

A Study to Assess the Opinion of Students about Uses of Digital Education Technology during COVID-19 Lockdown in India

Yogesh Kumar¹, Jasoda Sanasam², Dhanesh Garg³, Jyoti Sarin⁴, Parvinder Kaur⁵, Chetna Kumari⁶

¹Professor, HOD, of Department of Child Health Nursing, ²Nursing Tutor, Department of Child Health Nursing, ³Professor, ⁴Director, Principal, ⁵Assistant Professor, Department of Child Health Nursing, ⁶Assistant Professor, Department of Child Health Nursing, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar Deemed to be University, Mullana, Haryana. India

Abstract

During the period of COVID-19 Lock-down the e-learning became very popular by dependency of both teachers as well as the learners to avoid interruptions in their academic progress. In a view to assess the effectiveness and evaluate the adaptation of the students towards e-learning, a survey was conducted among the nursing students in the form of feedback. The feedback was mainly focused on the student's interest, and the efforts taken by teachers in regard to class time and pace, organization and preparations of class, and fair assessment opportunities provided by teachers etc. The survey results were computed through Microsoft excel analysis based on the central tendencies, reveals that the Most of students "Agree", maximum have "Strongly Agree" and very few students have "Disagree" to the approaches and efforts of the teachers taken during e-learning. It was concluded from study that majority of the students had strongly agree that faculty organized and prepared well for every class and faculty were encouraged in discussions and responded to questions.

Keywords: e-learning, COVID-19, Lock-down, student-feedback, Acceptance.

Introduction

The ecosystem of the technology has widespread coverage in the field of education by means of e-learning. It is an access to educational curriculum outside of a traditional classroom with the help of electronic technologies, which is utilized for teaching and learning.

Online education or e-learning is uniquely suited to adult education as participants can access their lessons, communicate with the class or teacher, and collaborate with others wholly online.

This is crucial due to the pandemic impact which significantly disrupted the higher education sector by affecting the process of board examinations, nursery school admissions, entrance tests of various universities and competitive examinations, which is a critical determinant of a country's economic future. The structure of schooling and learning, including teaching and assessment methodologies are the greatly affected by these closures.²

During the period of COVID-19 Lock-down the e-learning became very popular by dependency of both teachers as well as the learners, to avoid interruptions in their academic progress.

Learning is a lifelong process which is always considered deprived without the education, but the period of lockdown has created many challenges in the life cycle of human beings; impact of this can be reflected in rapidly adjustments and adaptations taken in the field of education.

Corresponding Author:

Dr. (Mrs). Jyoti Sarin

Director - Principal, Maharishi Markandeshwar College of Nursing, Maharishi Markandeshwar deemed to be University, Mullana-133207 Haryana, India
E-mail: sarinjyoti@yahoo.co.in

There are many online teaching and learning platforms and learning management systems which were occasionally used as flipped classrooms, blended learning and a hybrid classroom, now-a-days used by the teachers with the aim to teach their students for better and effective learning. As the demand of e-learning is raised these days due to COVID-19 lockdown, the Government of J&K has promoted e-learning under “Samagra Shiksha” to facilitate the students^{3,4}

It is reported that learning online can be more effective in a number of ways. Some research shows that on average, students retain 25-60% more material when learning online compared to only 8-10% in a classroom. This is mostly due to the students being able to learn faster online; e-learning requires 40-60% less time to learn than in a traditional classroom setting because students can learn at their own pace, going back and re-reading, skipping, or accelerating through concepts as they choose⁵

Teachers have adopted many pedagogical approaches to reach their students for better learning. Therefore, the feedback of the students on various e-learning approaches used by teachers is an essential to assess the effectiveness and evaluate the adaptation of the students towards e-learning.

This survey was conducted among the nursing students, in a view to assess the effectiveness and evaluate the adaptation in terms of student’s feedback about e-learning.

Problem statement

A Study to assess the opinion of Students about Uses of Digital Education Technology during COVID-19

Lockdown in India

Objective of the Study

To assess the opinion of Students about Uses of Digital Education Technology during COVID-19 Lockdown in India.

Material and Method

A survey design was opted for the study in the setting of M.M. College of Nursing, MMDU, Mullana-Ambala (Haryana) with the aim to assess the effectiveness and evaluate the adaptation in terms of student’s feedback about e-learning. Total 1217 responses were collected from around 500 students of nursing for the various subjects they study under all the courses. The feedback responses were collected by the Questionnaire administered through the Google forms, which consisted of a few questions related to sample characteristics i.e course and subject of feedback, other than these an opinionnaire with five point likert scale consisted of 13 questions, related to the feedback of the e-learning approach, used by teachers to teach students during the COVID-19 Lockdown . Analysis of the feedback was done using descriptive statistics based on the central tendencies, mainly the frequency and the percentages, using the microsoft excel 2007.

Results

The effectiveness and adaptation in terms of student’s feedback was compiled in the form of frequency and percentage of the 13 opinions on a five point Likert Scale in cumulative and courses wise.

Table-1: Frequency and percentage of cumulative Feedback by all Nursing Students:

N=1217

S. No.	Contents for Instructors Feedback	Strongly Agree f (%)	Agree f (%)	Neutral f (%)	Disagree f (%)	Strongly Disagree f (%)
1.	Stimulated my interest in the subject.	268(22%)	683(56.1%)	204(16.7%)	49(4%)	13(1%)
2.	Managed classroom time and pace well.	273(22.4%)	697(57.2%)	197(16.1%)	33(2.7%)	17(1.3%)

Cont... Table-1: Frequency and percentage of cumulative Feedback by all Nursing Students:

N=1217

3.	Organized and prepared for every class	298(24.4%)	702(57.6%)	178(14.6%)	28(2.3%)	11(0.9%)
4.	Encouraged discussions and responded to questions.	313(25.7%)	680(55.8%)	170(13.9%)	42(3.4%)	12(0.9%)
5.	Demonstrated in-depth knowledge of the subject.	263(21.6%)	657(53.9%)	222(18.2%)	60(4.9%)	15(1.2%)
6.	Appeared enthusiastic and interested.	219(17.9%)	714(58.6%)	226(18.5%)	39(3.2%)	19(1.5%)
7.	Used a variety of instructional methods to reach the course objectives (e.g. group discussions, student presentations, etc.)	237(19.4%)	665(54.6%)	235(19.3%)	60(4.9%)	20(1.6%)
8.	Challenged students to do their best work.	259(21.2%)	710(58.3%)	203(16.6%)	31(2.5%)	14(1.1%)
9.	Actively attempt to prevent cheating in this course	249(20.4%)	645(52.9%)	237(19.4%)	51(4.1%)	35(2.8%)
10.	Provided information about the assessment was communicated clearly	235(19.3%)	717(58.9%)	207(17%)	46(3.7%)	12(0.9%)
11.	Explained the grading criteria of the course	221(18.1%)	715(58.7%)	215(17.6%)	52(4.2%)	14(1.1%)
12.	Administered the exams related to the course learning outcomes.	232(19%)	706(58%)	224(18.4%)	39(3.2%)	16(1.3%)
13.	Supported by adequate library resources.	228(18.7%)	627(51.5%)	274(22.5%)	623(51.1%)	25(2%)

The Table-1 depicts the feedback on E-Learning by all Nursing students during Covid-19 Lockdown. Maximum of the students strongly agree on item no.4 (25.7%) i.e: “Encouraged discussions and responded to questions”. Maximum of the students agreed on item

no. 11(58.7%) i.e: “Explained the grading criteria of the course”. Maximum of the students disagree on item no. 13 (51.1%) ie: supported by adequate library resources where item no.9 (2.8%) ie: “Actively attempt to prevent cheating in this course” was strongly disagreed by maximum of students.

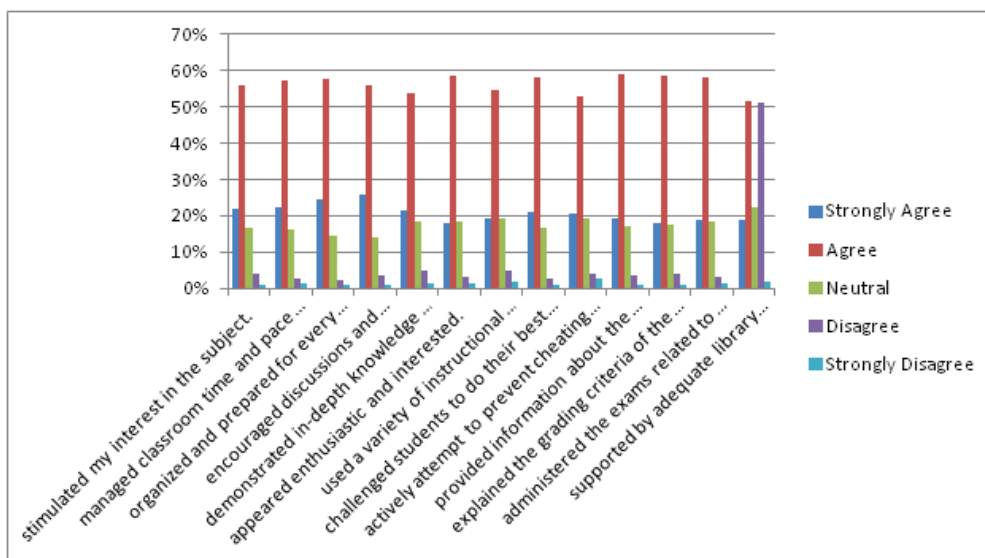


Figure-1: Bar graph of cumulative Feedback by all Nursing Students

Table-2: Frequency and percentage of Feedback components by B.Sc. Nursing students:

n=945

S. No.	Contents for Instructors Feedback	Strongly Agree f (%)	Agree f (%)	Neutral f (%)	Disagree f (%)	Strongly Disagree f (%)
1.	Stimulated my interest in the subject.	174(18.41)	521(55.13)	192(20.31)	49(5.18)	9(0.95)
2.	Managed classroom time and pace well.	180(19.04)	532(56.29)	190(20.1)	31(3.28)	12(1.26)
3.	Organized and prepared for every class	184(19.47)	565(59.78)	163(17.24)	25(2.64)	8(0.84)
4.	Encouraged discussions and responded to questions.	216(22.85)	521(55.13)	160(16.93)	40(4.23)	8(0.84)
5.	Demonstrated in-depth knowledge of the subject.	177(18.73)	497(52.59)	202(21.37)	58(6.13)	11(1.16)
6.	Appeared enthusiastic and interested.	138(14.6)	537(56.82)	218(23.06)	37(3.91)	15(1.58)
7.	Used a variety of instructional methods to reach the course objectives (e.g. group discussions, student presentations, etc.)	159(16.82)	510(53.96)	207(21.9)	56(5.92)	13(1.37)
8.	Challenged students to do their best work.	169(17.88)	545(57.67)	192(20.31)	29(3.06)	10(1.05)
9.	Actively attempt to prevent cheating in this course	170(17.98)	478(50.58)	227(24.02)	46(4.86)	24(2.53)
10.	Provided information about the assessment was communicated clearly	153(16.19)	546(57.77)	195(20.63)	43(4.55)	8(0.84)
11.	Explained the grading criteria of the course	144(15.23)	540(57.14)	202(21.37)	49(5.18)	10(1.05)
12.	Administered the exams related to the course learning outcomes.	149(15.76)	537(56.82)	212(22.43)	35(3.7)	12(1.26)
13.	Supported by adequate library resources.	150(15.87)	472(49.94)	247(26.13)	58(6.13)	18(1.9)

The Table-2 depicts the feedback on E-Learning by B.Sc Nursing students during Covid-19 Lockdown. Maximum of the students strongly agree on item no. 4 (22.85%) i.e: “encouraged discussions and responded to questions”. Item no. 3 (59.78) i.e: “organized and prepared for every class” was agreed by maximum of the students. Maximum of the Students give neutral response on item no 13.(26.13) i.e: “supported by adequate library resources”. Disagree response was shared maximum by both Item no.5 and 13(6.13). Majority of the students strongly disagree on item no. 9 (2.53%) i.e: “Actively attempt to prevent cheating in this course”

Table-3: Frequency and percentage of Feedback components by P.B.Sc. Nursing students:

n=235

S. No.	Contents for Instructors Feedback	Strongly Agree f (%)	Agree f (%)	Neutral f (%)	Disagree f (%)	Strongly Disagree f (%)
1.	Stimulated my interest in the subject.	81(34.46)	140(59.57)	10(4.25)	0(0)	4(1.7)
2.	Managed classroom time and pace well.	73(31.06)	151(64.25)	6(2.55)	1(0.42)	4(1.7)
3.	Organized and prepared for every class	92(39.14)	123(52.34)	15(6.38)	2(0.85)	3(1.27)
4.	Encouraged discussions and responded to questions.	77(32.76)	142(60.42)	10(4.25)	2(0.85)	4(1.7)
5.	Demonstrated in-depth knowledge of the subject.	68(28.93)	142(60.42)	19(8.08)	2(0.85)	4(1.7)
6.	Appeared enthusiastic and interested.	67(28.51)	154(65.53)	8(3.4)	2(0.85)	4(1.7)
7.	Used a variety of instructional methods to reach the course objectives (e.g. group discussions, student presentations, etc.)	62(26.38)	141(60)	27(11.48)	1(0.42)	4(1.7)
8.	Challenged students to do their best work.	69(29.36)	152(64.68)	10(4.25)	0(0)	4(1.7)
9.	Actively attempt to prevent cheating in this course	61(25.95)	150(63.82)	9(3.82)	5(2.12)	10(4.25)
10.	Provided information about the assessment was communicated clearly	64(27.23)	154(65.53)	10(4.25)	3(1.27)	4(1.7)
11.	Explained the grading criteria of the course	61(25.95)	158(67.23)	9(3.82)	3(1.27)	4(1.7)
12.	Administered the exams related to the course learning outcomes.	67(28.51)	152(64.68)	8(3.4)	4(1.7)	4(1.7)
13.	Supported by adequate library resources.	64(27.23)	143(60.85)	20(8.51)	3(1.27)	5(2.12)

The Table-3 depicts the feedback on E-Learning by P.B.B.Sc Nursing students during Covid-19 Lockdown. Maximum of the students strongly Agree on item no.2(39.14%) i.e: “organized and prepared for every class” where maximum students’ response agree on item no.11 (67.23%) for “Explained the grading criteria of

the course”. Disagree response was maximum given in item no.9 (2.12%) for “Actively attempting to prevent cheating in this course” where item no.9 (4.25%) also strongly disagree by maximum of the P.B.B.Sc. Nursing students.

Table-4: Frequency and percentage of Feedback components by M.Sc. Nursing students:

n=36

S. No.	Contents for Instructors Feedback	Strongly Agree f (%)	Agree f (%)	Neutral f (%)	Disagree f (%)	Strongly Disagree f (%)
1.	Stimulated my interest in the subject.	13(36.11)	22(61.11)	2(5.55)	0(0)	0(0)
2.	Managed classroom time and pace well.	20(55.55)	14(38.88)	1(2.77)	1(2.77)	1(2.77)
3.	Organized and prepared for every class	22(61.11)	14(38.88)	0(0)	1(2.77)	0(0)
4.	Encouraged discussions and responded to questions.	20(55.55)	17(47.22)	0(0)	0(0)	0(0)
5.	Demonstrated in-depth knowledge of the subject.	18(50)	18(50)	1(2.77)	0(0)	0(0)
6.	Appeared enthusiastic and interested.	14(38.88)	23(63.88)	0(0)	0(0)	0(0)
7.	Used a variety of instructional methods to reach the course objectives (e.g. group discussions, student presentations, etc.)	16(44.44)	14(38.88)	1(2.77)	3(8.33)	3(8.33)
8.	Challenged students to do their best work.	21(58.33)	13(36.11)	1(2.77)	2(5.55)	0(0)
9.	Actively attempt to prevent cheating in this course	18(50)	17(47.22)	1(2.77)	0(0)	1(2.77)
10.	Provided information about the assessment was communicated clearly	18(50)	17(47.22)	2(5.55)	0(0)	0(0)
11.	Explained the grading criteria of the course	16(44.44)	17(47.22)	4(11.11)	0(0)	0(0)
12.	Administered the exams related to the course learning outcomes.	16(44.44)	17(47.22)	4(11.11)	0(0)	0(0)
13.	Supported by adequate library resources.	14(38.88)	12(33.33)	7(19.44)	2(5.55)	2(5.55)

The Table-4 depicts the feedback on E-Learning by M.Sc. Nursing students during Covid-19 Lockdown. Maximum of students strongly Agree on item no. 3(61.11%) i.e: “organized and prepared for every class” where maximum students’ responses agree on item no.6 (63.88%) for “appeared enthusiastic and interested.”. Disagree response was maximum given in item no.8 & 13 (5.55%) for “challenged students to do their best work” and “supported by adequate library resources” where item no.7 (8.33%) was strongly disagreed by maximum of the M.Sc. Nursing students for “Used a variety of instructional methods to reach the course objectives (e.g. group discussions, student presentations, etc.)

Discussion

In the present study majority of students strongly agree (25.7%) that faculty Encouraged discussions and responded to questions. Whereas 58.7% of students agreed that faculty Explained the grading criteria of the course where students strongly disagree (2.8%) in Actively attempt to prevent cheating in this course. The findings are partially similar to the study conducted by Dr Amita ⁶ to assess online feedback of the higher education institution students regarding their experience about e-learning methods used by their faculty and institute students of various higher education institutions in Haryana in April 2020. The survey indicates that the faculty has done their greatest in this crisis period as the online tools have helped the students in covering the major part of their syllabus despite some problems. While another study also similar to the findings on study conducted on students pursuing bachelors in engineering in different majors at Thapar Institute of Technology⁷ and questions included the most important feature for students for an e-learning platform. 70.7% of the students surveyed favored pre-recorded video lectures provided via YouTube links as the most convenient e-learning tool. Pre-recorder lectures provided via Google Drive links and Slides uploaded on course sites enjoyed a majority of 71 students and 77 students respectively. 33.5% students agreed that the e-learning tools used by professors were satisfactory and beneficial. 52.7% of students agreed on using the Zoom application to view live lectures at least 3 times a week.

Conclusion

The result of feedback on the opinion of Students

about Uses of Digital Education Technology during COVID-19 Lockdown in India has brought into light a lot of facts. Majority of the students had strongly agree that faculty organized and prepared well for every class and faculty were encouraged in discussions and responded to questions. The study suggest that various alternative strategies can engaged students and keep them motivated. Hence, Students are inquiring about more liberty and academic preference.

Ethical approval: Approved by Research ethics committee of Maharishi Markandeshwar (Deemed to Be) University Mullana, Ambala.

Source of Funding: Maharishi Markandeshwar (Deemed to Be) University, Mullana.

Conflict of Interest: NIL

References

1. Students’ acceptance and readiness for E-learning in Northeastern Thailand [Internet]. 2020 [cited 16 May 2020]. Available from: <https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-016-0034-x>
2. COVID-19 Pandemic: Impact and strategies for education sector in India - ET Government [Internet]. ETGovernment.com. 2020 [cited 16 May 2020]. Available from: <https://government.economictimes.indiatimes.com/news/education/covid-19-pandemic-impact-and-strategies-for-education-sector-in-india/75173099>
3. Today E. JK govt promotes e-learning under Samagra Shiksha to facilitate students during lockdown [Internet]. India Today. 2020 [cited 16 May 2020]. Available from: <https://www.indiatoday.in/education-today/news/story/jk-govt-promotes-e-learning-under-samagra-shiksha-to-facilitate-students-during-lockdown-1678628-2020-05-16>
4. Demand rises for e-learning during Covid-19 lockdown - Times of India [Internet]. The Times of India. 2020 [cited 16 May 2020]. Available from: <https://timesofindia.indiatimes.com/home/education/news/demand-rises-for-e-learning-during-covid-19-lockdown/articleshow/75723105.cms>
5. Gutierrez K, Chernev B. The COVID-19 pandemic has changed education forever. This is how [Internet]. World Economic Forum. 2020 [cited 16

- May 2020]. Available from: <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>
6. e-learning experience of students in higher education institutions during the covid 19 pandemic: a primary survey.[Internet] Available from: <https://www.researchgate.net/publication/341909380>
 7. Teaching Aids for Combating Lockdown of COVID-19 in India. [Internet] Available from: <https://digitalllearning.eletsonline.com/2020/05/teaching-aids-for-combating-lockdown-of-covid-19-in-india/>