Assessing Teachers Readiness for Online learning: Insights from Tamil Nadu Agricultural University

TYPE OF ARTICLE: SHORT RESEARCH ARTICLE

ABSTRACT

Online Education is the future and the readiness of teachers to handle the challenges of online education has to be understood. Under this the paper has a two-fold purpose. The first purpose of the research is to clarify the concept of "readiness of teachers of higher education institutions to use online learning Technologies", to determine the components and indicators of teachers' readiness to use online learning technologies. The second purpose is the reporting of the study results based on the first purpose. The article is based on literature review on Teachers' readiness/preparedness to online education and results of the authors' COVID-19 Teachers' Questionnaire with 49 faculty members of major higher education institutions of Tamil Nadu Agricultural University. It proves that the effectiveness of online learning depends on subjective (teachers' and students' preparedness for online education) and objective factors (material and technical base of higher education institutions). Components of teachers' readiness for online learning and their indicators are summarized: motivational, cognitive, operational, technological, creative, personal. The outcomes of the questionnaire have identified that most respondents lack theoretical knowledge and practical skills Necessary for the implementation of online learning and encounter difficulties in teaching during quarantine.

Keywords: Online learning, Digital pedagogy, Teachers' readiness, Online teaching challenges

INTRODUCTION

TheCOVID-19 Pandemic has been a major problem for the human society since December 2019. The first case was reported from Wuhan, China on 31stDecember 2019 and later it became a pandemic disease. In India Covid-19 was first reported in Kerala on 27th January 2020. The pandemic created economic and social disruption and devastated many millions of people at risk of falling into extreme poverty and even many lost their livelihood. It has created a huge impact on our educational system, mainly in Agricultural Education. From 2020 it marks a dramatically different childhood experience that these young people will remember

for the rest of their lives and a different teaching experience where teachers and students had to rapidly adapt, be creative and shift roles.

This different education service over many months has a potential of having huge negative impact on students' skills and economic prospects for the rest of their lives. It has created a major impact in the Agricultural Education system, because agricultural education consists of mainly practical and technical knowledge due to the online education system (on-line mode) causing severe lag in practical and technical knowledge, even there were many problems like network connectivity, unavailability of proper teaching tools and unavailability of smart phones also created an major issues in teaching-learning process. In this context, it is planned to conduct a systematic study to know the pros and cons of the on-line education system of Agricultural Education.

REVIEW OF LITERATURE

Research on faculty members' perceptions and attitudes toward online learning emphasized the role of instructors in facilitating communication and earning with students. Instructors acknowledged content expertise and instructional design as the factors in the success of online learning. Similarly, the call for staff and student training is mandatory for online learning success (Cheng and Chau, 2016).

The mode of education has turned into student-centered education, where students became independent learners. This is considered as an advantage as face-to-face instruction was teacher-centered education, where students receive their education from their instructors. Online learning-initiated students' role in using additional resources to discover their abilities as independent learners (Roach and Lemasters, 2006).

The comparison between students' attitudes toward teaching the same interactive courses online and face to face is similar. It is found that students performed equally at the same interactive courses in online and face-to-face instruction. Face-to-face instruction's success depends on regular class attendance, while the interactive classes relied on completing interactive worksheets. Therefore, online and face-to-face success is based on curriculum structure, mode of delivery, and completion rate (Nemetz et al., 2017).

The COVID-19 outbreak shifts face-to-face education to online during the lockdown. This shift helps faculty integrate advanced technological skills in their teaching, which benefit students (Isaeva et al., 2020).

Online learning is considered an entertaining way to learn. It has a positive impact on both students and teachers alike. Both faculty and students have optimistic opinions about online classes (Kulal and Nayak, 2020).

Faculty and students of engineering specialties incurred that theoretical engineering subjects can be taught online, while teaching practical courses online are less effective and should be conducted at engineering labs (Kinney et al., 2012). Similarly, students' and faculty perceptions were marginalized differently in teaching laboratory courses online (Beck and Blumer, 2016).

Faculty and students encountered challenges such as technology, workload, digital competence, and compatibility. They concluded that education would become hybrid, face-to-face, and online instructions (Adedoyin and Soykan, 2020).

Advantages of digital learning in COVID-19 period

1. It is useful in distant learning and during COVID 19 situation we can continue our education system.
2. Our teacher has authority to unmute our mics and video. And can see and check whether we are listening attentively or not.
3. The students who are not much confident, they contact through the WhatsApp easily.
4. You can easily and comfortably listen to the lecture and learn.
5. I think eLearning is making good students more active and self-learner.
6. Second thing is that lectures have been recorded and will uploaded soon. It is easy for us to go back and go through the whole video for a summary or even revising it.

Disadvantages of digital learning in COVID-19 period

1. In anatomy, the study through models was good. But hands on training is not possible, the student will not be able to understand properly. Skills needs actual hands-on training.
2. I find it annoying that during lectures you don't have students feedback whether they are getting the point or not.
3. There is no continuity of lecture. We lose our concentration, and the syllabus is so lengthy.
4. As the students know that they will get the recordings, they don't listen the lecture properly.
5. Lots of people might not be having these gadgets. Buying these gadgets comes an extra burden on them in such stressful situation.

6. There is some problem coming with discipline, some students use to misbehave during lectures.
7. As this system is new to everyone, it is difficult to have individual assessment. During assignment, they easily copy paste stuff from web.

OBJECTIVES

1. To study socio-economic profile of students, parents and faculties of TNAU constituent and affiliated campus
2. To know types of on-line secession and its benefits among students
3. To assess the preparedness of faculty and acceptance level of parents
4. To find out the difficulties faced by the students, parents and faculties

SIGNIFICANCE OF THE STUDY

This Study reflects on the effect of COVID-19 on Agricultural Education. It investigates the causes behind the adoption of online education due to COVID-19 Pandemic and eventually its impacts on the faculties. The research would allow readers to consider their understanding of the pandemic education of pupils, parents and teachers. And the research also establishes properly suited methods to perform the future research in the right manner.

SCOPE OF THE STUDY

The study is based on the answers from the respondents. This study would help to get an insight into respondent's understandings of online Agricultural education and its influence on the wellbeing of the teachers with reference to the gender of the respondents.

RESEARCH METHODOLOGY

The present study was undertaken among the constituent and affiliated colleges of TNAU. Considering the short span time and resources, it is planned to create an on-line either using Google survey or Survey Monkey tools. It is easy to administer and helps with studying the proposed objectives.

RESULTS AND DISCUSSION

DATA ANALYSIS:

Personal parameters

Table 1: Age

SL NO	AGE	AVERAGE	PERCENTAGE
1.	Young	32	33
2.	Middle	46	45
3.	Old	59	22

We asked the faculties to point out their age and from the total response it is concluded that the Old age is 59,Young age is 32 and Middle age is 46. We also calculated the percentage for their and it clearly shows that faculties having maximum age is responded by 22%. Minimum age faculties responded by 33% and medium age faculties responded by 45 %.Middle aged faculties show more interest in responding to the questionnaire.

Table 2: Gender

GENDER	TOTAL NO	PERCENTAGE
MALE	23	45.8
FEMALE	26	54.2

From the above, we came to know that more female faculties have been working during this covid19 pandemic. The total no of female accounts about 26 numbers and total no of male accounts for about 23 numbers. By calculating percentage for these female and male ratios shows that female faculties secured 54.2 % and male faculties secured about 45.8%. We may conclude that more of female securing post in TNAU.

Table 3: Native

SL NO.	NATIVE	NO OF FACULTIES	PERCENTAGE
1.	RURAL	18	39.6
2.	SEMI URBAN	20	41.7
3.	URBAN	11	18.8

We asked to fill out whether they belong to rural, semi urban and urban to the faculties. Faculties responded that 20 of them belong to semi-urban, 18 of them belongto rural and 11 of them belong to urban. By calculating the percentage, it is clear that 41.7 % are from semi- urban areas, 39.6% from rural areas and 18.8 % from urban areas.

How was your experience in teaching students on virtual mode rather at college?

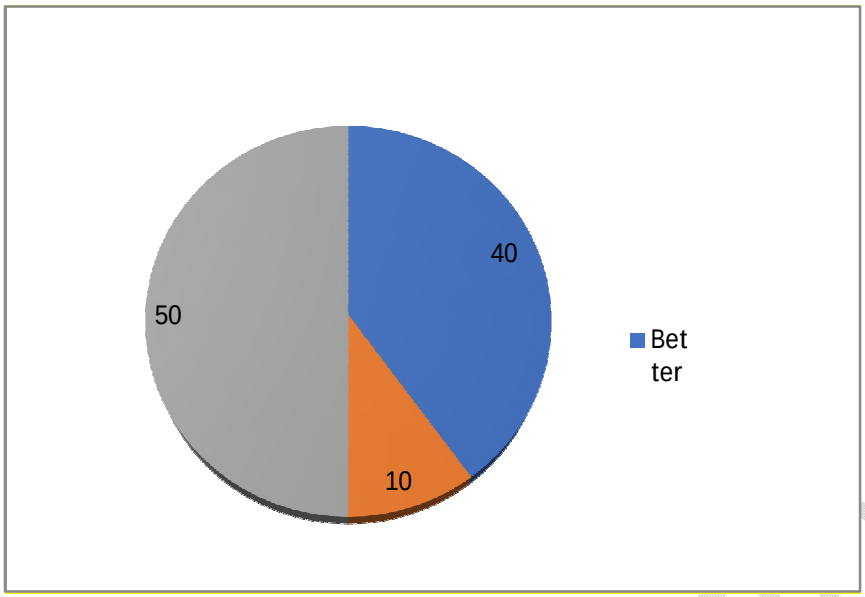

Fig.1Experience in teaching students on virtual mode

By taking Fig.1 into considerations we may easily conclude that out of 49 responses from the faculties to share their experience in teaching students on virtual mode rather than at college 50% of them felt that it was good to teach students via virtual mode , 40% of them have better experience and 10 % of them was reacted that it was best to teach online rather than at college .

1. How far do you find teaching remotely during the covid-19 pandemic?

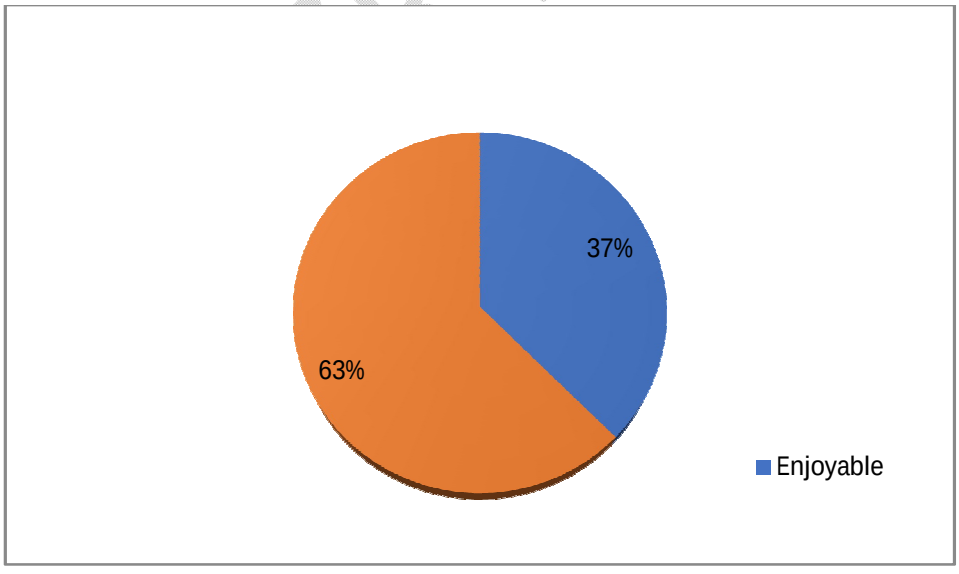

Fig.2 :Teaching remotely during the covid-19 pandemic

In Fig.2 the covid -19 pandemic created huge impact all over the world particularly to faculties that they undergone more difficulties to take classes in virtual mode. We asked the respondent to point out their level of remote teaching. Out of 40 responses, 63% of the teachers enjoyed to took the classes online mode and 37 % felt so stressful during the covid period.

2. What kind of response have you got so far from your students?

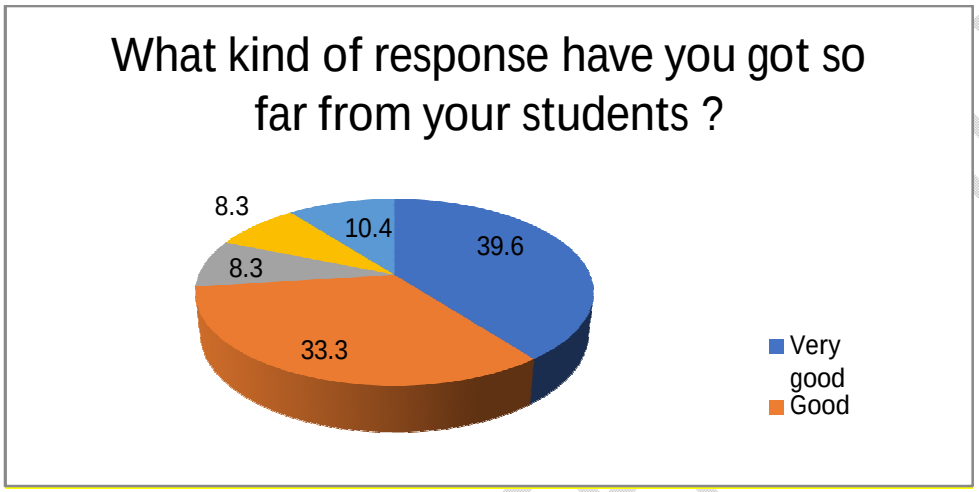

Fig.3: What kind of response have you got so far from your students

According to the responses obtained from the teachers we can easily point out what kind of responses they got from their students. 39.6% of the teachers said that they received a very good response from the students' side and 33.3% of the students delivered a good response to their teachers. On average 10.4 % of the given satisfactory response and 8.3% showed excellentand also poor responses.

3. How important is the role of technology in remote learning?

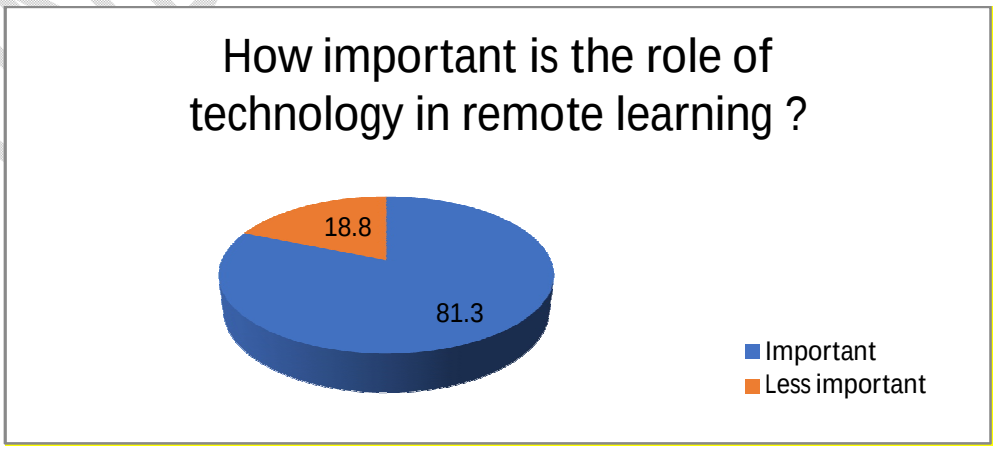

Fig.4 : How important is the role of technology in remote learning

In Fig.4 it clearly depicts the important role of technology in remote learning. The teachers stated that 81.3% that remote learning is important during covid-19 and 18.8% it is less important to learn through virtual mode. Though it is important during covid situations it also affect the student's studies in larger scale.

4. How much time it takes to adapt to newer method of teaching (in days)?

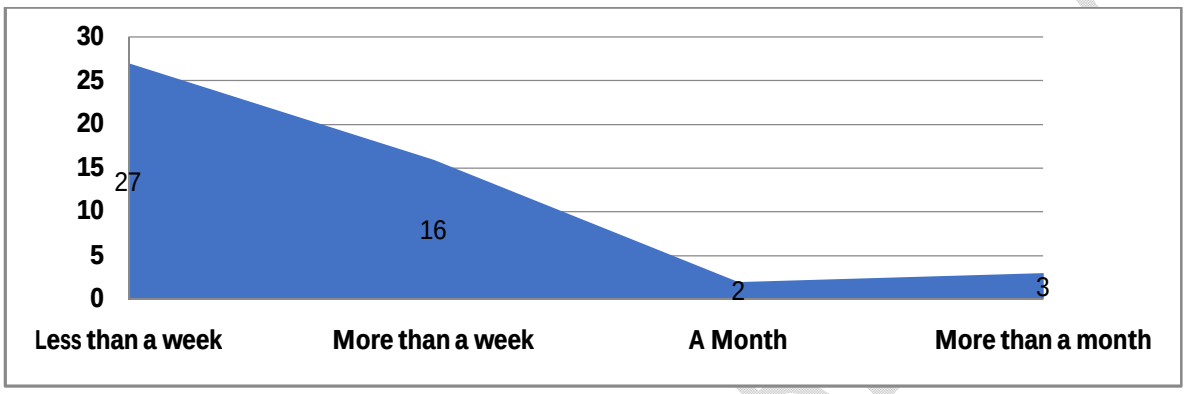

Fig .5 Time taken to adapt to newer methods of teaching

In fig.5 it was clear that the 27 teachers took less than a week to adapt to the newer method of teaching. 16 of the total responded faculties took more than a week to adapt to the newer teaching method. 2 faculties said that ittook a month for them to adapt and 3 faculties stated that they took more than a month to adapt to the newer method of teaching.

5. How important is face to face communication for you while teaching remotely?

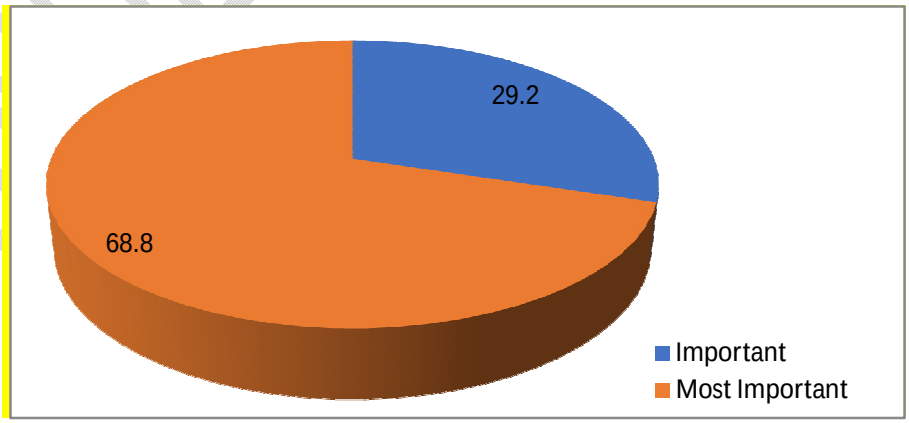

Fig.6 face to face communication for you while teaching remotely

In teaching face to face communication plays a major role between students and faculties. Here, 68.8% of the teachers'stress that face to face communication is most important and it should takeinto considerations in further mode learning process. Moreover, 29.2% of teachers also stated that it was important to have classes at offline mode.

6. How often do you have one - one discussion with your students?

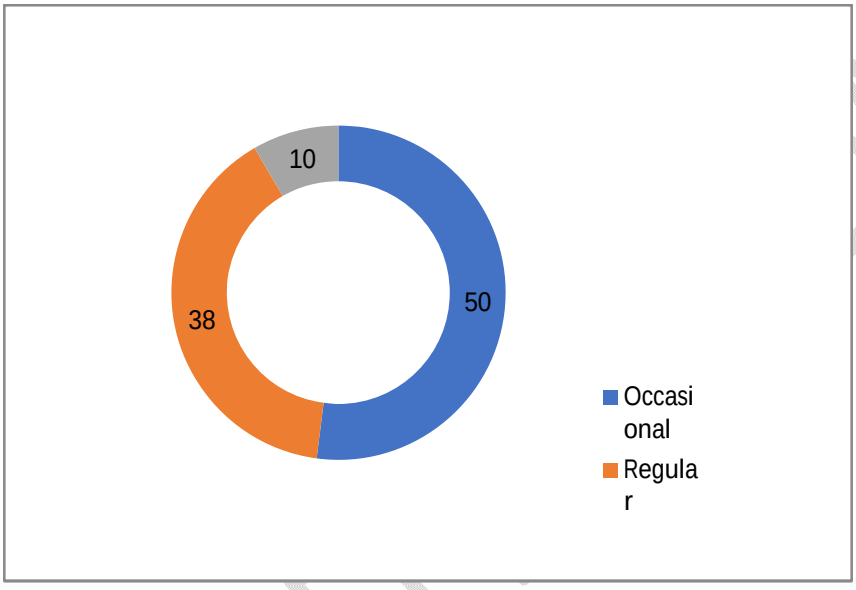

Fig.7one - one discussion with students

In Fig .7 it is clear that the 50% of the staff and students have one to one discussion very occasionally after the classes was ended or during the class hours .In some times 38% of them have regular discussions with the after the classes was over. Out 49 respondent 10% of the faculties never had a discussion with their students.

7. How helpful have parents been while supporting their children in remote learning?

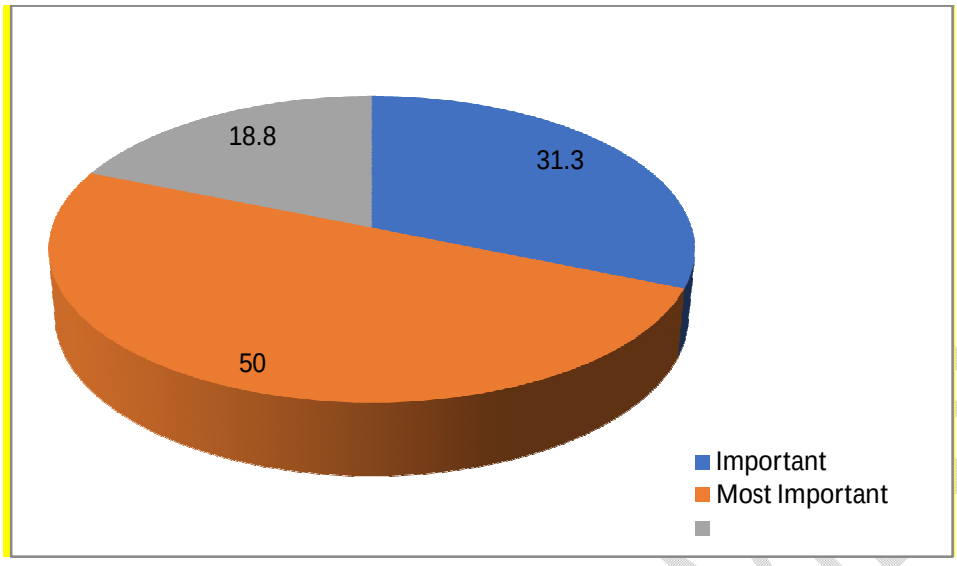

Fig .8 Parents while supporting their children in remote learning

In Fig.8 we came to know that during covid 19 period 50 % of the parents have been so helpful to the students in their distant education. During this situation they took utmost care of their children and helped them to study. in some cases, 31.3 % of the parents have helpful to the students and 18.8 % of the parents have no role in their children's studies.

8. How about the learning capacity of your students as they were before switching to remote learning?

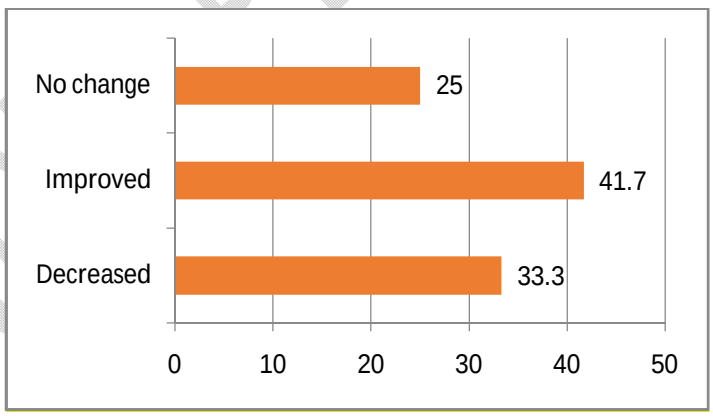

Fig.9 Learning capacity of students before switching to remote learning

In Fig.9 it clearly depicts that 41.7% of the teachers indicated the learning capacity of students has been so improved before switching to remote learning. In 33.3 % teachers' point of view, the learning capacity is decreased among the students. However, 25 % stated that there is no change in their learning.

9. What is working well with the current learning model that you would like to see continued?

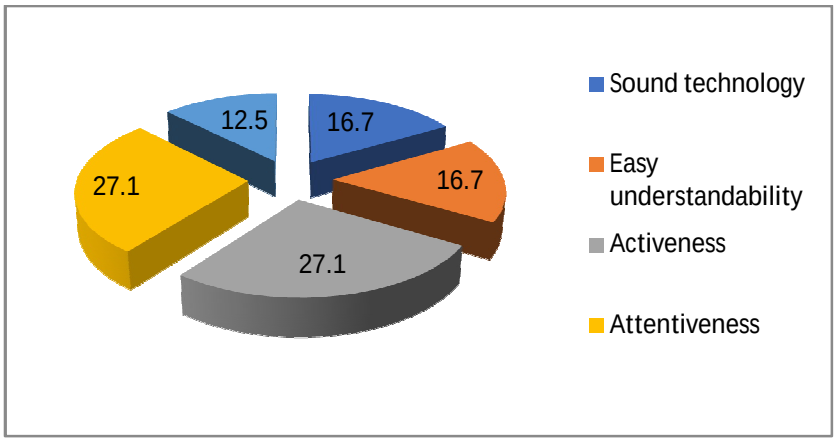

Fig.10 Current learning model

In Fig. 10 we understand that 27.1% of students are active with the current learning model and 27.1 % are more attentive to the classes. Sound technology plays major role in the distant education and secures 16.7% among students . Teachers found that 16.7% have easy understanding in virtual education and 12.5% have more attractive and captivity towards the class.

10. What are all the challenges faced during distant learning?

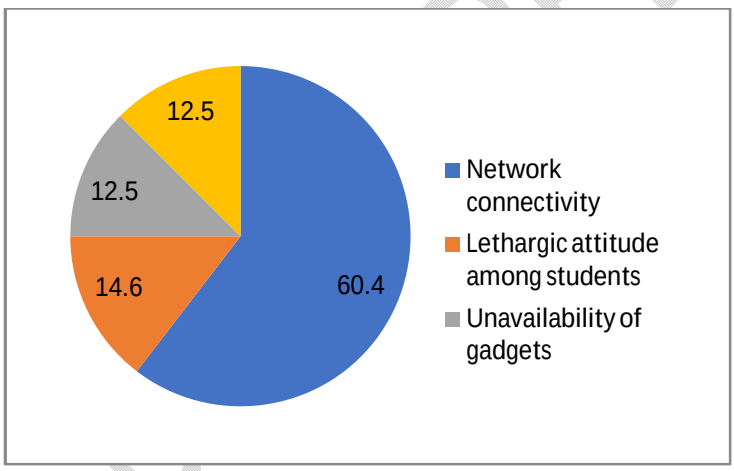

Fig.11 Challenges faced during distant learning

In Fig.11 duringcovid situation nearly 60.4% teachers have faced the low network connectivity problem in distant education. About 14.6% faced a lethargic attitude among students in their classes and 12.5 % stated that the students do not have their own gadgets for attending classes and improper monitoring.

11. How students had been engaged in your virtual classes?

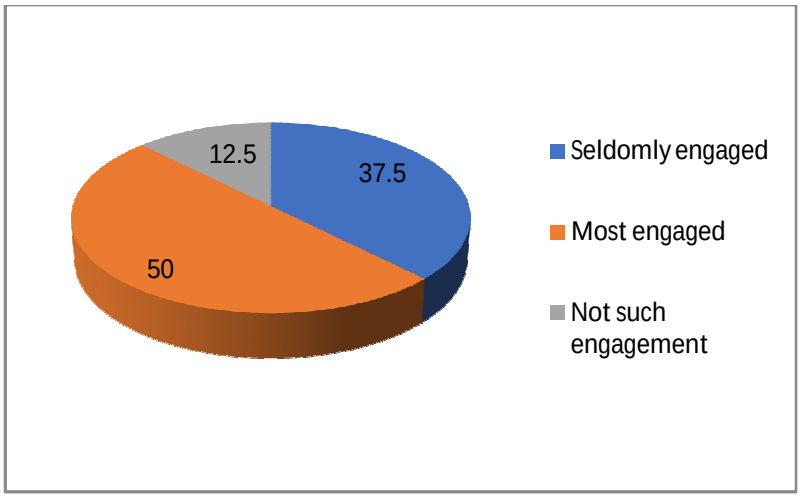

Fig.12 Students engaged in virtual classes

In Fig.12 it is concluded that 50% of the students are mostly engaged in the virtual classes. 35% of the students are seldomly engaged and less than 15% of the students are not showing such engagement for attending classes .

12. How many of your students regularly attended your virtual classes? (in percentage)

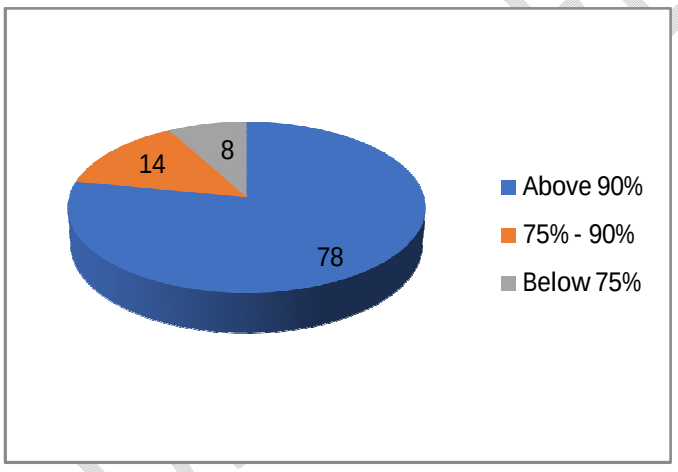

Fig.13 Students regularly attended in virtual classes

In Fig.13 78% faculties noted that the above 90% Percentage of students had attended the virtual classes.Moreover, 14% of the faculties said that 75-90% attend seldomlyand 8 % said that below 75% attend the students veryrarely attend the virtual classes .

13. In your class how often the students been attentive?

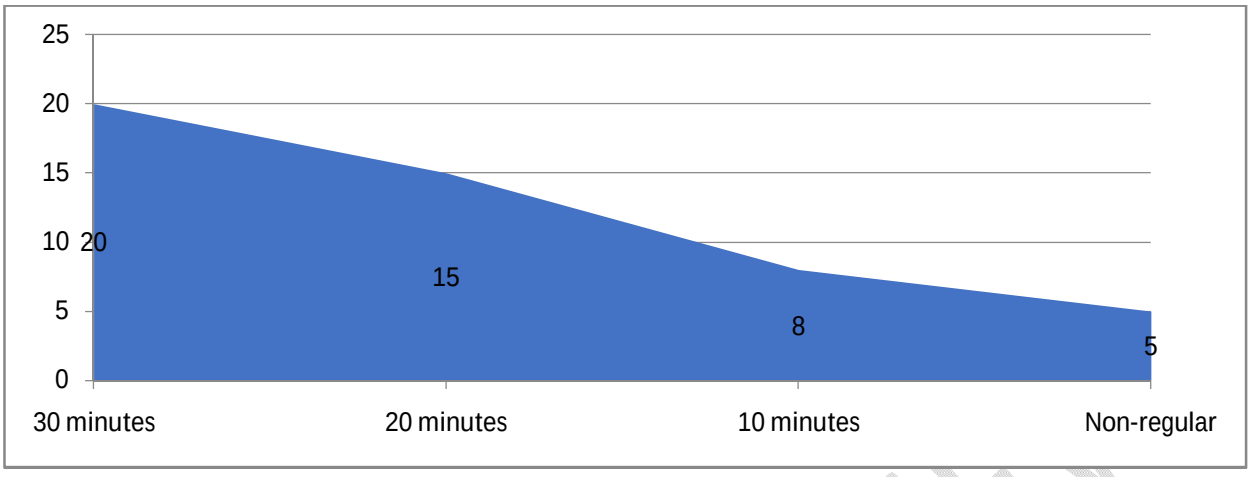

Fig.14 How often the students have been attentive

In Fig .14 it clearly shows that more than 20 % of the students can attend the full class and 20% can attend for 30 minutes and less than 5% of the students attending non – regularly.15 % of the students attending the classes only for 20 minutes and 8 % can attend only up to 10 minutes.

14. Is there anything else would you like to share about students' engagement through virtual mode of teaching?

Initial orientation isnecessary, as many students all from Moti areas, the above one is almost essential. Yes, they need to attend the class properly, but students do not attend the class because of their lethargic attitude ammo students and some students have poor connectivity.

FINDINGS

From the above data analysis we clearly understand about the faculties level of preparation , adaptation and delivering classes to the students . And how they accept the situation and how stressful situations the had gone through and how the students responses during the virtual classes .

CONCLUSION

It is affirmed that teaching staff is an important element of Online education. The formation of teachers' readiness for the introduction of online Learning technologies is an urgent problem of modern science. Readiness of a university Teacher to use online learning is a combination of professionally significant knowledge and Skills, as well as a focused expression of personality, including internal prerequisites for

the Teacher's activities using innovative technologies in the educational process The degree of Teacher's readiness for online learning can be assessed by the following criteria: Motivational, cognitive, operational, technological, creative, personal. The indicated Readiness is a personal phenomenon, it mediates the relationship between the effectiveness of the teacher and his focus on improving his professional level. Based on the analysis of the scientific literature on online learning, own pedagogical Experience and the COVID-19 Teachers' Questionnaire proved the need to solve the problem of professional self-improvement of teachers, which arose due to their unpreparedness for the Introduction of online learning in higher education institutions. The survey conducted showed the insufficient level of formation of this readiness. 73,9% lack theoretical knowledge and practical skills necessary for the implementation of online learning. 94% of teachers encountered difficulties in teaching during quarantine. The review does not cover all aspects of the problem under study. Issues of specialized training of teachers to online learning, considering the specifics of the subject, require further study.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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