revolution of information and global availability of technology has a major impact on contemporary education. It plays a major role in all new pedagogical skills in education at all levels. There are many available resources online to learn from wherever you need it. Digital devices and electronic gadgets do not only provide students to engage in entertainment, but also provide opportunities for them to engage in learning activities. In this context, student's interest towards e-learning is presented in table-1.

Table-1: Student's willingness towards e-learning

Classification	Respondents	Percentage
Yes	156	82.11
No	12	6.31
Maybe	22	11.58
Total	190	100

Among 190 respondents, around 82.11 percent of students reported their willingness to learn from e-sources. Around 11.58 percent of them were opined in somewhat they are learning from e-resources because there are no other alternatives. Since the classes and education institutions are closed due to Corona, they are only depending upon e-learning, most majority of the educational institutions, where the students have participated in this survey are encouraged to learn through e-resources. And only 6.31 percent of them were not willing to learn because of a lack of connectivity. It is evident from the Table-1; a maximum number of respondents are engaged to learn from e-based learning.

5.2 Improvement of student's self-study skill through E-learning

In today's scenario, expectation is very different from the past after globalization education has become more associated with digital and mobile paced. Students have wanted learning materials that are accessible through online mode in mobile phones and computers. The main reason for e-learning is that the students can learn at their comfort and requirement. In this context, the improvement in the self-study skills of students through e-learning is presented in table-2.

Table-2: E-learning improves your self-study skill

Classification	Respondents	Percentage
Yes	159	83.68
No	9	4.74
Maybe	22	11.58
Total	190	100

Among 190 respondents, around 83.68 percent of students have reported their self-study skills to improve because of e-learning. Around 11.58 percent of them were opined in somewhat they are learning from e-sources because there are no other alternatives. Since the classes and education institutions are closed due to Corona, they are only depending upon e-learning, most majority of the educational institutions, where the students have participated in this survey are encouraged to learn through e-resources. And only 4.74 percent of them were not supposed that the e-source alone can improve their self-study skills. It is proved from the Table-2, a maximum number of respondents have view that, e-based learning improves their self-study skills.

5.3 Satisfaction level of the students on the online mock test

Student assessment is the best method of the evaluation process in the education system. However Various methods are being adopted to understand the learning capacity of students. The online way of learning a mock test is considered best method which is a highly acceptable one. It is very much important during the quarantine time. Moreover, the mock test is an effective and systematic method to extract student's abilities and understand their respective lessons, in this context, the satisfaction level of the students in online mock test is presented in table -3.

Table 3: Satisfaction level of the students on the online mock test

Classification	Respondents	Percentage
Yes	143	75.76
No	21	11.05
Maybe	26	13.68
Total	190	100

Among 190 respondents, around 75.76 percent of students are satisfied with web-based mock test participation. They have assertion that it is more convenient and aptitude based. Around 13.68 percent of them are opinioned that, it may be useful since the students are pursuing online competitive examinations. And only 11.05 percent of them are certain that the web-based mock test is not sufficient for their expectation level. It is evident from the table-3 that a maximum number of respondents are willing to participate in the mock test.

5.4 The usefulness of the e-learning at quarantine Time

During this time of medical emergency, many education institutions are taking some simple measures to provide learning during the quarantine time. Students are motivated and provided a link to access helpful material for their upcoming semester examination. Colleges are encouraged to be planned towards e-learning, in this context; the usefulness of the e-learning at pandemic time is presented in table-4.

Table-4: The usefulness of the e-learning at quarantine time

Classification	Respondents	Percentage
Yes	160	84.21
No	10	5.26
Maybe	20	10.53
Total	190	100

Among 190 respondents, around 84.21 percent of students are opinioned that e-learning is very useful during the quarantine time. Around 10.53 percent of them is the attitude that it may be useful since the students are pursuing online competitive examinations. And only 5.26 percent of them are not positive on e-learning during quarantine time. It is shown from the table-4, maximum numbers of respondents are expressed that e-learning is useful and more satisfactory.

5.5 Comparison between e-learning and traditional learning

E-learning allows educationalists to get a higher degree of coverage to communicate the message efficiently for their target listeners. This ensures that all learners will receive the same type

of training with this learning mode. At the same time, despite the rising popularity of online education courses, traditional classroom teaching is the majority of the student's choice. Unlike online learning, the classroom learning method is real and students have an opportunity to easily understand, debate, deliberate, and discuss with their class teachers and friends. In this context, a comparison between e-learning and traditional learning on students' knowledge enhancement is presented in table -5.

Table-5: Comparison between e-learning and traditional learning

Classification	Respondents	Percentage
Yes	76	40.00
No	61	32.11
Maybe	53	27.89
Total	190	100

Among 190 respondents, around 40 percent of students are highly preferred e-learning because they are learning more advanced technical courses only through online. Since soft skills have very much important for present job market students are keen to learn from e-learning. But at the same time still, more than 32.11 percent of the students are considered that classroom learning is better than e-learning. It is evident from table-5, maximum numbers of students expressed that e-learning is useful and more satisfactory.

5.6 Face – to- face teaching practice is important for practical Learning

In e-learning pedagogy, theoretical concepts are carried over through various application tools which make the student more convenient. But it lacks in practical teaching.

Table-6: Face-to-face teaching is important for practical Learning

Classification	Respondents	Percentage
Yes	159	83.68
No	15	7.9
Maybe	16	8.42
Total	190	100

Among 190 respondents, 83.68 percent of students are supportive of conventional teaching for the practical session. Around 8.42 percent of them have opted as it may be conventional teaching is important for the practical session. And only 7.9 percent of them are not positive on e-learning for the practical session. It is evident from table – 6; a maximum number of respondents are towards conventional teaching for practical learning.

5.7 Technical Issues of e-learning

E-learning always depends on a strong internet connection with the high band. It does not succeed always because of connectivity issues and an acute power shortage. E-learning is even worse in rural areas compared to urban due to lack of infrastructure online courses require, and thus fail to attend their virtual classes. In this context, technical issues related to e-learning are presented in table-7.

Table-7: Technical Issues of e-learning

Classification	Respondents	Percentage
Yes	57	30
No	99	52.11
Maybe	34	17.89
Total	190	100

Among 190 respondents, around 52.11 percent of students are experienced that, no such technical issues while e-learning. Around 30 percent of them are experienced technical issues. Nearly 17.89 percent of them express that, sometimes it is very difficult to follow the classes due to poor internet connection. Especially video lectures from Zoom and other applications are containing a lot of technical configurations which is highly difficult to handle since the listener is new to this technology. It is evident from the table-6; maximum numbers of respondents have expressed NO on technical issues in e-learning.

5.8 Positivity towards e-learning

E-learning is an innovative method to communicate with society. It is proved to be an effective way of teaching during quarantine time to bring out the best in students.

Table-8: Positivity towards e-learning

Classification	Respondents	Percentage
Yes	146	76.84
No	17	8.95
May be	27	14.21
Total	190	100

Among 190 respondents, around 76.84 percent of the students are in favour of e-learning. Around 14.21 percent of them are in terms of e-learning may be positive. And only 8.95 percent of the students are not positive towards e-learning. From the table-8 it is evident that the maximum number of respondents are positive towards e-learning.

5.9 E-learning makes knowledge wider

E-learning provides maximum benefits from minimum requirements. Does it work for the students to enhance their knowledge? This is illustrated in the below table.

Table-9: E-learning makes knowledge wider

Classification	Respondents	Percentage
Yes	136	71.58
No	17	8.94
Maybe	37	19.47
Total	190	100

Among 190 respondents nearly 71.58 percent are esteemed that e-learning makes their knowledge extensive. Nearly 19.47 respondents are in a dilemma. And only 8.94 percent are disagreeing with the statement. From table-9 it is noted that the maximum number of the respondent's states that e-learning makes their knowledge wider.

5.10 Importance of Web-based Teaching

The use of internet to teach and to learn is necessary to some extent for both teachers and students. Online courses have become an important component for enhancing the student's skills. Students are benefited through web-based teaching.

Table-10: Importance of web-based teaching

Classification	Respondents	Percentage
Yes	139	73.16
No	15	7.89
Maybe	36	18.94
Total	190	100

Among 190 respondents, 73.16 percent of them understood the importance of web-based learning for their career skills. Around 18.94 percent of them show that it may be useful. And nearly 7.89 of them don't value the importance of web-based learning. From the above table-10, it is clearly shown that many of them know the importance of web-based learning.

5.11 Preference for Learning Environment

Learning is a process of acquiring knowledge, enhancing the skills, provides career growth. In this pandemic situation, there is no secure way for teaching in the classroom. All educational institutions are forwarded to the e-learning environment. The table-11 illustrates the student's attitude towards the preference of the learning environment.

Table-11: Preference of Learning Environment

Classification	Respondents	Percentage
Classroom learning	146	76.84
e-learning	44	23.16
Total	190	100

Among 190 respondents, only 23.16 percent prefer e-learning. Nearly 76.84 percent of them prefer classroom learning. From this data, it is noted that most of the students prefer to classroom learning environment rather than e-learning.

5.12 Contribution of e-learning bring a social change in India

In the contemporary education system is urging to adopt new technology for every field. All the nations (developed and developing nations) are more concentrated on research and development; as a result, technology is a part of every curriculum at all levels. A country like India is keen to introduce newer web-based courses for the students to fit them into the global job market. Technology allows us to learn all and it is providing an opportunity to utilize the technology without any discrimination. In this context, it is important to know e-learning brings a social change in India.

Table-12: Does e-learning bring a social change in India

Classification	Respondents	Percentage
Strongly disagree	18	9.47
Disagree	10	5.26
Neutral	75	39.47

Agree	67	35.26
Strongly agree	20	10.53
Total	190	100

Among 190 respondents, around 90 percent of students are opinioned that e-learning is significantly playing a major role in social change in India. They are explained category wise that e-learning gives more inclusion based, it reaches all heterogeneity groups, freedom of knowledge sharing. It is shown from table-12, maximum numbers of respondents are optimistic about social change.

5.13 Types of device prefer to use for e-learning

Table-13: Types of device prefer to use for e-learning

Classification	Respondents	Percentage
Laptop	56	29.47
Mobile	97	51.05
Desktop	8	4.21
Laptop & Mobile	19	10
Laptop & Desktop	6	3.16
Laptop, Mobile& Desktop	4	2.11
Total	190	100

Among 190 respondents, around 51.05 percent of students are preferred mobile phones for e-learning, followed by Laptop 29.47 percent, and remaining students mostly prefer Laptop & Mobile (10%), Laptop, Mobile and Desktop (2.11%) respectively.

5.14 Types of application tools prefer to use for e-learning

Table-14: Types of application tools prefer to use for e-learning

Classification	Respondents	Percentage
Zoom	77	40.53
Google classroom	47	24.73
WhatsApp	19	10
You tube	43	22.63
Mail	4	2.11
Total	190	100

Among 190 respondents, around 40.53 percent of students are learning classes through Zoom. Nearly 24.73 percent of students are accessing learning materials through Google Classroom and 22.63 percent are learning through YouTube. Remaining students prefer WhatsApp (10%), Mail (2.11%) respectively.

6. Overall Analysis of E-learning

6.1 Research Questions

To realize the view of students on the subject of e-learning implementation during the time of Covid-19 Pandemic, we need to answer the following questions:

No Description of Questions

1. Are you interested in e-learning?
2. Does e-learning improve your study skill?
3. Are you satisfied with mock tests on Google Form?
4. Does e-learning make your quarantine time useful?
5. Do you believe that improving knowledge through e-learning is better than traditional learning?

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6. Do you think Face to face learning is important for practical teaching?
7. Did you face any issues during e-learning?
8. Are you positive towards e-learning?
9. Does e-learning make your knowledge wider?
10. Do you think web-based teaching methods is important for a student?
11. Which one do you prefer? Classroom learning/ e-learning
12. Can e-learning bring a social change in India?
13. The device you prefer to use for e-learning. Laptop/Mobile/Desktop
14. Which application tool do you mostly prefer for e-learning? Zoom/ Google Classroom/WhatsApp/YouTube/Mail

6.2 Overall Impact of E-Learning Nation Wise

Q1	Yes	82.11%	Q9	Yes	71.58%
	No	6.31%		No	8.94%
	Maybe	11.58%		Maybe	19.47%
Q2	Yes	83.68%	Q10	Yes	73.16%
	No	4.74%		No	7.89%
	Maybe	11.58%		Maybe	18.94%
Q3	Yes	75.76%	Q11	Classroom Learning	76.84%
	No	11.05%		e-Learning	23.16%
	Maybe	13.68%	Q12	Strongly disagree	9.47%
Q4	Yes	84.21%		Disagree	5.26%
	No	5.26%		Neutral	39.47%
	Maybe	10.53%	Q13	Agree	35.26%
Q5	Yes	40%		Strongly agree	10.53%
	No	32.11%		Laptop	29.47%
	Maybe	27.89%	Q14	Mobile	51.05%
Q6	Yes	83.68%		Desktop	4.21%
	No	7.9%		Laptop & Mobile	10%
	Maybe	8.42%	Q14	Laptop & Desktop	3.16%
Q7	Yes	30%		Laptop, Mobile & Desktop	2.11%
	No	52.11%		Zoom	40.53%
	Maybe	17.89%	Q14	Google Classroom	24.73%
Q8	Yes	76.84%		Whatsapp	10%
	No	8.95%		YouTube	43%
	Maybe	14.21%		Mail	4%

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Table-15: Overall Data Analysis for E-learning

Question No	Total Students for Research	National Wise (%)	Remarks
Q1	190	82.11	Interested
Q2	190	83.68	Improves Self Study
Q3	190	75.76	Satisfied with Google Form
Q4	190	84.21	E-learning is useful
Q5	190	40	Improves Knowledge
Q6	190	83.68	Face to face learning is important
Q7	190	30	Issues in e-learning
Q8	190	76.84	Positive towards e-learning
Q9	190	71.58	E-learning makes your knowledge wider
Q10	190	73.16	Web-based teaching is important for a student
Q11	190	76.84	Prefer Classroom learning/ e-learning
Q12	190	10.53	E-learning brings a social change

- 82 % of students interested in online studies. The 76.84 % of students prefer only Classroom Learning while only 40 % of students have opinion that e-learning improves Knowledge.
- Exactly 75 percent of the students satisfied with Google form in nation wise.
- 83.68 percent of respondents of national wise agree that face to face learning is more important than e-learning the introduction, while 16.32 percent agree on the opposite.

7. Findings

- The findings of this study are based on the collection of data which reflects Covid-19 impact on e-learning.
- The findings revealed the contribution of e-learning resources or facilities for the performance of students.
- In our study, we found that there are mostly positive thoughts among students about e-learning. There is also a great interest and use of these e-learning programmes for academic use is increased significantly.
- But, many of them do not like e-learning. They only like virtual Learning and classroom learning like face to face learning or traditional learning.
- In the future, this e-learning module will provide unavoidable options in higher education.

8. Conclusion

E-learning seems to be the forthcoming trend. It has been extending widespread. The online method of learning is suitable for everyone. Depending on their availability and comfort, many people choose to learn at a convenient time. This enables the learner to access updated content whenever they want it. Due to the wide set of benefits, it provides to students, it becoming popular. The findings of the study reflect the impact of E-learning, interest of students in using E-learning resources and their performance. In conclusion, this study showed that E-learning has become quite popular among the students across the world particularly, the lockdown period due to the COVID-19 pandemic.

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