Utilization of Online Tools for Teaching-Learning during COVID-19

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Abstract **- The utility of online platforms/tools is significantly increases for teaching–learning (T-L), personal use and corporate meetings purposes in the lockdown period. During pandemic situation, tradition of work from home culture applies for all types of assignments. Various online tools have been launched to meet the gap of learning process for school and engineering students during lockdown. In this paper, online survey has been conducted to know the use of various online tools utilized by the students during pandemic condition. Findings shows that demand of OLT and their utility will change the learning scenario all over the world in near future.**

Keywords **- COVID-19, Online Teaching-learning, online tools, Lockdown, Pandemic**

I. INTRODUCTON

Teaching learning through online mode has been taken over new era during COVID-19 time as compared to offline mode. Many online tools or platform has been introduced to conduct teaching learning work at their home place like Unacademy, ZOOM meetings, and Google Hanouts, Microsoft teams, Webex, Skype, and Adobe Connect etc. First lockdown was held on evening of 24 February 2020 for 21 days (phase-1) in India and extended in phase-2 from 15 April 2020, consequently teaching as well as exam of almost all school and colleges had been postponed. In that situation, teaching learning is to be maintained very difficult for everyone due to unaware about this pandemic situation. Students and their parents/people of all over the world become panic to this seviour condition. After a week of first lockdown, an online class's model was started and many online tools come to support the education system and accelerate the education program in all over the country. Various webinars, workshops seminars, meeting have been started to aware the student's new method of learning by the University, institutions and societies and now still going on. Before March 2020, people are not aware about the online education system in India. Many innovation has been comes into the market during this period. Some of the IIT and University introduce virtual lab concept to teach students in live condition of laboratory work in virtual mode. But this is to be needed to educate or train of our technical staff, because laboratory or hands-on training is also most important part in our education system. Various internship program/training program was also conducted by organization to keep students engage during pandemic situation.

A range of learning program like use of Moodle, ICT tools, virtual lab concept has also been conducted by central government for the faculty members. Report shows that use of internet data increase severely during lockdown period. Online purchase of new mobile, laptop desktop and gadgets were also increase tremendously and shortfall of these types of gadgets in the market due to boycott of Chinese products by the Indian people/customer. However more use of these products harmful effects on the children because of stop of their physical activity. At the same time new academic session were also started in school as well as college education. Various online platforms like, Linkdin Learning, Khan Academy, Coursera, Alisen Adex, Futurelearn, Udeycity, Block, Coadacademy etc offer several specialized programme, certificate course and coding methods to the students and learners.

II. LITRATURE REVIEW

Online teaching is feasible, cheap and suggested that it may be made a part of the postgraduate training in India beyond the prevailing lockdown. [1] Author raises the various issues of limitations to online platform, such as some faculty struggling with novel technology, participants with poor bandwidth connection, and some difficulty of poor video quality. These challenges can be overcome through an investment of time and effort by staff members with familiarity with these techniques. [2] Most of the terms (online learning, open learning, web-based learning, computer-mediated learning, blended learning, for example) have in common the ability to use a computer connected to a network, that offer the possibility to learn from anywhere, anytime. [3] The Covid-19 pandemic outbreak forced many schools and college to remain closed temporarily. Their anxieties of several areas are affected worldwide and there is a fear of losing this whole ongoing semester or even more in the coming future. Various schools, college and universities have disconnected in face to face teaching. [4] There are also organization such as quality matters and online learning consortium that focus on improving quality of online education in higher education by providing resources as well as opportunities for collaboration on curriculum development. [5]

Authors believe that faculty training; their support is one of the imperative and critical components of quality online education. [6] At the entrepreneurship education and pedagogy point of view, this pandemic challenged us to rub our portfolio of published quality articles in search of resources and insights to help inform educators as they shift to online learning. [7] Authors provide important information on the effectiveness of video-lectures in college teaching and learning and

implications for practice in online course design. [8] Authors conducted systematic literature from 1998 to 2018 to investigate the number and content of definitions of online learning. [9] Time management was another factor identified by authors which is useful for online learning and their reinforces the importance of time management strategies for assisting with the online learning process. [10]

III. RESEARCH DESIGN

- To find the awareness of online teaching tools/platforms among the engineering students.
- To find the satisfaction level of online tools among the engineering students.

IV. DATA COLLECTION

Survey method of research has been used in the present study. The investigator selected 100 engineering students studying in various Institutes in the Madhya Pradesh. Sample random sampling technique was adapted for the selection of sampling in the present study. A survey was conducted through Google form to collect data (primary) in which clearly mentioned that their identity will be kept confidentially.

V. DATA ANALYSIS

An online questionnaire was developed. The following questions were asked from the students-

S. No	Questions	Type of questions
1	Where did you get the information about online teaching classes?	MCQ
2	Did you know about the online teaching learning tools before lockdown?	Y/N
3	Which online tools did you convenient to attend classes?	MCQ
4	Which tools did you face difficulty to attend online classes?	MCQ
5	Which type of difficulty did you face during online classes?	MCQ
6	How many classes do you want to attend per day?	Numbers
7	Which is the most disadvantages issue while attending the online classes?	MCQ
8	What are the advantages online teaching learning tools?	MCQ
9	Which properties did you like most easiest to operate in online tools?	MCQ
10	Is online teaching better than offline/ face to face teaching?	Y/N
11	Did you satisfied with online classes?	Scale
12	Any Suggestions	Open

Y-Yes, N-No, MCQ- Multiple Choice Question

Hypothesis-1:

There is no significant difference in awareness of information about online teaching classes with respect to gender.

Table-1: Difference between Male and Female Student's in awareness about online teaching classes

Category	N	Mean	S.D	T value	Remark
Male	51	20.70	2.60	.267	Not Significant
Female	49	20.57	2.42		

Hypothesis-2:

There is no significant difference in awareness about online teaching classes with respect to place of residence.

Table 2: Difference between Rural and Urban Students in awareness about online teaching classes

Category	N	Mean	S.D	T value	Remark
Male	49	20.67	2.78	.130	Not Significant
Female	51	20.60	2.22		

Hypothesis-3:

There is no significant difference between government/ govt. Aided and privet engineering students in awareness about online teaching classes.

Table-3: Difference between Government and Private engineering students about online teaching classes

Category	N	Mean	S.D	T value	Remark
Male	41	20.75	2.95	9.23	Significant
Female	59	20.55	1.80		

*Hypothesis-4***:** There is no significant difference between Hindi and English medium students about online teaching classes.

Table-4: Difference between Hindi and English Medium students about online teaching classes

Category	N	Mean	S.D	T value	Remark
Male	42	20.80	2.94	.547	Not Significant
Female	58	20.51	2.15		

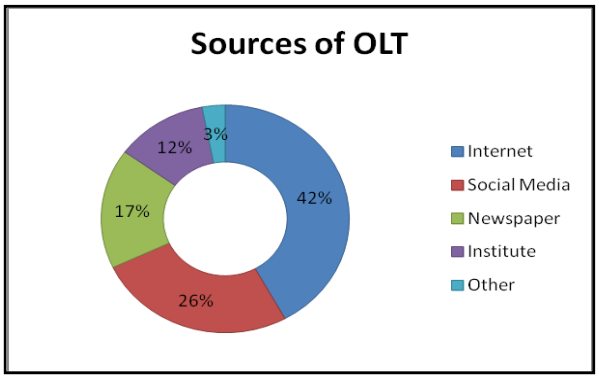

Fig.1Diffrent sources of Information for OLT

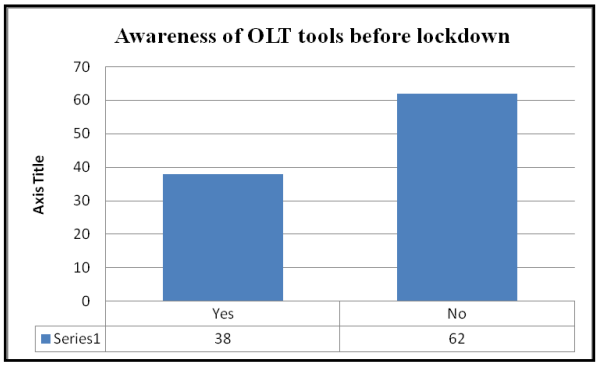

Fig.2Awareness about online teaching-learning tools

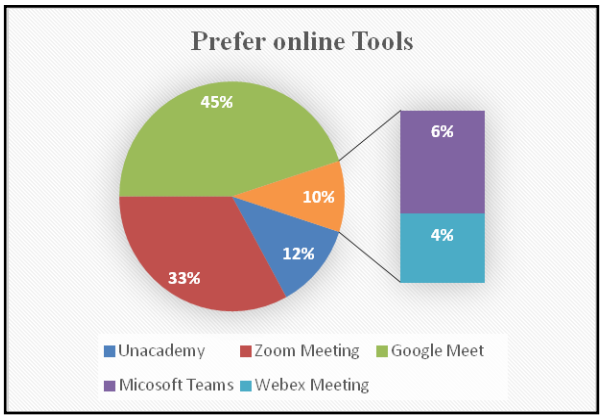

Fig.3 Prefer online tesching tools

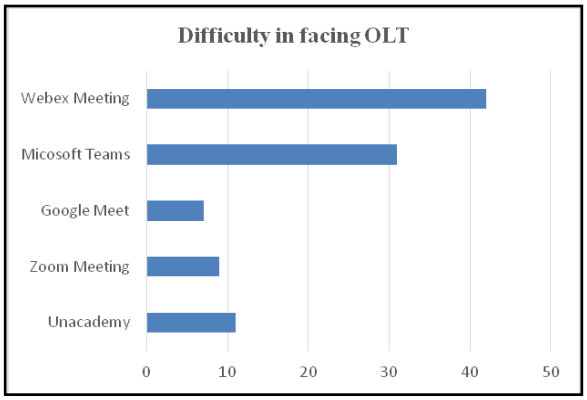

Fig.4 Difficulty in facing online tools during T-L

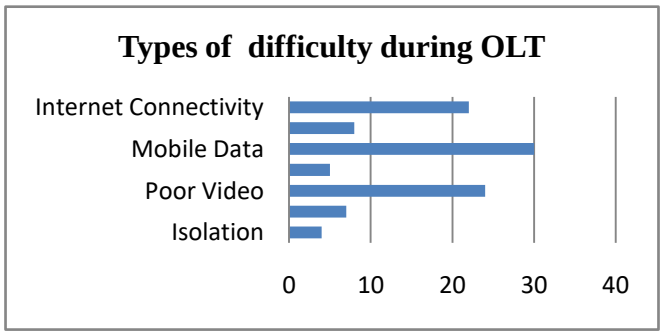

Fig.5 Types of difficulty face by students during online teaching-learning

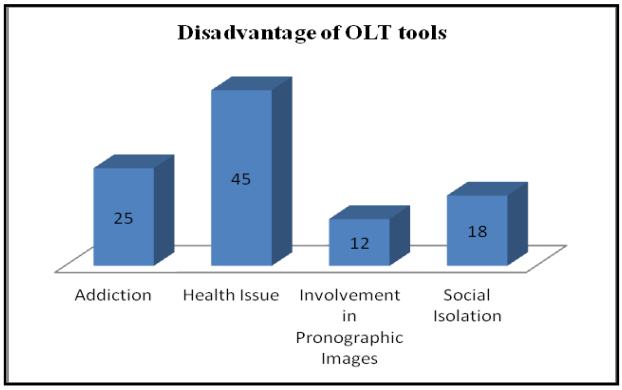

Fig.6 Disadvantage of oline teaching tools

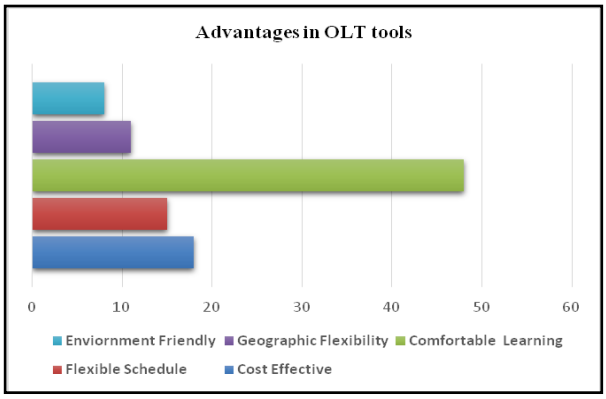

Fig.7 Advantage of oline teaching tools

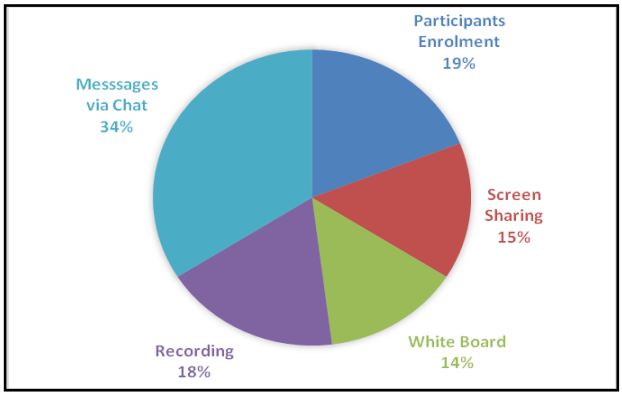

Fig.8 Prefer property while using online tools

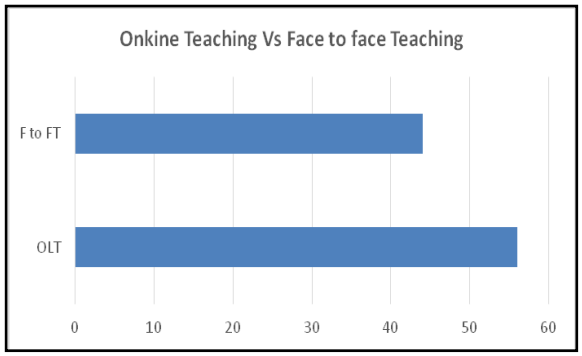

Fig.9 Comparison between F-FT and OLT

VI. MAJOR FINDINGS

It is observed from the study that there is no significant difference between male and female students in their awareness towards online teaching classes. Also concluded that no significant difference between rural and urban students in their awareness towards online teaching classes. Majority of engineering students aware the online teaching classes after the two to three month of pandemic situation. It come to the conclusion that no significant difference between Hindi & English medium students in their awareness online teaching classes. Majority (45%) of students prefer Google meet tool to attend the online classes. Total 62% of the students unaware about the online teaching tools before lockdown. Also (42%) faced difficulty to operate webex meeting due to their internal complex configuration. Male and female both (34%) the students well familiar about the chat box message during the online classes. 30 % students face recharging of mobile data as difficulty in attending the online classes followed by internet connectivity (22%). At the last, majority (56%) of the engineering students prefer online teaching learning environment (*for the time being*) is better as compared to face to face learning due to fear and rapid growth of COVID-19 patient all over the country.

VII. CONCLUSIONS

In this paper, advantages, disadvantages, difficulties, usefulness of online tools have been addresses. Students have been familiar with online tools in short time specifically urban students as compared to village students due to shortage of equipments. Majority of students get bored from online teaching and demanding to open the school, college to be on campus mode. Although online classes is supplement to face to face teaching but it will develop big market in near future. Many open suggestions were also come up by the expert's i.e in school, students not only be study the subjects but also learn discipline and moral values. Online education saves time, money and environment. As per the astrological suggestions, electric gadgets symbol of Rahu and its bad impact may be face in near future like migraine, eye disease. Majority of students and their parents get satisfaction with online tools but increases financial liabilities. This research come to the outcomes that online teaching is feasible, expensive for rural students and might be available a temporarily arrangement to our education system.

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