RESEARCH ARTICLE   **OPEN ACCESS**

A Study on Teachers Perspective on Effectiveness of E-Learning During COVID-19 Lockdown in Maharashtra Region

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Manuscript Details

Abstract

COVID-19 is an infectious disease brought about by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first recognized in China and has since spread all around, realizing an advancing pandemic. Therefore, the Government of India announced Lockdown from 25th March 2020 and still ongoing up to June 2020 when this paper work is in progress. It affects the education system in Maharashtra widely. A survey showed that most Universities and school courses were only 75% completed. So, the teachers had to use E-teaching methods to complete the remaining course work. E-learning refers to the learning system that utilizes electronic technologies to access educational content outside the traditional classroom. This study was designed to identify the teacher's teaching preference, perception regarding e-learning mode effectiveness and technical capabilities of e-content development. A questionnaire was completed by 140 teachers from a wide variety of teaching Departments in Universities of Maharashtra region. The outcome of the study showed that the teachers are not yet comfortable with the e-teaching many of them are preferred the traditional classroom teaching method. Besides that, 74.5% of then need a technical assistant at the time of e-content development.

Keywords - *E-learning, Effectiveness, teacher's perception, Maharashtra.*

Introduction

The episode of SARS-CoV-2 (formerly 2019-nCoV) disease developed in December 2019 in Wuhan, Hubei Province, China [1, 2]. On 24 March 2020, the Government of India under Prime Minister Narendra Modi requested an across the country lockdown for 21 days, constraining development of the whole 1.3 billion populace of India as a preventive measure against the COVID-19 pandemic in India [3]. The lockdown is further extended till 30th June 2020 as long as this paper was being written. At some point in the second seven day stretch of March, state governments the nation over started closing down schools and universities incidentally as a measure to contain the spread of the novel coronavirus. It's near a month and there is no conviction when they will revive [4]. The pandemic has significantly disturbed the education system of the country. To ensure learning continuity of students UGC and Maharashtra state education departments ordered teachers to work from home. Schools and Universities are suggested teachers conduct the class online mode through the Zoom app, Google classroom, YouTube videos etc.

With the increasing use of smartphones, e-learning and e-teaching are fascinated. There are many advantages and disadvantages of e-learning. But e-learning cannot replace the traditional teaching method. Even though the number of smartphone users in Maharashtra is pretty much decent, teachers still face many problems while developing e-content. The objective of this research is to investigate the effectiveness of e-learning and the technical capabilities of teachers to develop e-content among universities in Maharashtra region. Also, the teacher's perspective on the effectiveness of e-learning.

Electronic learning or 'e-learning' has been a compelling method of adapting today. In light of this examination, it very well may be reasoned that the understudies were presented to the e-learning in incredible arrangement. It empowers understudies to adapt adequately yet inevitably the instructors despite everything need to assume their jobs and play out their undertakings all together for learning procedure to occur [5]E-learning was accounted for to be utilized less regularly to encourage and oversee learning, for example, to make course materials accessible to students, or to associates, (each referenced by around three-fifths of respondents), or to speak with students outside of the study hall (around 33%). E-learning was additionally utilized less frequently to oversee singular objective setting (one fifth) or keep tabs on students' development (two-fifths). Additionally, while around half of respondents said that they utilized e-figuring out how to build up their students' understanding, less utilized it to convey separated exercises (around two-fifths) or to give coordinated consideration in the class (one-fifth) [6].

E-learning is compelling for college and universities regardless of their experience. However, taking in adequacy may shift from students to students. The investigation features a few factors to consider the adequacy of e-learning. The presence of certain factors for all intents and purposes give the idea that e-learning is valuable to certain students and just for those factors e-learning may not be similarly advantageous to other people [7].

Materials and method

This present study is based on online survey. We have collected 141 Universities, colleges, and school teacher's online questionnaire-based data from the Maharashtra region. The Google form was used to send a questionnaire by email which helped in getting the quick responses. The language of the questionnaire was marathi because the dialect of Maharashtra is Marathi, so it helped the teachers to understand the questions properly. The study covers almost all Universities and schools' teachers in Maharashtra. The study was done in the first two weeks of May 2020.

The quantitative study involved questionnaire based on technical capabilities of teachers, student's response to e-learning, e-teaching vs. traditional teaching, the

impact of e-learning on social skills of students, student's concentration during e-learning, the effectiveness of e-learning in a practical subject like Biology, Physics, Chemistry, the effect on the quality of teaching due to e-teaching., etc.

To develop a valid and reliable questionnaire, we have consulted with experts in the field and in-depth interaction with teachers among various universities in Maharashtra.

Statistical Analysis

The frequencies collected from the questionnaire are analysed for the significance. Chi-square test was applied to the questions by comparing the observed and the expected frequency. Null hypothesis was used for interpretation of collected data.

The question no.3, 4, 5 are not checked for the significance as they contain the teachers personal views. The variable in question no.3, 4, and 5 are depending upon the overall teaching attitude of the teacher and students mentality which the teachers are dealing with.

Table 1 Following type of Questionnaire was used in this survey.

Que. No.	Questions	Possible answers
1.	Do you find it difficult to create video lectures, online content, online quizzes, etc.?	Yes No Neutral
2.	Do you need technical help to create e-leaning content?	Yes No Neutral
3.	How do student respond when teaching online?	Very Good Good Ordinary Bad
4.	What do you think about the percentage of students who honestly attend the e-classes?	25% 50% 75% 100%
5.	Which medium you prefer for teaching?	Traditional teaching -teaching
6.	Can e-learning improve student's social skills or social behaviour?	Yes No Neutral
7.	Whether e-teaching allows students to focus on the curriculum being taught?	Yes No Neutral
8.	Can e-teaching be useful for practical subjects like biology, physics, chemistry, etc.?	Yes No Neutral
9.	Can e-teaching degrade the quality of teaching?	Yes No Neutral
10.	Do you think that shifting from traditional teaching to e-teaching methods for some duration increased work stress?	Yes No Neutral

Results and Discussion

The responses of each question were observed in the following frequencies of the result

- 52.5% teachers felt the difficulty while the creation of e-content, while only 44% don't felt any difficulty and rest 3.5% are neutral about the question.
- 74.5% of the teachers need technical assistance during the e-content development, while 23.4% don't need any technical assistant and 2.1% are neutral about the question.
- When asked about the responses of student about the online classes then teachers answers the respond of the students are- 49.6%:ordinary, 36.9%: good, 10.6%:very good, 2.9%:bad.
- Percentage of students who honestly attend the online class are mostly 50% responded by 39% of the teachers,25% student attendance responded by 36.2% teachers, 75% student attendance responded by 24.1% teachers,100% student attendance responded by only 0.7% teachers.
- 83% of the teachers preferred traditional teaching while 17% preferred e-teaching.
- The majority of the teachers i.e. 46.1% believed that e-learning do not improve student's social skills or social behaviour, while 36.2% believe the opposite and 17.2% are neutral about their beliefs.
- 38.3% agree that e-teaching allows student to focus on curriculum being taught, while 44.7% opposed the idea and 17% are neutral about their thought.
- 56% of the teachers disagree about e-teaching usefulness in practical's on subject like Biology, Chemistry, Physics, etc. while only 33.3% agree about the same and 10.6% are neutral about the question.
- Majority of the teachers i.e. 54.6% agree about the concept of degradation of quality due to e-teaching while 34% are disagree about the idea and 11.3% are neutral about their thought.
- 42.6% of teachers experience increase in work stress due to adaptation of e-teaching methods, while 48.9% don't experience any work stress and rest 8.5% are neutral about their response.

Along with we interpreted each question by using Chi square test and null hypothesis and the result is as folowing

H01: *Teachers in higher education are able to create online educational content due to easy use of technology now a days.*

Since in 2020 it is easy to get information about the e-content development and many resources like YouTube which can train also train the non techie person, we would expect that the teachers in higher education in Maharashtra are technologically educated about the e-content development. To see whether there was expected technological capability of teachers to develop e-content, we used the chi-square test. Results are as follows:

- Que 1-Do you find it difficult to create video lectures, online content, online quizzes, etc.?

Chi Square value= 0.845 at df =1; L.S. =0.05 with this values we can reject the null hypothesis.

- Que.2-Do you need technical help to create e-leaning content?

Chi Square value= 26.156 at df =1; L.S. =0.05 with this values we can reject the null hypothesis.

Interpretation: Teachers need special training to create e-content as many teachers are older in age and will need time to master in e-content development. Beyond that, the situation arise due to COVID-19 lockdown which is experienced for the first time. Lockdown forced teachers to use e-teaching. Since lockdown has never happened before, there was not much emphasis on creating e-content for students.

H02: *E-learning can improve the student's social skills and social behaviour.*

Proper e-teaching practices can able to student to think critically about the social issues. It increases the student's ability to spot flows in existing concepts but it possible only with the proper teaching skills. Teachers must adopt strategies that help in deeper understanding of topics by students. To see whether e-learning can

improve the student's social skills, we used the chi-square test. Results are as follows:

- Que.6-Can e-learning improve student's social skills or social behaviour?

Chi Square value= 4.112 at df =1; L.S. =0.05 with this values we can reject the null hypothesis.

Interpretation: As most of the responses are about the concept that e-learning cannot improve the social skills of the students. This may due to many reasons like absence of social environment at the time of teachers and students interaction during e-classes. In e-tutoring pattern the teachers and learners can interact one-on-one but still cannot able to create the environment that is present in traditional classroom. As e-learning is the emerging and new concept in Maharashtra region at present, it cannot be said for sure that it affects the social behaviour of students.

H03:E-learning can engage students at deeper level.

The online education provides student to flexibility in learning process, it can be less stressful than going in schools and maintaining normal routine. Beyond that there is less pressure to engage the class. Students that can able to use the online tools effectively are more interested in the online content. E-learning allows teachers to offer student their comfort time period. That may increase students to focus on the curriculum being taught. To check the hypothesis, we used chi-square test. Results are as follows:

- Que.7-Whether e-teaching allows students to focus on the curriculum being taught?

Chi Square value= 3.299 at df =1; L.S. =0.05 with this values we can reject the null hypothesis.

Interpretation: As many students are consuming the e-content on their mobiles, the notifications on their mobiles may distract them. This may leads to distraction in learning process.

H04:Practical subjects like biology, chemistry, and physics, etc. can be learnt by e-learning

With the help of many software, graphics educator can able to deliver the practical knowledge in subjects like Biology, Chemistry, Physics, etc. Teachers can discuss relationship between theoretical concepts and practical work Teachers can use videos, topics to research, activities to perform, discussions, and different assignments to complete.To check the hypothesis, we used chi-square test.Results are as follows:

- Que.8-Can e-teaching be useful for practical subjects like biology, physics, chemistry, etc.?

Chi Square value= 6.297 at df =1; L.S. =0.05 with this values we can reject the null hypothesis.

Interpretation: Most of the responses on the concept of usefulness of e-learning in practical subjects like Biology, Physics, and Chemistry are negative. The idea behind that is may be due to practical are participative type of learning method.

H05:E-teaching can improve the teaching quality.

Online teaching is a flexible and interactive mod of teaching. It is highly effective as it provide less stressful and flexible environment to be concentrated on your work.To check the hypothesis, we used chi-square test.Results are as follows:

- Que. 9-Can e-teaching degrade the quality of teaching?

Chi Square value= 5.543 at df =1; L.S. =0.05 with this values we can reject the null hypothesis.

Interpretation: The values from the results are on favour with that there is no decrease in teaching quality. But due to many reasons like technical disability of some teachers rejects the hypothesis.

H06:Increase in work stress due to shifting from traditional teaching to e-teaching.

Onset of COVID-19 across the India schools and colleges close indefinitely. The very sudden shift from traditional teaching to e-teaching has placed unprecedented type of stress on teachers. However,

many teachers have never used e-teaching tools before and don't know which are most effective for teaching purpose. This may lead to increase in stress of work among teachers.To check the hypothesis, we used chi-square test.Results are as follows:

- Que. 10-Do you think that shifting from traditional teaching to e-teaching methods for some duration increased work stress?

Chi Square value= 1.11 at df =1; L.S. =0.05 with this values we can reject the null hypothesis.

Interpretation: The interpretation about the rejection of the null hypothesis is that teachers may aware about the e-teaching process. They may be prepared for this situation ahead, so they did not feel overwhelmed by the stress work.

Conclusion

E-learning is the emerging trend in Maharashtra. Increase in internet usage and smartphone users have significantly aided in the growth of e-learning medium. The teaching practices are also evolving with developing technology, but still e-learning cannot replace the traditional learning methods yet. Beyond that e-learning is fun filled, interactive, and help the student to get personalized advice from the educators.

As the e-learning offers learning at students comfort zone, the attention length of student may vary and need more self-motivation to complete the curriculum.

The Corona pandemic has made a huge impact on education sector, most schools and colleges and come up with the idea of online classes for students to resume their academics. But our research showed that teachers are technically unaware about the e-content development as it was first time such a situation has arisen. It seems to be student's lacks focus while e-learning as they are used to the traditional learning process. It may take time to adopt the new learning process by students as well as teachers.

We would conclude that, although e-learning has a lot of potential and advantages but it cannot replace the traditional learning. The UGC and other authorities should take steps to guide the teachers who are experiencing technical difficulties in e-teaching so that the education sector does not lag behind if such epidemics have arisen and the work of the education sector will continue.

Conflicts of interest: The authors stated that no conflicts of interest.

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