J. Farm Sci. Spl. Issue, 34(5): (546-549) 2021

RESEARCH PAPER

Online mode of education during COVID -19 lockdown : Challenges and opportunities

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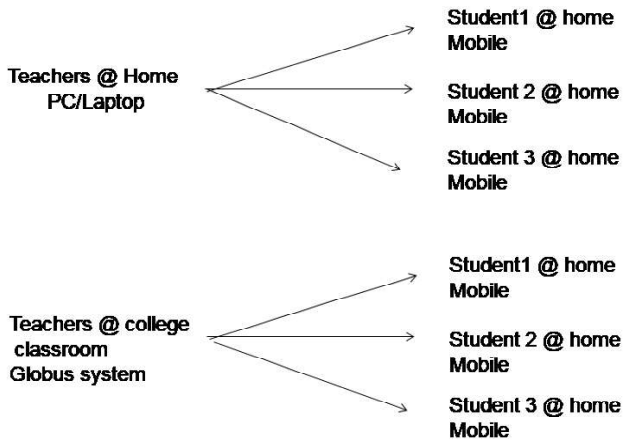
(Received: November, 2021 ; Accepted: December, 2021)

Abstract: The advancements in the information technology is helping education sector, which was evident during the Covid-19, lockdown period. To continue the process of teaching and learning, the students and teachers engaged through online platforms *viz.,* Zoom, Google meet, Cisco webex, Microsoft team. The student attendance for most of the classes is above 90%. The lecture notes shared through WhatsApp. The students faced little bit of problem regarding internet connectivity as they need to move around their homes wherever mobile signals are there.

Key words: Cisco, Classroom, Microsoft, Online education, Zoom

Introduction

The covid-19 has impacted all parts of life including education sector. To cope up with the pandemic situation under lockdown condition, University of Agricultural Sciences, Raichur and its constituent colleges engaged in imparting knowledge and information to the students through online mode. The Online education or online classes for students has come out to be new normal during this period of the Covid-19 pandemic (Kaur,2021). The Knowledge Management Systems (KMS) and Learning Management Systems (LMS), are important tools in the digital education (Pandey *et al.,* 2021). All the batches of undergraduate students were connected through online mode and teachers were taking classes from their home. The teachers were using laptops and desktops and most of the students were using mobile devices to interact with the students. The classes were conducted from home initially and later conducted from class room which is having facility of interactive board.



Materials and methods

The different platforms are available for online mode of teaching which are both paid and freeware.

1. Zoom
2. Google meet
3. Cisco webex
4. Microsoft team
5. Goto meeting
6. Skype
7. Zoho

Each of the above application has its own advantages and disadvantages. The **zoom** has got facility for online classes, meeting and chat, video webinars, conference rooms, however there was restriction with regard to time, hence majority teachers using **Google meet**. The google meet accessed through gmail and institution ID. The google meet accessed through university mail has lot of applications as there was no restriction w.r.t time and any number of sessions can be conducted, however tiles for viewing were less in number. Another important platform used was **Ciscowebex**, which has got many features. It demands some technical knowledge to operate and it has got some training and meeting versions. The platform is useful for both online classes and online exams.

The progress of online classes was reported every week from all the disciplines of the college and results are discussed below.

Results and discussion

The online classes conducted regularly at College of Agriculture, Raichur for all Under Graduate courses and all department Heads used to send reports to online class coordinator, which was further communicated to University authorities. The reporting was on weekly basis and submitted in specific format with information on total number of teachers conducted online classes, total number of sessions, total number of students attended with percentage of attendance along with mode opted indicating online platforms used. The percentage of students attended is above 90% in majority of the sessions and few students in every session and every class faced connectivity issues, hence the attendance percentage was less than 100%. The table 1 indicates weekly summary of

the classes conducted at College of Agriculture, Raichur. The graph 1 indicates student participation from I year, II Year and III Year BSc(Agri) with weekly information in X axis. The values also varied for every week as number of sessions conducted and teachers participated varied. The table 2 indicates information of the online classes of each department with details of teachers conducted, number of sessions, student attendance and mode of online platform used for online teaching. The classes were conducted as per the credit hours allotted to each course.

The table 1 and 2 indicating progress of online classes in the College of Agriculture, Raichur. The format and progress is shown in the tables. The Fig1 and 2 indicates student participation in the online classes. The classes were conducted by teachers from classrooms and students were in the home.

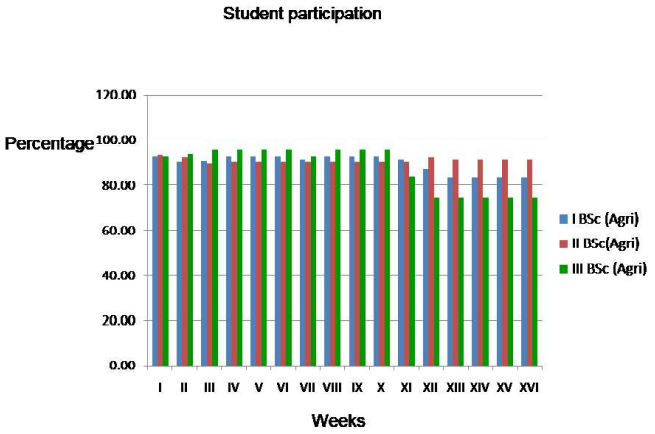


Fig.1 . The graph indicating student participation in online classes

Table 1. Progress in Online Learning and Delivery of Classes

Sl	Period:	Class	Total no. Teachers conducted classes	Total no. of sessions conducted	Total no of students attended	Total Strength of the class	Percent of students _%	Mode opted, e.g Zoom, WhatsApp	Mode if any other- please specify
1	6-4-2020 to 11-4-2020	I BSc (Agri)	8	22	119	128	92.90	Whatsapp and Zoom	
2		II BSc (Agri)	9	24	99	106	93.39	Whatsapp and Zoom	
3		III BSc (Agri)	10	20	93	100	93.00	Whatsapp and Zoom	
1	13-4-2020 to 18-4-2020	I BSc (Agri)	9	19	116	128	90.62	Whatsapp and Zoom	Google Meet
2		II BSc (Agri)	11	34	98	106	92.45	Whatspp and Zoom	Google Meet
3		III BSc (Agri)	10	28	94	100	94.00	Whatspp and Zoom	Google Meet
4	25-5-2020 to 30-5-2020	I BSc (Agri)	11	24	119	128	92.96	Cisco webex, Zoom, Whatsapp	Google Meet
5		II BSc (Agri)	12	27	96	106	90.56	Cisco webex, Zoom, Whatsapp	
6		III BSc (Agri)	10	16	96	100	96.00	Cisco webex, Zoom, Whatsapp	

Table 2. Progress in online classes from different Departments

Sl		Class	Total no. Teachers conducted classes	Total no. of sessions conducted	Total no of students attended	Total Strength of the class	Percent of students _%	Mode opted, e.g Zoom, WhatsApp	Mode if any other- please specify
1	Agril. Entomology	AET 101 (2+1)	Prabhuraj A	2	124	128	96.88	Zoom	
2		AET 201 (2+1	Shivaleela	2	95	106	89.6	Zoom	
1	Agronomy	AGR-203(1+1)	Smt. Shweta B.N	01	98	106	92.45	Zoom	-
2		AGR-204(0+1)	Smt. Shweta B.N	01	98	106	92.45	Zoom	-
3		AGR-205(1+1)	Dr Vishwanatha S	01	100	106	94.34	Zoom	-
4		AGR-303(1+1)	Dr Ramesh Y.M	01	90	100	90.00	What's app	-
5		AGR-304(1+0)	Dr Ajay Kumar	01	100	100	100	Zoom	-

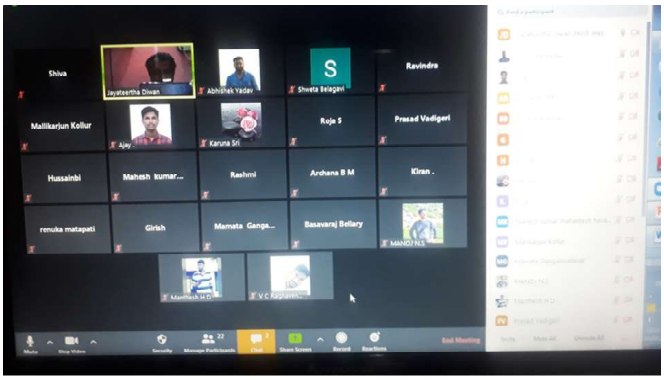


Fig. 2. The screenshot indicating participation of teacher and stu dents in online classes

The exams were also conducted online through Ciscowebex and Google meet. The Students were asked to join the online platform with their mobile camera put on. The Question paper shared through Ciscowebex online screen and WhatsApp group and answer papers collected through email. The invigilation committee used to monitor every student activity to ensure fair conduct of examination.

The student feedback were also collected using the following parameters.

Sl.No.	Parameters
A	Student. No.
B	Name of the course
C	Course number and credit hours
D	Name of the Teacher
E	Name of the application used(more preferred)
F	Mode of presentation (PPT/white board/notes share)
G	Network connectivity (Good/ moderate/ poor)
H	Voice clarity (Good/ moderate/ poor)
I	Interaction (yes/No)
J	Satisfactory level with online mode of teaching in the present Covid -19 situation(Good/ moderate/ poor)
K	Any other remarks by student

Table 3. Student responses to online education

Parameters	Percentage
Good	49.6
Moderate	47.4
Poor	3.00

The student learning is more effective in online learning compared to traditional method according to some research as mentioned by Li and Lalani (2020). However, some students have mixed opinion for online learning due to low social interaction along with opportunity for improved learning in digital courses (Almendingen,2021)

Problems/ challenges faced for online classes:

- Some problems with regard to internet connectivity as many students were staying in rural areas
- Need to move to the area wherever better mobile signal will be there. It was possible only for theory classes as no practicals could be conducted.

Opportunities:

- The teachers were happy that they got connected to students even in the difficult times,
- The students were also happy to learn through new mode of education
- This gives opportunity for hybrid mode of teaching

However majority complained about network connectivity, but felt that this is the best option under the circumstances of Covid-19.

The government of India has formulated programmes and policies for online teaching and learning in higher educational institutions in India (Mishra et al., 2020). The UGC also shared links for online learning: for students and learners.

Information and Library Network (INFLIBNET) and

- Consortium for Educational Communication (CEC),

1) swayam.gov.in
2) http://ugcmoocs.inflibnet.ac.in/ugcmoocs/moocs_courses.php
3) https://epgp.inflibnet.ac.in/
4) http://cec.nic.in/
5) https://swayamprabha.gov.in/
6) https://www.youtube.com/user/cecedusat
7) https://ndl.iitkgp.ac.in/
8) https://shodhganga.inflibnet.ac.in/
9) https://shodhganga.intlibnet.ac.in/
10) https://vidwan.inflibnet.ac.in

The main takeaways from conducting online classes:

- Need to have better internet connectivity and facilities to meet local and national educational needs.
- Better, affordable and accessible interactive platforms with suitable features to meet the needs of students and teachers.
- Training teachers about handling ICTs and requirement of virtual classroom.
- However, online education gave opportunities to the students to learn the things which they could have missed and it opened new avenues for teaching and learning

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