

Role of Information and Communication Tools (ICT) in Higher Educational Institutional System during Covid-19 Lockdown Period

Milind A Kulkarni ^[1], Hemant V More ^[2]
 Chetan Dattaji Gaikwad Institute of Management Studies
 Allana Institute of Management Sciences
 Savitribai Phule Pune University, Maharashtra-India

ABSTRACT

During the recent two to three months educational institutions are lockdown due to the Infection of Covid-19. Educational learning management system motivates students for online learning through the Information and Communication Tools. Information technology tools used for Design, Implement, Management and services for learning management systems. Students used software application, search engine and learning software during lockdown period. Student's study duration decreases, but usage of software application and group discussion adds on to the study. Group discussion implemented through Zooms Software Application and Google as search engine used for browsing. Students mostly discussed on Covid-19. Students mentioned characteristics of software used and appreciate performance of software application with GOOD remark. 170 students from two universities were involved in study.

Keywords:—Group discussion, ICT, COVID-19, E-learning software, Search Engine

I. INTRODUCTION

The present teaching learning intervention was an attempt toward the introduction of self-directed learning. The small group discussion was interactive, friendly, and bridged the gap between the teacher and student. The student's communication skills are also improved. Therefore small group discussion is more effective than the traditional teaching methods. Group discussions are common in Corporate, Multinational Companies and have a variety of purposes, from planning an intervention or initiative to mutual support to problem-solving to addressing an issue of local concern.¹ The changing role of education is currently being reinforced with the integration multimedia technology and this has led a new paradigm in education and the evolution of new concepts in content development and a number of innovative methods in which information can be communicated to the learner.⁵

Covid-19 is spreaded worldwide very quickly. To avoid the infection and protection from Covid – 19 Central Govt. and State Govt. declared a lockdown. Industry, Govt. offices, Shops, Mall, Cinema houses, schools and colleges are closed, to control the spread of infection Covid-19. Close down or partial work of Govt. offices reduced in stoppage of Govt. official work, shops, mall, and Cinema house also impact the economic cycle. Closing of Colleges; impacted the educational year of the students through. Student from the colleges uses books, notes, journals and software application for study as personal communication or one to one interaction was not possible due to social distancing norms. To overcome group discussion software application is considered by students for use and its feedback their after. Need of the student to discuss the study material with colleagues, friends, teachers and experts. Group discussion resulted in better

understanding of subject, clears the common doubts and exchange of knowledge. Report also contains the methodology adopted for the study.

A survey of 170 students from Pune University and D. Y. Patil University was conducted to understand the usage of software application by students in their various studies and how they will face the ICT tools, during lockdown period during to covid-19 pandemic in March to May 2020.

II. OBJECTIVE

1. To analyse Duration of study, Tools used for Study and Duration of Group Discussion through Software Application.
2. To focus on the Advantages, Limitation and Characteristic of ICT tools.
3. To review topics discussed and published during lockdown.

III. RESEARCH METHODOLOGY

Four communication software applications were selected and evaluated on the basis of their characteristics. Questionnaire development was initiated based on the objective of study. Pilot study carried out by telephonic discussion with the student who represents the Pune University from Engineering and Mathematics faculty. Software application characteristic discussed with IT professionals, who have experience in E-learning.

Survey:

For the purpose of survey under graduate and post graduate student from Savitribai Phule Pune University and D. Y. Patil University, Pune were selected. They are from faculty of science, Engineering, Commerce and Management.

Eligibility criteria for student:

Educational qualification is criteria for the student. Student should be Under Graduate to Post Graduate. Students should be currently involved in academic.

Collection of data:

Data collected via online software application (Google Forms). Set of 20 questions were provided to the student which includes their self-information, used software application, Characteristics of Software Application and Topic discussed and reviewed etc.

Sample Size:

150 respondents were surveyed across the Pune University from various faculty and 20 students surveyed from D.Y. Patil University.

IV. DISCUSSION

During the survey students had submitted their personnel details which are required for analysis. As per the information submitted, Student participated in surveys are male (58.2%) and Female (41.8%). Domicile of the students are 35.9% Rural, Semi urban 16.5% and urban 47.6% respectively. During lockdown the students are their native or permanent address. When educational qualification considered then under graduate students are more than the graduate, post graduate and under post graduate. 150 students are surveyed from Savitribai Phule Pune University and 20 students surveyed from D. Y. Patil University. Students participated in the survey from various faculty are 61.2 % engineering, 24.7% Science, 12.4% Commerce and 1.8% management.

A. General Background Of Students.

Table No.1

Gender	No. Of Responses (out of 170)	Percentage
Male	99	58.2
Female	71	41.8
Not to disclose	--	--
Domicile of your Current Residence	No. Of Responses (out of 170)	Percentage
Rural	61	35.9
Semi-urban	28	16.5
Urban	81	47.6
Educational Qualification	No. of Responses (Out Of 170)	Percentage
Under Graduate	125	73.5
Graduate	17	10
Under Postgraduate	11	6.5
Postgraduate	17	10
Name of your University	No. of Responses (Out Of 170)	Percentage

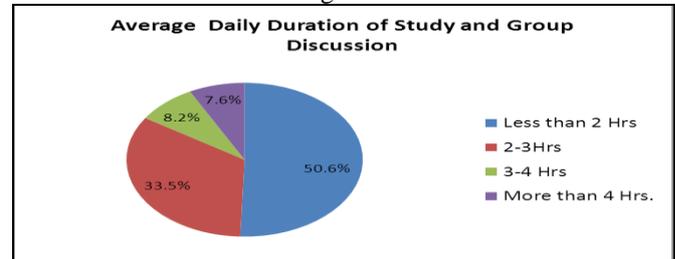
Savitribai Phule Pune University	150	88.2
Other University	20	11.8
Name of your Faculty	No. of Responses (Out Of 170)	Percentage
Management	3	1.8
Science	42	24.7
Commerce	21	12.4
Engineering	104	61.2

B. Students were asked about average daily duration of Study and Group Discussion during lockdown.

Table No.2

Duration Of Study and Group Discussion	No. of Responses (Out Of 170)	Percentage
Less than 2 Hrs	86	50.6
2-3Hrs	57	33.5
3-4 Hrs	14	8.2
More than 4 Hrs.	13	7.6

Figure No.1



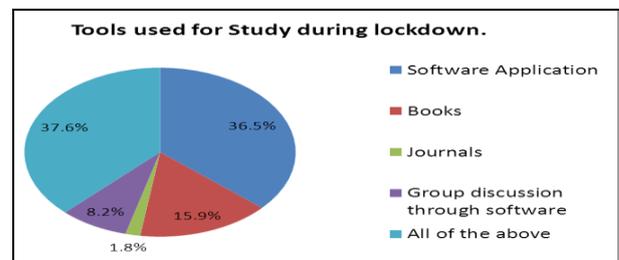
Graph above shows that 50.6 % of students study less than 2 hrs. Only 7.6 % students study more than 4 Hrs.

C. Students were asked about Tools used for Study during lockdown.

Table No.3

Tools used for Study	No. of responses (Out Of 170)	Percentage
Software Application	62	36.5
Books	27	15.9
Journals	3	1.8
Group discussion through software	14	8.2
All of the above	64	37.6

Figure No.2



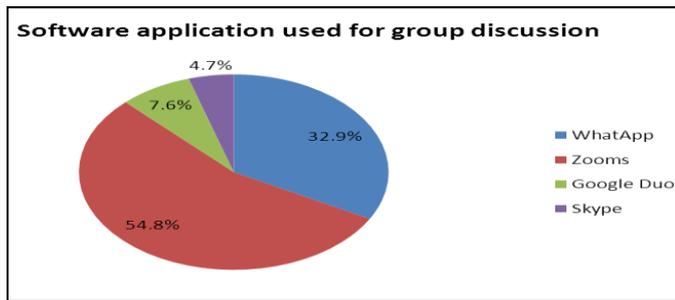
Graph above shows that 36.5 % of students used software application for study.

D. Students were asked about Software application used for group discussion.

Table No.4

Software application used for discussion	No. of responses (Out Of 170)	Percentage
WhatsApp	56	32.9
Zooms	93	54.7
Google Duo	13	7.6
Skype	8	4.7

Figure No.3



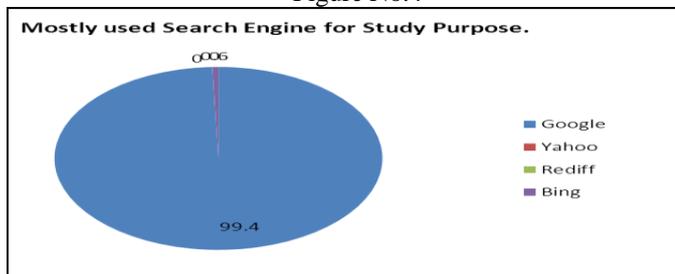
Graph above shows that Zooms is most favourable software application used by 54.7 % students and WhatsApp used by 32.9 % students which is second most favourable software application used for Group discussion.

E. Students were asked about mostly used Search Engine for Study Purpose.

Table No.5

Mostly used Search Engine for Study Purpose.	No. of responses (Out Of 170)	Percentage
Google	169	99.4
Yahoo	--	--
Rediff	--	--
Bing	01	0.6

Figure No.4



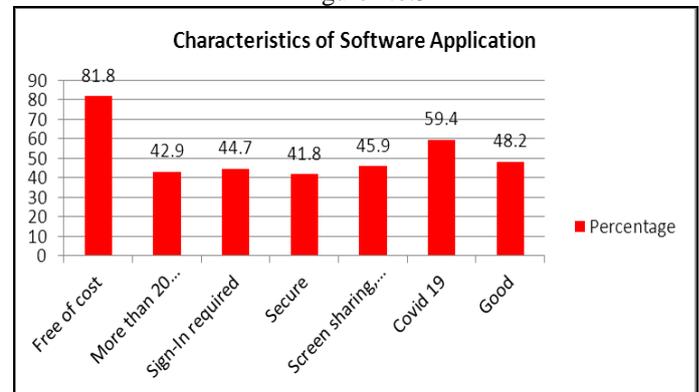
Most favourable search engine used by students is Google used by 99.4 %.

F. Students were asked about characteristics of Software application used for group discussion.

Table No.6

Characteristics	Response	No. of Responses (Out Of 170)	Percentage
Cost of the used software application.	Free of cost	139	81.8
Participant limit (Max) of Video call for used software application.	More than 20 Participant	73	42.9
Account creation process for used software application.	Sign-In required	76	44.7
Security level for used software application.	Secure	71	41.8
Features for the used software application.	Screen sharing, Conference chat ,File sharing, Background blur, All of the above	78	45.9
Topics discussed for most frequently during Lockdown.	Covid 19	101	59.4
Overall remark for Software application used for Group Discussion.	Good	82	48.2

Figure No.5



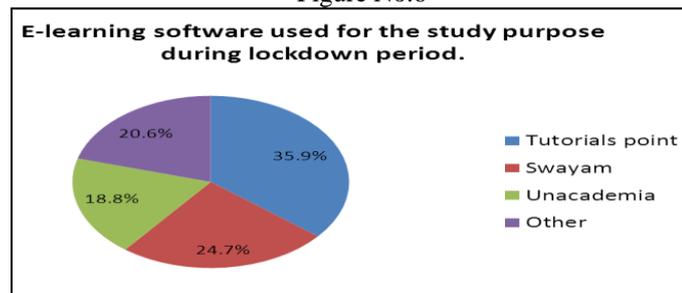
Above graph describes the characteristics of the software application. Free of cost software application preferred by 81.8 % students. Software application used by 42.9% students which can accumulate more than 20 participants. Sign-In required for usage of software application mentioned by 44.7 % students. Software application used classified as secure by 41.8 % students. All features such as Screen sharing, Conference chat, file sharing, Background blur are available with used Software Application mentioned by 45.9% students. During lockdown Covid-19 topic discussed by of the students 59.4 % discussed about. Overall remark about Software Application used by students found GOOD.

G. Students asked about E-learning software used for study purpose during lockdown period.

Table No.7

E-learning software used for study purpose	No. of responses (Out Of 170)	Percentage
Tutorials point	61	35.9
Swayam	42	24.7
Unacademia	32	18.8
Other	35	20.6

Figure No.6



Above graph shows Tutorials Point E-learning application is more favourable in students, 35.9% students use this Software Application. Swayam and Unacademia stands second and third with usage 24.7% and 18.8 % respectively.

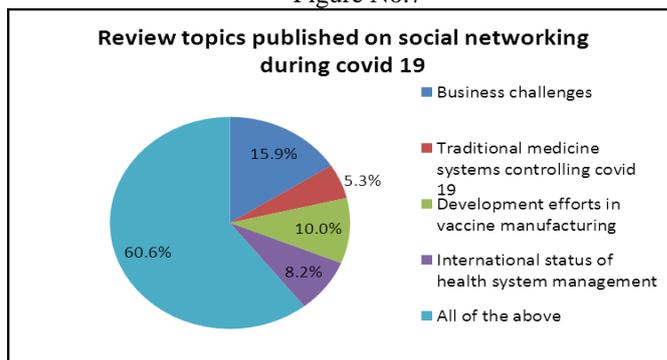
H. Students were asked about Review topics published on social networking during covid 19.

Table No.8

Review Topics Published On Social Networking During Covid 19	No. of Responses (Out Of 170)	Percentage
Business challenges	27	15.9
Traditional medicine systems controlling covid 19	9	5.3
Development efforts in vaccine manufacturing	17	10
International status of health system management	14	8.2

All of the above	103	60.6
------------------	-----	------

Figure No.7



Most of the students about 60.6%, are interested in the all topics published on social networking during covid 19 i.e. Business challenges, Traditional medicine systems controlling covid 19, Development efforts in vaccine manufacturing, International status of health system management.

V. CONCLUSION

It is most simply and contentedly defined as an assortment of tools that might prove helpful in student centred learning. It advocates the teacher becoming "Guide on the Side" rather than "Sage on the Stage"²The survey about the usage of software application indicates that the software application is helpful for the students during the lockdown period. Software application necessity increases due to the social distancing which forced by Covid-19.Travelling of the students restricted, leads to the time saving of students, Students are unable to form Groups which resulted into the increases the efficiency, improvement in the handling of software application, time to time updation of study due to group discussion. Group discussion increases understanding of subjects or lessons, generating more ideas about topics; know about mistakes and weakness, built confidence in students for the orals, interviews and enhancing the communications skills of students. Educational learning systems get help from ICT i.e. online test, Interaction, assessment tests, home work, projects, feedback and communication with students.

Zoom is most used Software Application for Group Discussion, Approximately 100% students used Google as search engine, Covid-19 is mostly discussed topic similarly students are also interested in Business challenges, Traditional medicines for Covid 19, Vaccine manufacturing, International Health system management.

VI. FUTURE RESEARCH

Though study is Restricted to Pune university and D.Y.Patil university sample size is only 170 students, larger sample size may be required with different universities and faculties to analyse further about the faculty specific requirements about the software, its limitations, enhancements etc.

Educational learning management system activated through Information Communication Tools (ICT) in coming era, so Costing, Maintenance, Training such activities study also proposed.

REFERENCES

1. Dr. D. Nagarathinam & Prof. L. Lakshmanan, The Importance of Group Discussion and the Role of Participants, ISSN 1930-2940 Vol. 16:4 April 2016.
2. M. Prensky, "The Role of Technology in teaching and the classroom," Educational Technology, Nov-Dec, 2008.
3. www.efrontlearning.net, www.talentlms.com
4. Dr. Annapurna Bose, Impact Of "Group Discussion" As A Teaching-Learning Method On Performance Of Poor Performers In The Subject Of Anatomy, Volume-7, Issue-3, March-2018, ISSN No 2277 – 8179.
5. Hilal Almarabeh, Ehab F. Amer, Amjad Sulieman, The Effectiveness of Multimedia Learning Tools in Education, Volume 5, Issue 12, December 2015 ISSN: 2277 128X
6. Ghazal Rihai, "E-learning systems based on cloud computing; A review", Science Direct, SCSE2015, Page No.352-35.
7. Liang Bing, "E-learning and modern education reform", Education Information, 2001.10.PP.21,25.
8. Radu Prodon, Michael Sperk, "Scientific Computing with Google App. Engine", Future Generation computer Systems 29(2013),1851-1859.
9. Prof. Poonam R. Maskare. Prof. Sarika R. Sulke, "Review paper on E-Learning using cloud computing" IJCSMC, Vol.#, Issue.5, May-2014, page 1281-1287.
10. Richa Choudhary. "Covid-19 Pandemic: Impact and strategies for education sector in India", ET Government.com, April 16, 2020.
11. J. K. Sachdeva, Business research methodology, Himalaya Publishing House, 2009, Mumbai.