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Impact of Online Education on Teaching and Learning during COVID-19 Pandemic: Challenges and Experiences

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Abstract : To evaluate the impact on online teaching during COVID-19 induced lockdown on faculties of Government degree colleges affiliated to Davangere University, Davanagere and Kuvempu university, Shankaraghatta, Karnataka, India. faculty's opinion on the impact of the lockdown was accessed through an online survey between 28th July to 30th September, 2020. A customised question set was sent to target faculty through e-mail and whattsapp platforms. 120 each responses from Davanagere University & Kuvempu University faculty responded to the survey. Faculty teaching and learning conditions were accessed on the basis of simple percentage distribution.

Keywords:

COVID-19, Lockdown, online class, teaching, learning, Davanagere University, Davangere, Kuvempu university, Shankaraghatta, Karnataka

1. Introduction

Corona virus initially thought as a usual normal short like virus, turned out to be fast spreading virus that could cause fatal complications wit flu like symptoms. It is now known to be a new strain novel of virus that spreads zoonotically and affect humans too. (Zaharah-2020, Drane,Vernon, L., & O'Shea,-2020 and Goothy & Choudhary A, et al-2020, Paula-2020) With it's origin in Hubei,Wuhan province in China,novel corona virus has resulted in a pandemic,that affected all

countries.(Wikipedia). National closure of educational institutions by governments have affected faculty as well as student population across the globe. (UNESCO-2020 and Niranjan-2020).

India‘s fight against the COVID- 19 outbreak has been unique. The “Janata Curfew” was a positive step for further awareness and preparedness about the quarantine and provided the doorway for implementation of lockdown in whole country. When it comes to the education sector, all nations have closed down schools, colleges and universities. It is the creativeness and mastermind of policymakers how they can bridge a gap for this in a positive way or negative way. However, majority of the higher education institutions in all state governments made policy for faculty to go for technology adoption. Hence teaching is moving online on an untested and unprecedented scale. Students’ assessments are also moving online. Educators, faculty, students are doing their part to support each other. And these disruptions are a time to rethink and reflect on the education sector. Technology has a key role in educating the future generations. In a world where knowledge is a mouse –click away, the role of the educator must change too (Veena Shenoy-2020).

1.1 COVID 19: Technology Adaption

People resist change without understanding the need and importance of it and when a situation arises all should adapt to change willingly and unwillingly. This was the situation which occurred to teaching fraternity too. Indian higher education institution has used various pedagogy for innovation, development, and engagement of students. Many faculties have resisted the change when they had been asked to take virtual classes for students. And a couple of training was provided by the management of the institutions hence faculty will not face any difficulties on the same. As everything is your mindset, the faculty has to change their mindset towards the virtual classroom and adopt technology for the betterment of students (Veena Shenoy-2020).

1.2 COVID 19: Teaching and learning

Teaching and learning are always in demand and when faculty heard about lockdown due to COVID 19, it was a challenge for faculty to look this as an opportunity to go for virtual classrooms, virtual learning and teaching. With the crisis there is a wide adaption of technology in teaching; learning process. The policy of the Government of

Karnataka,all government and private higher educational institutions in Karnataka have opted for online classes. The tools used by faculty during lockdown for teaching and learning through online modes are Zoom, Google Hangouts, Skype meet up, Google classrooms, LMS, ICT, YouTube, etc. This has created a revolution in the higher education institutions and proved the hybrid system of teaching through offline and online mode (Veena Shenoy-2020).

Higher education providers are becoming increasingly aware of the diversity of their current and potential learners. This is demonstrated by their providing a range of options for their engagement. Increasingly flexible delivery modes are available for university students provide multiple pathways and opportunities for those seeking further education (Napier, Dekhane, & Smith, 2011; Schmidt, Tschida, & Hodge, 2016).

2. Review of literature

In recent past few research studies have been carried out to examine the adaption of ICT in higher education, faculty experience for online classes and e-learning. However, this review focuses primarily on the challenges and experience of faculty members for online class.

Esoswo Francisca Ogbomo (2011) ICT has given rise to a host of legal and ethical issues and challenges in the use of ICT for education. Pre-service and in-service teachers as well as students need to know to a reasonable extent about the issues and challenges in the use of ICT for education. As teachers or potential teachers and students, they need to be above reproach. Teachers and students should understand the basic issues (effectiveness, cost, equity, and sustainability,), as well as the challenges (infrastructure related challenges, capacity building challenges, challenges related to financing the cost of ICT use, to mention but few) surrounding the use of ICT in education and then apply those issues as principles in practice.

Mansureh Kebritchi (2017) Online education changes all components of teaching and learning in higher education.Many empirical studies have been conducted to examine issues in delivering online courses; however, few have synthesized prior studies and provided an overview on issues in online courses. A review of literature using Cooper’s framework was conducted to identify such issues. Three major

categories of findings were identified: issues related to online learners, instructors, and content development. Learners' issues included learners' expectations, readiness, identity, and participation in online courses. Instructors' issues included changing faculty roles, transitioning from face-to-face to online, time management, and teaching styles. Content issues included the role of instructors in content development, integration of multimedia in content, role of instructional strategies in content development, and considerations for content development. To address these challenges in online education, higher education institutions need to provide professional development for instructors, trainings for learners, and technical support for content development. Another study by Orlando and Attard (2015) stated that "teaching with technology is not a one size fits all approach as it depends on the types of technology in use at the time and also the curriculum content being taught". This means that the incorporation of technology provides additional factors for consideration in terms of teaching pedagogy and construction of learning experiences.

3. Scope and objectives of the study

The studies on impact of lockdown on teaching and learning was very less in India and none of the studies was conducted in Karnataka state. The present study aims to investigate the challenges and experiences of teaching and learning through online in the backdrop of the COVID-19 lockdown.The scope of the study is limited to faculty working in the government degree colleges affiliated to Davangere University, Davangere and Kuvempu University,Shankaraghatta Karnataka, India.

Objectives:

- Completion of theory and practical syllabus
- Student attitude towards online education
- Platforms available for online classes
- Problems faced by faculty with regards to online modes
- Experiences and suggestions of faculty about online modes

4. Methodology

A pre-designed question set was used as a probe to alicit faculty responses about status of syllabus completion, problems in online education. Whattsapp and e-mail platforms were used to launch the probe and repeated follow ups reminders were made to get back responses.120 faculty members (total-240) provided their views from each university, Davanagere University and Kuvempu Universtiy through the survey.

The outcome of the survey is presented in the accompanying tables.

5. Results and Discussion

5.1. Demographic Characteristics of Respondents

Table-1: Demographic Characteristics of Respondents

Characteristics	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Gender				
Male	101	93	84.16	77.50
Female	19	27	15.83	22.50
Designation				
Assistant Professor	89	92	74.16	76.66
Associate Professor	21	19	17.50	15.83
Principal	04	06	3.33	5.00
Academic Staff	06	03	5.00	2.50
Age Group				
<29	01	03	.83	2.50
30-39	38	35	31.66	29.16
40-49	53	61	44.16	50.83
50-60	28	21	23.33	17.50

Table-1 presents the gender-wise distribution of the sample. Of the 240 respondents, 80.83% of respondents are male and 19.16% of respondents are female. The above table also indicates that majority of respondents are assistant professors (75.41%) followed by associate professors (24.58%). Majority of respondents belongs to the age group of 40-49.

5.2. Status of Theory & Practicals completed

Table-2: Status of Theory & Practicals completed

Status of Syllabus	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Theory Syllabus Completed				
>50%	09	07	7.50	5.83
70%	21	18	17.50	15.00
80%	37	41	30.83	34.16
90%	46	52	38.33	43.33
100%	07	02	5.83	1.66
Practical Experiments Completed				
>50%	09	12	7.50	10.00
70%	16	14	13.33	11.66
80%	11	16	9.16	13.33
90%	25	29	20.83	24.16
100%	17	23	14.16	19.16

Table-2 clearly indicates the theory syllabus and experiments completed before lockdown. 40.83% of respondents were completed 90% of theory syllabus followed by 32.50% completed 80% of the syllabus prescribed by the university. 32.50% of respondents were completed 90% of experiments followed by 11.25% completed 80% of the experiments prescribed by the university. This reveals that theory and experiments are not completed and around 50% is completed during lockdown announced worldwide due to COVID-19.

5.3. Online Class conducted

Table-3: Online Classes conducted

Online Class	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Yes	114	109	95.00	90.83
No	06	11	5.00	9.16

It is evident from table-3 that majority of respondents (92.91%) were engaged online class to complete the syllabus. Davanagere university faculty engaged more compare to Kuvempu university in terms of numbers.

5.4. Response of Students for Online Class

Table-4: Response of Students for Online Class

Response Online Class	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Poor	19	17	15.83	14.16
Fair	26	29	21.66	24.14
Neutral	14	10	11.66	8.33
Good	53	59	44.16	49.16
Excellent	08	05	6.66	4.16

Table-4 clearly indicates the students response to online class. Majority of the respondents felt there was good response towards online classes followed by fair and poor response.

5.5. Platforms used for Online Class

Table-5: Platforms used for Online Class

Platforms	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Webex	10	06	8.33	5.00
Google Classroom	13	17	10.83	14.16
Zoom	51	43	42.50	35.83
Skype	01	02	.83	1.66
Videos sent through Whattsapp	74	87	61.66	72.50
Others	36	27	30.00	22.50

Table-5 reveals the different platforms used for conducting online classes. Mojority of respondents used whattsapp for sharing the videos and study materials followed by zoom app and other platforms used for engaging the online classes.

5.6. Opinion for online examination

Table-6: Opinion for online examination

Opinion	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Yes	48	53	40.00	44.16
No	72	67	60.00	55.83

It is evident from table-6 that majority of respondents were not recommended online examination to be conducted.

5.7. Availability of Videos at Vijayibhava Youtube channel

Table-7: Availability of Videos at Vijayibhava Youtube channel

Availability	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Yes	93	89	77.50	74.16
No	27	31	22.50	25.83

Table-7 reveals the availability of videos in the Vijayibhava youtube channel and it is hosted by the department of Collegiate & Technical education,government of Karnataka to cope up with the current pandemic situation. Majority of respondents felt that videos are available in the youtube channel.

5.8. Students Attending Online Classes

Table-8: Students Attending Online Classes

Attended Online Class	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
>50%	58	49	48.33	40.83
70%	29	33	24.16	27.50
80%	09	13	7.50	10.83
90%	20	16	16.66	13.33
100%	04	09	3.33	7.50

Table-8 reveals that the attendance for online class was around 50%. The results reflects that it students may affected by many constraints like network problem, power failure and many more.

5.9. Searching of E-Resources for Online Class

Table-9: Searching of E-Resources for Online Class

Searching of Resources	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Through Principal/HOD/Librarian	43	48	35.83	40.00
Through Friends	31	43	25.83	35.83
Self Taught	64	59	53.33	49.16
Others	29	34	24.16	28.33

It is evident from table-9 that majority of respondents were searched e-resources by self taught followed by links sent by Principal/HOD/Librarian.This clearly shows the faculty members known good searching skills.

5.10. Adequacy of E-Resources

Table-10: Adequacy of E-Resources

Opinion on Adequacy	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Yes	68	73	56.66	60.83
No	09	13	7.50	10.83
Partially	43	34	35.83	28.33

It is evident from table-10 that majority of respondents were found adequate number of e-resources followed by partially found .This clearly shows the faculty members found e-resources adequate.

5.11. Constraints of Online Class

Table-11: Constraints of Online Class

Constraints	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Majority of the students are not having Laptop/Android phone	83	73	69.16	60.83
Poor connectivity of internet	74	89	61.66	74.16
Power failure	28	37	23.33	30.83
Network issue	63	76	52.50	63.33
Unfeel of classroom environment	50	44	41.66	36.66
Lack of time management skills	15	17	12.50	14.16
Sense of isolation				
Others	12	9	10.00	7.50

Table-11 reveals that the different constraints faced by students in attending online classes.The vast majority students facing poor inter connectivity followed by students don't have laptops / android phones personally, faced network issue and felt unfeel of classroom environment. The respondents opinioned students are facing different constraints and it's difficult to attend the online classes.

5.12. Opinion about online compare to Regular classroom

Table-12: Opinion compare to Regular classroom

Constraints	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Yes	15	17	12.50	14.16
No	81	76	67.50	63.33
Not sure	24	27	20.00	22.50

It is evident from table-12 that majority of respondents were not opinioned for online class and partially opinioned. The world wide closure of educational institutional lead to inevitable circumstance and forced to follow alternate modes of education.

5.13. Faculty Opinion for Online Class

Table-13: Faculty Opinion for Online Class

Opinion	Frequency (n)		Percentage (%)	
	DU	KU	DU	KU
Poor	31	28	25.83	23.33
Fair	31	26	25.83	21.66
Neutral	24	27	20.00	22.50
Good	27	35	22.50	29.16
Excellent	07	10	5.83	8.33

Table-13 reveals that some of respondents had good opinion about and other respondents had poor opinion towards online class. Only meagre number of respondents had excellent opinion.

Conclusion

An online study was conducted to know the impact of the covid-19 pandemic on the teaching and learning process in the state of Karnataka, India. The majority of respondents expressed that online class is only a alternate for offline class, it is not substitute for traditional class. Many of the faculty members felt concentration could not be achieved and students many not took seriously. Students of rural and remote area facing many issues like network issue, power failure and poor internet connectivity. World wide closure of educational institutions lead to adopt alternate modes of education. Online class is only the supplement for the higher education during health emergency.

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