

VALIDATION OF QUESTIONNAIRE TO EVALUATE TEACHER'S STRESS DURING ONLINE TEACHING IN COVID-19 PANDEMIC

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Abstract:

The covid -19 pandemic has led to closures of schools /colleges affecting education for over two years. School/Colleges started online mode of education to reach out to the students. This sudden shift to a digital platform was full of challenges and was stressful for the teachers. This study aims to understand teacher's experiences and the unique set of challenges faced by them during the online classes. To explore the impact of this dissonance online survey data was collected through google forms from teachers. The questionnaire included questions dealing with background information like, gender, age and type of students they taught (secondary, higher secondary and higher education), barriers experienced while teaching, coping strategies and their stress levels. All metric variables were analyzed by using parametric statistical procedures while the non-metric variables by Chi Square test. The survey showed that teachers having adequate pedagogical and technical skills had a successful transition to online classes. Some teachers encountered significant challenges and made adequate adjustment in order to adapt to the need of online classroom. Analysis also showed that teachers were also concerned for the students as there was a significant low response from them in terms of interaction. More than 50% teachers spent more than 3 hours in online teaching and spent further hours in assignment checking resulting in more screen time leading to headaches and eye stress it was found that unstable network was the major hinderance faced by 30% teachers. A substantial relationship was found between teacher's subjective stress level and their type of school.

Keywords: *Dissonance, Pedagogical, Metric Variables Parametric*

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Introduction:

The novel Coronavirus disease [COVID-19] outbreak was discovered in China in December 2019 and became a global pandemic on March 11, 2020, as declared by World Health Organization (WHO) [1]. Owing to its high infectivity countries all over the world implemented nationwide lockdown. It has impacted catastrophically every sector of the economy throughout the world, the education sector is not left behind from the devastating effects of the lockdown. Due to the Covid 19 outbreak, 63 million teachers have been affected globally [2]. Educational institutions around the world (in 192 countries) have either temporarily closed or implemented localized closures affecting about 1.7 billion of student population worldwide [3].

The central government of India on March 16, 2020, announced the closure of all the educational institutions including schools, colleges, and universities as the number of positive cases of coronavirus in India had increased. To curb the

transmission of the disease suddenly traditional classrooms were shifted into virtual classrooms having a staggering effect on the Indian educational sector [4].

It was for the first time in India online classes had been conducted on this massive scale. The commencement of online classes led to various difficulties for both teaching and learning communities, though, the internet was a major technological advancement reshaping society and universities worldwide [5].

All the schools started an online mode of education to reach out to students. Some of the online platforms used so far include unified communication and collaboration platforms such as Microsoft Teams, Google Classroom, Canvas and Blackboard, which allowed the teachers to create educational courses, training and skill development programmes [6]. Online teaching had both pros and cons for teachers during this pandemic. The overwhelming teachers confronted obstacles in e-learning due to the lack of online teaching experiences [7], dubious effectiveness of online assessment and evolution [8], dearth of technical infrastructure in a home as well as lack of inadequate and costly Internet connection.

Little is known about factors that contributed to difficulties of teachers to ensure continuation of instruction, when most of the teaching was conducted from home. Schools and teachers became increasingly dependent on digital tools for both teaching and communication processes.

The pandemic has not only affected the mental state of students [9], but also the teachers have accumulated a high level of stress since the beginning of the crisis. Recent studies have pointed out that during lockdown, teachers have suffered stress from having to adapt (in record time) in order to provide online classes [10]. This stress has often been accompanied by symptoms of anxiety, depression, and sleep disturbance as a consequence of the increased workload resulting from home teaching [11].

Moreover, previous studies have found that working from home using Information and Communication Technologies (ICT) can create feelings of tension, anxiety, exhaustion, and decreased job satisfaction [12], and in times of a pandemic these were the only tools that were available to teachers.

Therefore, this study aims to the perceptions of teachers on online teaching during COVID-19 pandemic and evaluate their experiences, recognize their barriers, and examine their challenges faced by the teachers in adapting to the online teaching process during COVID-19 pandemic.

Methodology:

The study examines and evaluates teacher's stress during Covid-19 pandemic amongst a sample size of 113 teachers from Nagpur, Maharashtra consisted of high school teachers, junior college teachers and senior college teachers both from Government and Private Institutions. A Questionnaire was created using Google form application software to enable the respondents to complete the questionnaire online.

The questionnaire consisted of their demographic data, perceived stress levels, barriers faced by the teachers while taking online classes and their coping strategies.

Demographic Data - We assessed demographic data from the respondents like age, gender, and their designation. They were also asked for their daily hours of online teaching.

Stress Parameter - The stress related questionnaire had respondent's choices on a 4 point Likert scale. "Frequently, Occasionally, Rarely, Never"

The questions asked were

- were you anxious using information and communication technology during online teaching.

- was there any anxiety while taking online classes knowing your supervisors observed your class.
- were there any objectional posts from students/ parents leading to unpleasant emotion.
- did you feel any added pressure while teaching online knowing that parents were also attending the classes.
- did increased online teaching hours lead to eye stress and headache.

Barrier parameters - The barriers that teachers experienced were assessed by a self-developed multiple choice questions

- Which subjects do you think have suffered the most in online teaching.
- What lead to more discomfort while teaching. The multiple choice option for this were not enough reciprocation from students, no face-to-face connected, digital divide.
- On a scale of Yes, No. May be the questions asked were
- Did you experience a sharper conflict between online teaching and domestic task?
- Did you find it difficult to evaluate online assignments/ homework leading to exhaustion?

Coping strategies - The respondents were asked to write about their different strategies which helped them cope with online teaching.

Results and Discussion:

Data Analysis:

In this study 113 teachers of Nagpur, Maharashtra were the respondents who answered the Google forms. Demographic characters were tabulated based on percentage of respondents (Table 1).

Table 1: Demographic data of respondents

Gender	Percentage
Male	19
Female	81
Age	
22-30 yrs.	20
30-50 yrs.	44
50-60 yrs.	56
Designations	
Senior college teachers	22
Junior college teachers	31
High school teachers	57

81% were female and their mean age was 22-60 years. Female teachers were over represented in comparison to male teachers.

45.5% of teachers felt reduced effectiveness in online teaching leading to job dissatisfaction because of which they did not feel valued in the class (Fig. 1)

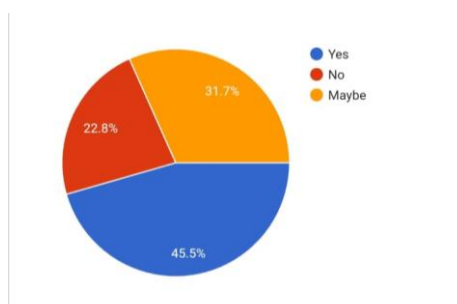


Fig. 1: Reduced effectiveness in online teaching leading to job dissatisfaction

65% respondents said that they never had anxiety while taking online classes knowing that their supervisor was observing them while only 2% were frequently anxious about it.

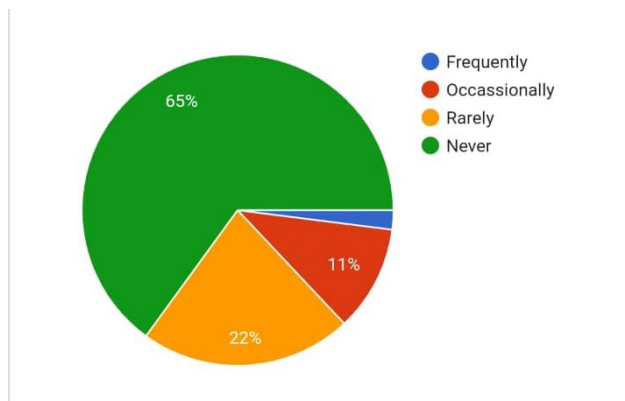


Fig. 2: Anxiety while taking online classes knowing that their supervisors were observing the class

Objectional posts from parents and students gave unpleasant emotions to only 6.9% teacher while 63.4% said they never received such unpleasant post.

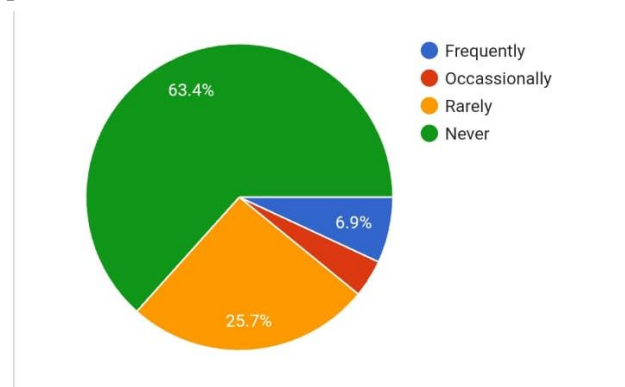


Fig. 3: Unpleasant emotions resulting from objectional posts of parents and students

27.7% teachers were more anxious using information and communication technology while 33.7% occasionally felt anxious while 9.9% never at all were anxious.

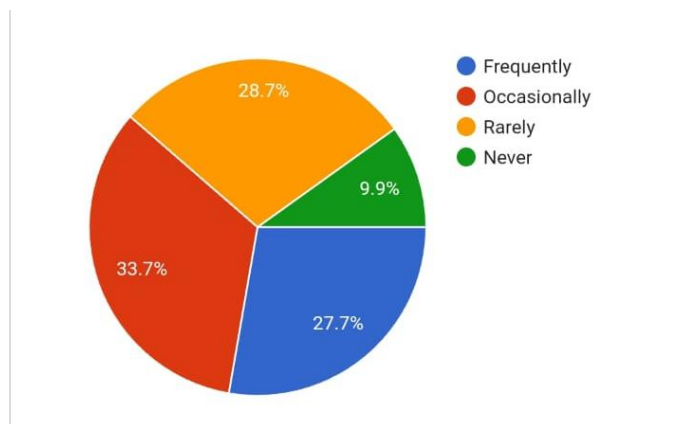


Fig. 4: Anxiousness using information and communication technology

Fig. 5 shows that 60.4% teacher were very stressful to create a class room environment at home.

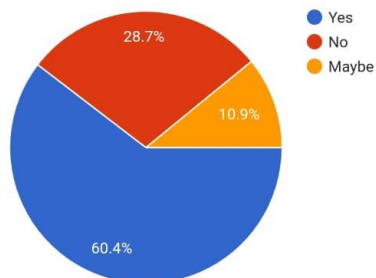


Fig. 5: Stressed to create a class room environment at home

Fig. 6 shows that 87.1% teachers had to train themselves to take online teaching.

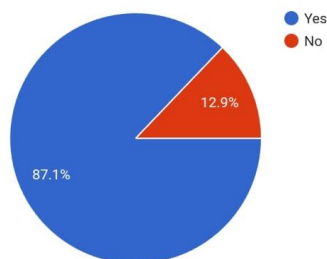


Fig. 6: Teachers having to trained themselves to take online classes

Maximum of 34.7% respondents said that they did 3 hours of online teaching everyday while 4% taught for more than 4 hours (Fig. 7). Preparing for these online classes lead to 5-6 hours of screen time which lead to eye stress and headache in 35.6% respectively (Fig. 8).

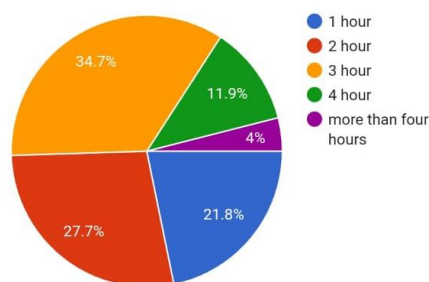


Fig. 7: Online teaching hours per day

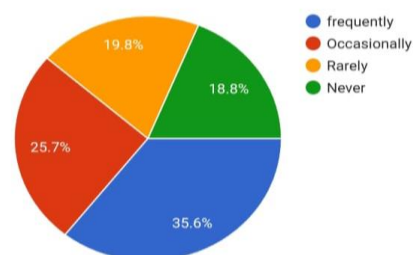


Fig. 8: Eye stress and headache due to increased hours of online teaching

Barrier Parameter:

Subjects that suffered the most was Mathematics as shown by 51.6%, next was 23.2% Science and 8.4% said languages (Fig. 9).

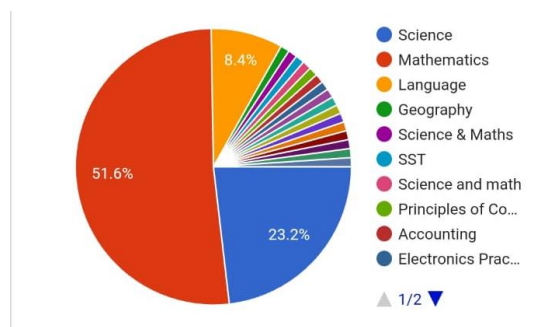


Fig. 9: Subjects that were the most difficult to teach in online classes

Fig. 10 showed that 59.4% respondents felt that not enough reciprocation from student, no face to face connect and digital divide lead to discomfort while teaching. 27.7% felt discomfort because no face to face connect and 10.9% because of no enough reciprocation from students.

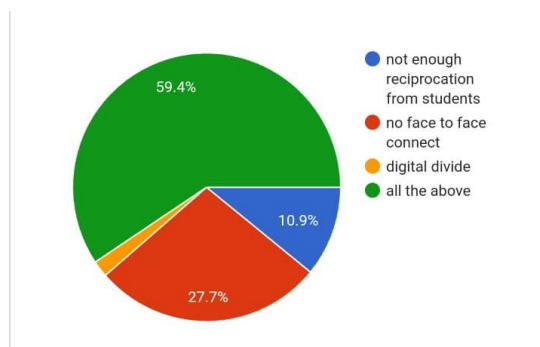


Fig. 10: Parameters that lead to more discomfort while teaching

Teachers were confronted with many challenges in virtual classes such as online evaluation and 78.2% teachers said that they were exhausted during online evaluation (Fig. 11).

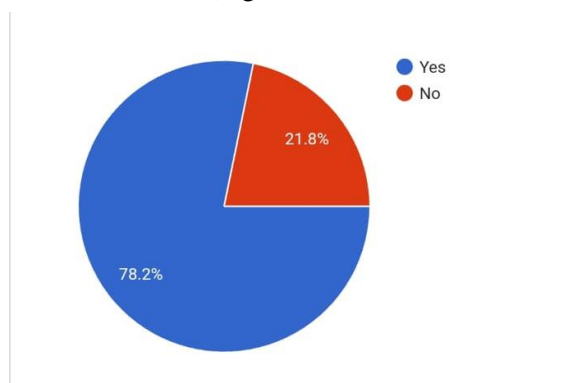


Fig. 11: Difficulty in evaluating online assignment leading to exhaustion

Statistical Analysis: Chi square test was used to observe the correlation between negative perception of teachers regarding virtual teaching within gender (Table 2).

Table 2: Chi square analysis on the negative perception of teachers within gender

Negative perception	Chi square value
No face to face connect	2.412
digital divide	0.644
No reciprocation from students	1.432

Source: Author calculation from Google form.

At 5% level of significance and 2° of freedom

The results shows that there is no co-relation between the negative perceptions of teachers in online teaching within genders.

There was no significant difference at a 5% level of significance in the negative perception of male and female teachers concerning online teaching (calculated chi-square value = 5.412, df = 2.

Chi-square values were calculated for independent variables - age, gender and Designation of teacher [high school, junior college and senior college) with the respondent's stress level during online teaching. The following results were obtained (Table 3)

Table 3: Chi-square Analysis of stress level between age, gender and designation

Variables	Degree of freedom	Tabulated value P	Chi-square value	Result	Hypothesis
Age/ stress	6	0.9917	0.812	P>0.05	H0- accepted
Gender / stress	3	0.1559	5.227	P>0.09	H0-accepted
Designation of teachers/ stress	6	0.04	12.9	P<0.05	H1-accepted

At 5% level of significance

H0 - There is no association between variables

H1 - There is association between variables

The results revealed that null hypothesis is accepted in the first and second case i.e. age and gender of the respondents. So we can conclude that there was no co-relation between level of stress and age and gender. In third case null hypothesis was rejected. High school teachers perceived online teaching during Covid times to be very stressful as compared to Junior and senior college teachers.

Table 4: Anxiety and stress levels in male and female

Total sample : 113	Female	Male
Anxiety		
- Mild	9.5	2.8
- Moderate	18.1	1.2
- Severe	6.4	1.0
Stress		
- Mild	12.6	3.5
- Moderate	13.4	2.3
- Severe	11.8	2.3

Women showed significantly more anxiety and stress symptoms than men. Research carried out by Cuervo et al. (2018) showed that teachers teaching online with blended modalities and using information and communication technology showed symptoms of anxiety.

Our results indicate that the perceived stress levels were lower than reported in other studies. The demographic Characteristics were associated with the assessed variable. Age and gender was not significantly correlated while designation was. Our study has some limitation as due to pandemic probability sampling techniques could not be used and we had to rely on surveys. The strength of this research is that the teachers coped well with their stress levels during online teaching in Covid times.

Conclusion:

The pandemic has made teachers to adapt to technology, keeping the interest of student's intact, troubleshooting glitches in communication and learning from scratch some methods of imparting education. Elder teachers had some initial nervous breakdown in the initial periods when they could not catch up with the technology. Young teachers having small children experienced a sharper conflict between online teaching and domestic task. Many teachers worked twice as hard and sacrificed their personal lives to ensure that they were more planned for the students. Female teachers were more stressed than male teacher but female teachers had many coping strategies like meditation, yoga and pranayam.

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