A STUDY ON "ONLINE EDUCATION" CONCEPT POST CORONA OUT BREAK AMONG TEACHERS OF HIGHER EDUCATION INSTITUTIONS OF ARTS AND SCIENCE COLLEGE IN PALAKKAD DISTRICT.

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ABSTRACT: The Present study is descriptive and analytical in nature aiming to bring out the relationship among convenient teaching platforms, academic quality, personal stress, teaching from home, technological support, expectation of encouragement from authorities and opinion of teaching from home on online classes and online examinations. Furthermore, the study shows that demographic variables play a significant role for teaching from home among teachers of higher education in Arts and Science colleges under Calicut University at Palakkad district in Kerala state.

Design/Methodology/Approach- This study adopted a positivist deductive approach, it starts with clear variables that are derived from theory and based on these variables the data for the study was collected through the online structured questionnaire. The sample for the present study was collected from the teachers of higher education in Arts and Science colleges of Palakkad district under Calicut University in Kerala state. A total 318 questionnaires were received out of the 400 distributed from the respondents indicating a response rate of 80%. The questionnaire for this study consists of 67 items and the five point Likert type response format is used for all the measures ranging from strongly agree to strongly disagree. SPSS 21 and Microsoft excel are the statistical packages and regression, independent t test and ANOVA are the tools used in the present study.

Key words: convenient teaching platforms, academic quality, personal stress, teaching from home, technological support, expectation of encouragement from authorities and opinion of teaching from home on online classes and online examinations.

FINDINGS

The Important observations found from the study was that majority of the teachers (55%) belong to village area in Palakkad district and even though most of them (71.79%) have 4G mobile/ internet connections the internet interruption rate was high due to poor network signal and this affected the overall video and audio quality. During the online classes (98%) of the teachers used smartphones and only 20% of them used laptops and long duration of classes may have created some physical and ophthalmic problems to the teachers.

Majority of the teachers preferred teaching using power point presentations with recorded audio and video (28%). 23% of the teachers take live online classes using the platforms like Zoom, Jiomeet, Google meet etc., due to non-availability of uninterrupted internet facilities, laptop or desktop at home teachers not preferred live classes. It was conspicuous from the findings that teachers carry a negative impression and have big concern about the quality of education while studying from home. The mean score for this is around four as they have highest concerns regarding live discussions, doubt clearance and support from friends and class mates. Among the science teachers around 83% of them have a concern about practical classes however they do not attach much importance to loneliness. With regard to technological support needed, the teachers are worried about the financial capacity of their parents or guardians in providing them with the right tool (the mean score is around 3.40). The overall of mean score of teaching from home is below 3 and can be termed as a below moderate opinion score. The teachers are expecting encouragement from academic authorities by providing them with financial and technological support (mean score around 2.95) and the teachers opinion on teaching from home under the special situation of Covid 19 have a high mean score of 3.70 however on a long term prospective their opinion score is only 3.91 and in case of online examinations they have very least opinion as the mean score is below 2.5.

An important affiliation was observed among teaching from home and other independent variables, the regression analysis shows that there is a significant relationship between teaching platforms and teaching from home, teachers opinion on online classes/ examinations and teaching from home and teaching from home personal stress other variables academic quality, technological support and expectation of encouragement from authorities have not much significant with teaching from home under the present study. The level of variance among the predictors and other variables have an extent of 65% (R square 0.65).

Regression analysis on opinion of teachers on online classes and examinations with other independent variables showed that there is no significant relationship between academic quality, teaching platforms, expectation of encouragement from authorities and personal stress. But in the case of technological support teachers opinion on online classes and examination is significantly related. The level of variance among the predictors and other variables have an extent of 57% (R square 0.574)

An independent T-test is executed to know if there is any significant deference in the mean of teaching from home and teachers opinion on online classes and examinations and gender. As per Levene's Test for Equality of Variances the result shows that significant value of 0.105 on teaching from home and 0.007 on teachers opinion on online classes and examinations, hence in first case accept the hypothesis and assumed the variances are equal and in second case reject the hypothesis and equal variance are not assumed. The significant value in the case of gender and teaching from home is higher than 0.05 hence there is no significant deference among gender regarding teaching from home. Also in the case of gender and teachers opinion on online classes and examinations the significant value is higher than 0.05 and hence there is no significant impact among gender and teachers opinion on online classes and examinations. An independent T-test is executed to know if there is any significant deference in the mean of teaching from home and teachers opinion on online classes and examinations and level of education. As per Levene's Test for Equality of Variances the result shows that significant value of 0.405 on teaching from home and 0.397 on teachers opinion on online classes and examinations both are higher than 0.05 hence we accept the hypothesis that the variance are equal. Hence the significant value corresponding to equal variance assumed are considered for taking decision. The table shows that the significant value corresponding to equal variance assumed is 0.810 and 0.636 which are higher than 0.05 and hence we accepted the null hypothesis in both case and conclude that there is no significant deference in level of education and teaching from home and teachers opinion on online classes and examinations.

INTRODUCTION

The study focuses on teachers of higher education institutions in arts and science colleges of Palakkad district under Calicut University and their opinion on regular classes, examinations and teaching from home. The purpose of the study was to investigate what are the demographical, technological and institutional factors which influence teaching from home, the opinions and concerns of teachers on online classes and examinations. It looks at how the operational variables teaching platforms, academic quality, personal stress, technological support, expectation of encouragement from authorities and demographic factors influence opinion of teachers on online classes, examinations and teaching from home.

Only five factors were chosen for measuring teaching from home viz. Study Platform, Academic quality, personal stress, Technological Support, Expectation of encouragement from Authorities. There may be other factors but the major significant factors affecting opinions of teachers of higher education on teaching from home were study platform, academic quality, personal stress, technological support, expectation of encouragement from authorities and hence only those were chosen.

The objective of study is to explore whether teachers opinion on teaching from home, teaching platforms, academic quality, personal stress, technological support, expectation of encouragement from authorities and online classes and examinations can be made determinant factors for teaching from home or not? This study will provide solutions to these problems which are otherwise not created in a work from classroom environment.

There are seven dependent and independent variables, dependent variables are teaching from home and teachers opinion on online classes and examinations and independent variables are teaching platforms, academic quality, personal stress, technological support and expectation of encouragement from authorities.

It is known that Palakkad district is one of the rural districts in Kerala and here the majority of people are agriculturists, comparatively lower educated and technologically and economically backward. Since wide area in Palakkad district is located in village and remote region, the high quality and uninterrupted internet facility is a big concern for teachers wanting to utilize teaching from home option.

Various studies (eg, Bernard et al., 2014; Chigeza and Halbert, 2014; González-Gómez et al., 2016; Israel, 2015; Northey et al., 2015; Ryan et al., 2016; Southard, Meddaug and Harris, 2015) have compared F2F teaching with online learning and / or blended learning to try to define which of the formats provides, for example, the highest learning result, creates the most satisfied students or has the highest rate of course completion. Next, we do an introductory review of recent comparative studies of the three formats mentioned. The main focus will be on summing up the results developed by these studies and discussing some of the limitations said to accrue to comparative studies of teaching formats. In the literature reviewed, it is often shown that teaching and learning are influenced by more than teaching format alone as many other factors play significant roles. For example, the F2F learning format is characterized as "traditional" by many of the authors, referring to the fact that this is the format with the longest history of the three formats and in relation to which online and mixed learning represents modern or innovative learning. intervention (for example, Chigeza and Halbert, 2014; Adams, Randall and Traustadóttir, 2015; Pellas and Kazandis, 2015; González-Gómez et al.,

2016). In general, its meaning is derived from an understanding of an instructional format that involves a physical classroom and the synchronous physical presence of all participants (i.e. teachers and students). One study emphasizes that even in-class use of computers and educational technology does not affect the definition of the F2F format so as to change it into blended learning (Bernard et al., 2014). Online learning is commonly defined as opposed to F2F learning (e.g. Ryan et al., 2016). Its most prominent feature is the absence of the physical classroom, which is replaced by the use of web-based technologies that offer opportunities for learning outside of class regardless of time, place, and pace (Bernard et al., 2014; Chigeza and Halbert , 2014; Northey et al., 2015; Israel, 2015; Potter, 2015). Ryan et al. (2016) point out that "in the context of higher education, the phrase online learning is often interpreted as referring to courses that are offered entirely online; [..] "(p. 286). Typically, online learning setup is initiated through so-called learning management systems (LMS) or virtual learning environments (VLE) such as Moodle and Blackboard (Pellas and Kazanidis, 2015).

What leads to a better learning outcome among students in online and blended learning programs is, however, a question that is not answered in the same way by all the studies mentioned. Bernard et al. (2014) conclude that the element of technology integration in blended learning courses seems to lead to very low, though significant improvement in student achievement – particularly when technology yields cognitive support (e.g., simulations) or facilitates student interaction (i.e., with other students, content and teachers). In González- Gómez et al.'s study (2016), it is the adoption of a flipped classroom model of blended learning in a general science course that results in higher grades among teacher training students when compared with those achieved by students following a traditional classroom setting. Though no specific predictor is mentioned by Israel (2015) or Potter (2015), the former still observes modest positive impacts on students' learning outcome resulting from the adoption of the blended format, while the latter records grades "significantly higher in the hybrid option than for the traditional face-to-face format". In fact, a better academic outcome for students in a blended education program is precisely attributed to the opportunities given to them for working independently through participation in student-centered asynchronous collaborative learning activities supported by Web 2.0 media such as Facebook (Northey et al., 2015).

Ryan et al. (2016) conclude in their comparative study of community college students in traditional classroom-based and blended courses, "[..] blended learning opportunities are carefully designed to capitalize on both technological advances and multidisciplinary knowledge about academic content, as well as learning and instruction" (Ryan et al., 2016, p. 296). In other words, student learning in online and blended courses appears not "[..] to arise from technology alone but from the combined influence of implementation, context, and learner characteristics as these factors interact with technology (Ryan et al., 2016, p. 296).

Learner feedback during and after the learning event is important to successfully measure levels of satisfaction. E-learning courses, because of the lack of face-to-face contact between instructor and student, require special efforts in order to obtain information regarding learner satisfaction. For example, e-learning courses don't allow the instructor to gauge levels of learner satisfaction using traditional methods such as facial expressions or body language. Neal and Ingram (1999) suggested that questions related to the efficiency of what students have learned and their level of satisfaction with distance learning courses remain largely unanswered until the traditional end-of-course evaluation forms are completed and reviewed. Special attention must be given to obtain student feedback in e-learning.

According to Thomas (2000), success in technology-based learning programs is based on an orientation to the learner not the instructor. A strong focus on the learner and the learning environment is a shift from traditional instructional design and development techniques. Norton and Wilburg (1998) believed that learner-based tools should be selected based on the way that they help students learn. The most important thing is how well the tool supports the learning process.

When evaluating the user interface, Brandon (1997) identified the following questions: Is the course intuitive to use, such that the learner needs little or no explanation to proceed through the course? Is the overall screen design consistent, consolidated, clean and clear? Are the graphics appealing and understandable? Answering these questions will help to ensure that the user interface design is effective and user friendly. Researchers have examined learner satisfaction with user interface designs. The Telematics Center at the University of Exeter conducted a pilot study for assessing the effectiveness of Information and Communication Technology (ICT) training. The project gathered information data from nineteen business users that provided information regarding their use of ICT for personal and business uses. Completed questionnaires regarding the design of a user interface, identifying and capturing images (e.g., movie video and audio) and the consideration of different training models and processes. The Telematics Center pilot of ICT training revealed that inter-activity should be enhanced (i.e., use of images and video clips for education and training). For example more images and embedded activities should be included. Also, findings from this pilot study opened dialogue between education and business leaders regarding the value of ICT skills training.

## SIGNIFICANCE OF THE STUDY

On a general level this study will have significant value for teaching from home among the teachers of higher education institutions especially in post Novel Corona virus outbreak special situation. This research thoroughly covers all quality and technological aspects of teaching from home. The observation of this research would enlighten policy makers in higher education

of India to make effective decisions to support teachers of higher education institutions. This research also updates teachers' opinion on available technologies and teaching from home.

SCOPE OF THE STUDY

This study is confined to the teachers of higher education institutions in Arts and Science Colleges of Palakkad district under University of Calicut, Kerala. The research study focuses on impact of convenient teaching platforms, academic quality, personal stress, and technological support, expectation of encouragement from authorities and teachers opinion on online classes, examinations and teaching from home. Hence the study is confined to the study variable only.

CONCEPTUAL MODEL
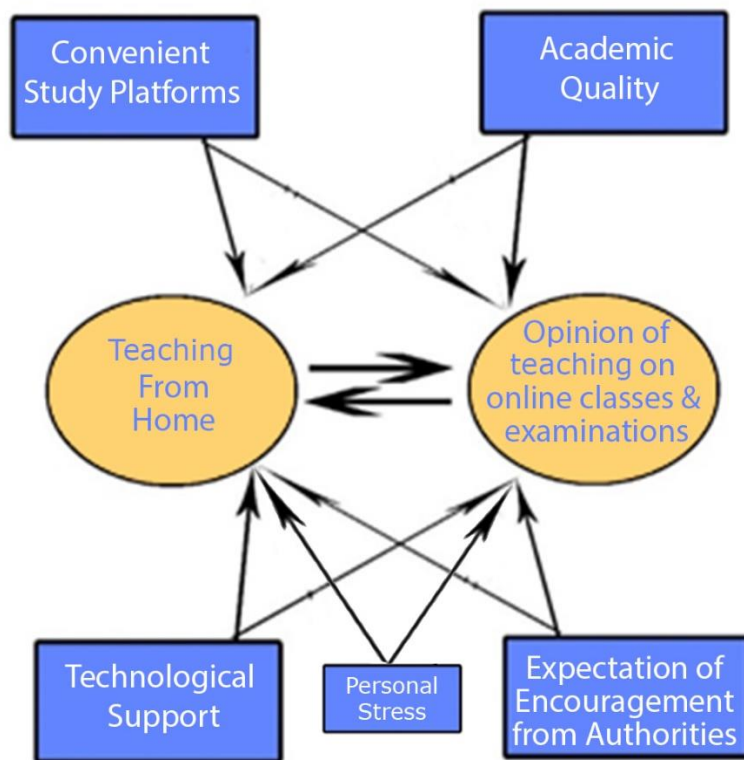
OBJECTIVES

To understand the relationship of convenient teaching platforms, academic quality, personal stress, technological support, expectation of encouragement from authorities, teachers' opinion on online classes, examinations and demographic variables with teaching from home of teachers of higher education institutions in arts and science colleges of Palakkad district.

To understand the relationship of convenient teaching platforms, academic quality, personal stress, technological support, expectation of encouragement from authorities and demographic variables with teachers opinion on online classes and examinations of teachers of higher education institutions in arts and science colleges of Palakkad district.

HYPOTHESIS DEVELOPMENT

H_1: there is no significant relationship between teaching platforms and teaching from home.

H_2: there is no significant relationship between academic quality and teaching from home.

H_3: there is no significant relationship between technological support and the teaching from home.

H_4: there is no significant relationship between expectation of encouragement from authorities and teaching from home.

H_5: there is no significant relationship between personal stress and teaching from home.

H_6: there is no significant relationship between teachers' opinion on online classes and examinations and teaching from home.

H_7: there is no significant relationship between demographic variables and teaching from home.

H_8: there is no significant relationship between teaching platforms and teachers opinion on online classes and examinations

H_9: there is no significant relationship between academic quality and teachers' opinion on online classes and examinations

H_{10}: there is no significant relationship between technological support and teachers' opinion on online classes and examinations

H_{11}: there is no significant relationship between expectation of encouragement from authorities and teachers opinion on online classes and examinations

H_{12}: there is no significant relationship between personal stress and teacher's opinion on online classes and examinations

H_{13}: there is no significant relationship between demographic variables and teachers opinion on online classes and examinations

RESEARCH DESIGN

This study adopts positivist deductive approach it, starts with clear variables which are derived from theory and based on these variables, testable hypothesis were framed and tested. This study uses quantitative approach since all the variables in the study are quantifiable. The data for the study was collected through the online structured questionnaire. The study aims to contribute to the literature on teachers' perception towards academic quality and opinions on teaching from home. This study is descriptive in nature and the aim of the study is to find causes and relationships between the variables of interest. Since the study involves larger samples, primary data was collected by using online survey method. The objective is to understand the perceived impact among teaching from home, convenient teaching platforms, academic quality, personal stress, technological support, expectation of encouragement from authorities, opinion of teachers on online classes and examinations and teaching from home of teachers of higher education institutions in arts and science colleges under Calicut University at Palakkad district in Kerala state. In order to fulfil the study objectives the study employed appropriate methodology.

SURVEY METHOD

It is a method to collect the data using questionnaires or interview methods for recording the conversations of the researcher and the employee during the process (Ghauri & Gronhaug, 2005). When researcher collects the data from a set of respondents by interacting with them. This process is known as survey method (Maylor & Blackmon, 2005). (Zikmund, 2003) have termed is as a strategy to collect the primary data from the respondents to enable the research activities." Survey is a process through which we collect the data through a highly systematic way by adopting highly structured questionnaire through online techniques (Cooper & Schindler, 2006). In survey research needs to interview the respondents to seek their perception about the situation in either verbal or written format (Zikmund, 2003). Surveys are especially useful for capturing facts, opinions, behaviors, or attitudes (Maylor & Blackmon, 2005). Questionnaires, structures interviews are most commonly used tools in survey research design (Maylor & Blackmon, 2005). Surveys can be quick, inexpensive, efficient, and accurate means of assessing information about the population (Zikmund, 2003). Survey can be useful especially when we want to collect data from a large number of respondents and have limited time for collecting data and when the respondent cannot be reached directly. Here under the special situation of Covid-19 survey means online survey and interview means online interview.

POPULATION AND SAMPLE

Given the current research focuses on teachers of higher education institutions in arts and science colleges of Palakkad district under Calicut University in Kerala state. In the present study the teachers of higher education institutions in arts and science colleges of Palakkad district under Calicut University in Kerala state, form the sample unit. The sampling technique used for this study is stratified Random Sampling method (Kothari C.R., 2004). The sample for the present study was collected from the teachers of higher education institutions in arts and science colleges of Palakkad district under Calicut University in Kerala state. The three categories were selected among teachers of higher education institutions as stratum for the study they are government, aided and unaided. These three categories were selected as they were considered the main categories of college teachers in affiliated colleges under university of Calicut in Kerala state.

A total 318 questionnaires were received out of the 400 distributed from the respondents indicating a response rate of 80%. Out of the 318 questionnaires, received 21 questionnaires were discarded due to missing data. 297 questionnaires were used for the final study of which comprised of 193 females (65 percent) and 104 males (35 percent). It was observed that in the current study 30 was the average age. Majority of teachers' family size belonging 3-5 members and also 80% of the teachers are married. Majority of the teachers under the study was from Govt. Unaided colleges and income group of below 2.5 lakh. Descriptive and analytical research design is used and data were collected from 297 teachers of higher education institutions in arts and science colleges of Palakkad district under Calicut in Kerala state.

RESEARCH TOOLS AND SOFTWARE PACKAGE USED

Research tools are statistical methods used for data analysis and to arrive substantial inferences. SPSS 21, Microsoft Excel are the statistical packages used in the present study and the following statistical tools were used to analyze the data.

MEASURES

- Teaching platforms: It is a 4 items scale the participants were asked to rate each item on a 5 point- Likert scale from 1 (not effective) to 5 (highly effective). In the current sample, the Cronbach alpha for the instrument was 0.810.
- Academic Quality: It was calculated by scale consisting of 13 items the participants were asked to rate each item on a 5 point- Likert scale from 1 (not affected) to 5 (highly affected). In the current sample, the Cronbach alpha for the instrument was 0.916.
- Personal Stress: It was calculated with 11 items the respondents were asked to state their perception about the research on a 5 point- Likert scale from 1 (Strongly disagree) to 5 (strongly agree). In the current sample, the Cronbach alpha for the instrument was 0.938.
- Technological support: It was calculated with 4 items the respondents were asked to state their perception about the research on a 5 point- Likert scale from 1 (not likely) to 5 (most likely). In the current sample, the Cronbach alpha for the instrument was 0.738.

- Teaching from home: In the study of 12 items the respondents were asked to state their perception about the research on a 5 point- Likert scale from 1 (not true) to 5 (definitely true). In the current sample, the Cronbach alpha for the instrument was 0.834.
- Encouragement and support from authorities: This was measured using a 9 items the respondents were asked to state their perception about the research on a 5 point- Likert scale from 1 (not expect) to 5 (highly expect). If the scores were high it showed high expectation from authorities. In the current sample, the Cronbach alpha for the instrument was 0.949.
- Teachers' opinion on online classes and examinations: This was measured with 3 items the participants were asked to rate each item on a 5 point- Likert scale from 1 (not preferred) to 5 (highly preferred). In the current sample, the Cronbach alpha for the instrument was 0.687.

RELIABILITY AND VALIDITY

It is the true variance to the total variance yielded by the measuring instrument; it shows the steadiness and the internal uniformity of a test, 'Goodness' of a measure is assessed through checking the reliability and it also shows the stability and consistency of the instrument. A measure is reliable insofar as it provides consistent results. Measures represent the concept of the study and the degree to which it is free from any random error (Hair, Black, Babin, &Anderson, 2010). Validity could be defined as the extent to which the set of Validity testing refers to as testing the ability of the instrument to measure the particular construct.

Sl. No.	Construct	No. of items	Reliability	Composite Reliability	A VE
1	Teaching platforms	4	0.810	.814	.781
2	Academic Quality	13	0.916	.921	.872
	Personal Stress	11	0.938	.952	.876
3	Technological support	4	0.738	.742	.695
4	Teaching from home	12	0.834	.839	.788
5	Encouragement and support from authorities	9	0.949	.953	.897
6	Teachers' opinion on online classes and examinations	3	0.687	.692	.624

Cronbach's Alpha coefficient of all the variables in the study of teachers pursuing higher education in Arts and Science colleges under Calicut University at Palakkad district in Kerala state has been projected in the table presented above. The overall Cronbach's Alpha coefficient is 0.790, which indicates the high reliability of data. Validity is measured by Average Variance Extracted (AVE). The constructs with has AVE value of above 0.50 possesses convergent validity. In the above table, it can be clearly seen that the AVE values of all the constructs are above 0.50

NORMALITY

Larger deviations of data form normal distribution affects the results and all the resulting statistics become invalid (Hair, Black, Babin, & Anderson, 2010). Hence, it is important to test the normality of the data. Normality test are used to check whether the data set is normally distributed. It is imperative for normality test to obtain skewness and kurtosis of the data. Skewness instrument is applied in distribution analysis as a sign of asymmetry and deviation from a normal distribution. Skewness is the extent to which a variable's distribution is symmetrically around its mean value. If the data is normally distributes the values of skewness should fall within – 1.96 to + 1.96 range. Kurtosis instrument is used in distribution analysis as a sign of flattening of a distribution. Kurtosis is a measure of whether the distribution is too high. The values of kurtosis also should fall within – 1.96 and + 1.96 range when the data are normally distributed.

Descriptive Statistics

	N	Skewness	Kurtosis
	Statistic	Statistic	Statistic
Teaching platforms	297	-.079	-.391
Personal Stress	297	-.482	-.473
Academic Quality	297	-.226	-.591
Teaching from home	297	-.522	.281
Technological support	297	-.028	-.550
Encouragement and support from authorities	297	.162	-.731
Teachers' opinion on online classes and examinations	297	.248	-.402
Valid N (list-wise)	297		

MULTIPLE REGRESSION MODEL

A multiple regression model for various dependent variables in study was developed with the independent constructs.

Teaching from home predicted by convenient teaching platforms, academic quality, personal stress, technological support, expectation of encouragement from authorities, opinion of teachers on online classes and examinations.

H1	there is no significant relationship between teaching platforms and teaching from home.
H2	there is no significant relationship between academic quality and teaching from home.
H3	there is no significant relationship between technological support and the teaching from home.
H4	there is no significant relationship between expectation of encouragement from authorities and teaching from home.
H5	there is no significant relationship between personal stress and teaching from home.
H6	there is no significant relationship between teachers' opinion on online classes and examinations and teaching from home.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.804[a]	.646	.642	.587

a. Predictors: (Constant), YSOTFH_MEAN, PTRESS_MEAN, TPFORM_MEAN, TECSUP_MEAN, ENCSUP_MEAN, TFHAQ_MEAN

b. Dependent Variable: TFH_MEAN

INTERPRETATIONS:

R is the correlation, its value is 0.804 and R square is the degree of determination, its value is 0.646. The degree of determination show the extent to which Teaching platforms, Academic quality, personal stress, Technological support, Encouragement and support from authorities and Teachers' opinion on online classes and examinations influence teaching from home. Here the teaching from home is determined to an extent of 65% by Teaching platforms, Academic quality, personal stress, Technological support, Encouragement and support from authorities and Teachers' opinion on online classes and examinations.

ANOVA TABLE:

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.705	6	7.117	18.566	.000[b]
	Residual	111.176	290	.383		
	Total	153.881	296			

a. Dependent Variable: TFH_MEAN

b. Predictors: (Constant), YSOTFH_MEAN, PTRESS_MEAN, TPFORM_MEAN,

TECSUP_MEAN, ENCSUP_MEAN, TFHAQ_MEAN

ANOVA table shows that the significant value is less than 0.01, which means the dependent variable that is teaching from home is significantly predicted by the independent variables namely Teaching platforms, Academic quality, personal stress, Technological support, Encouragement and support from authorities and Teachers' opinion on online classes and examinations at 99% confidence level.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.049	.205		5.108	.000
	Teaching platforms	.194	.048	.222	4.080	.000
	Personal Stress	.169	.044	.232	3.815	.000
	Academic Quality	.028	.052	.033	.533	.594
	Technological support	.069	.040	.092	1.739	.083

Encouragement and support from authorities	.032	.037	.049	.885	.377
Teachers' opinion on online classes and examinations	.195	.044	.236	4.417	.000

a. Dependent Variable: TFH_MEAN

Work adjustment= 1.049 + 0.194 (Teaching platforms) + 0.169 (Personal Stress) + 0.028 (Academic Quality) + 0.069 (Technological support) + 0.032 (Encouragement and support from authorities) + 0.195 (Teachers' opinion on online classes and examinations)

Among the above six factors perceived Teachers' opinion on online classes and examinations have a significant and highest impact on the teaching from home of the teachers of higher education institutions in arts and science colleges. It was perceived that teaching platforms is also significantly impacting on the teaching from home of the teachers of higher education institutions in arts and science colleges. According to the above model hypothesis [H 1] is rejected and it shows that there is a significant relationship between teaching platforms and teaching from home. Hypothesis [H 2] is accepted and it shows that there is no significant relationship between academic quality and teaching from home. Hypothesis [H 3] is accepted and it shows that there is no significant relationship between technological support and the teaching from home. Hypothesis [H 4] is accepted and it shows that there is no significant relationship between expectation of encouragement from authorities and teaching from home. Hypothesis [H 5] is rejected and it shows that there is a significant relationship between personal stress and teaching from home. Hypothesis [H 6] is rejected and it shows that there is a significant relationship between teachers' opinion on online classes and examinations and teaching from home.

Opinion of teachers on online classes and examinations predicted by convenient teaching platforms, academic quality, personal stress, technological support, expectation of encouragement from authorities and Teaching from home.

H 8	there is no significant relationship between teaching platforms and teachers opinion on online classes and examinations
H 9	there is no significant relationship between academic quality and teachers' opinion on online classes and examinations
H 10	there is no significant relationship between technological support and teachers' opinion on online classes and examinations
H 11	there is no significant relationship between expectation of encouragement from authorities and teachers opinion on online classes and examinations
H 12	there is no significant relationship between personal stress and teacher's opinion on online classes and examinations

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.758[a]	.574	.570	.498

a. Predictors: (Constant), PTRESS_MEAN, TECSUP_MEAN, TPFORM_MEAN, ENCSUP_MEAN, TFHAQ_MEAN

b. Dependent Variable: YSOTFH_MEAN

Interpretations:

R is the correlation, its value is 0.758 and R square is the degree of determination, its value is 0.574. The degree of determination show the extent to which Teaching platforms, Academic quality, personal stress, Technological support, Encouragement and support from authorities influenced Teachers' opinion on online classes and examinations. Here the Teachers' opinion on online classes and examinations is determined to an extent of 57% by Teaching platforms, Academic quality, personal stress, Technological support, Encouragement and support from authorities.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.294	5	5.659	8.407	.000[b]
	Residual	195.874	291	.673		
	Total	224.168	296			

a. Dependent Variable: YSOTFH_MEAN

b. Predictors: (Constant), PTRESS_MEAN, TECSUP_MEAN, TPFORM_MEAN, ENCSUP_MEAN, TFHAQ_MEAN

ANOVA table shows that the significant value is less than 0.01, which means the dependent variable that is Teachers' opinion on online classes and examinations is significantly predicted by the independent variables namely Teaching platforms, Academic quality, personal stress, Technological support, Encouragement and support from authorities at 99% confidence level.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.191	.263		4.528	.000
	Teaching Platforms	.037	.063	.035	.585	.559
	Academic Quality	.072	.069	.071	1.039	.300
	Technological Support	.227	.051	.251	4.439	.000
	Expectation of Encouragement from Authorities	.108	.048	.134	2.236	.026
	Personal Stress	.049	.059	.056	.841	.401

a. Dependent Variable: YSOTFH_MEAN

Work adjustment= 1.191 + 0.037 (Teaching platforms) + 0.072 (Academic Quality) + 0.227 (Technological support) + 0.108 (Encouragement and support from authorities) + 0.049 (Personal Stress)

Among the above five factors perceived Academic Quality have a significant and highest impact on the Teachers' opinion on online classes and examinations of the teachers of higher education institutions in arts and science colleges. It was also perceived that Expectation of Encouragement from Authorities is also significantly impacting on the Teachers' opinion on online classes and examinations of the teachers of higher education institutions in arts and science colleges. According to the above model Hypothesis [H 8] is accepted and it shows that there is no significant relationship between teaching platforms and teachers opinion on online classes and examinations. Hypothesis [H 9] is accepted and it shows that there is no significant relationship between academic quality and teachers' opinion on online classes and examinations. Hypothesis [H 10] is rejected and it shows that there is a significant relationship between technological support and teachers' opinion on online classes and examinations. Hypothesis. [H 11] is accepted and it shows that there is no significant relationship between expectation of encouragement from authorities and teachers opinion on online classes and examinations.[H 12] is accepted and it shows that there is no significant relationship between Personal Stress and teachers' opinion on online classes and examinations.

H 7   there is no significant relationship between demographic variables and teaching from home.

H 13   there is no significant relationship between demographic variables and teachers opinion on online classes and examinations

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Teaching from home	Equal variances assumed	2.647	.105	-.678	295	.498
	Equal variances not assumed			-.661	195.787	.509
Teachers opinion on online classes and examinations	Equal variances assumed	7.381	.007	.409	295	.683
	Equal variances not assumed			.381	172.960	.703

An independent T-test is executed to know if there is any significant deference in the mean of teaching from home and teachers opinion on online classes and examinations and gender. As per Levene's Test for Equality of Variances the result shows that significant value of 0.105 on teaching from home and 0.007 on teachers opinion on online classes and examinations, hence in first case accept the hypothesis and assumed the variances are equal and in second case reject the hypothesis and equal variance are not assumed. The significant value in the case of gender and teaching from home is higher than 0.05 hence there is no significant deference among gender regarding teaching from home. Also in the case of gender and teachers opinion on online classes and examinations the significant value is higher than 0.05 and hence there is no significant impact among gender and teachers opinion on online classes and examinations.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Teaching from home	Equal variances assumed	.693	.405	-.240	634	.810
	Equal variances not assumed			-.254	316.558	.800
Teachers opinion on online classes and examinations	Equal variances assumed	.718	.397	.473	634	.636
	Equal variances not assumed			.486	298.858	.627

An independent T-test is executed to know if there is any significant deference in the mean of teaching from home and teachers opinion on online classes and examinations and level of education. As per Levene's Test for Equality of Variances the result shows that significant value of 0.405 on teaching from home and 0.397 on teachers opinion on online classes and examinations both are higher than 0.05 hence we accept the hypothesis that the variance are equal. Hence the significant value corresponding to equal variance assumed are considered for taking decision. The table shows that the significant value corresponding to equal variance assumed is 0.810 and 0.636 which are higher than 0.05 and hence we accepted the null hypothesis in both case and conclude that there is no significant deference in level of education and teaching from home and teachers opinion on online classes and examinations.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
TFH_MEAN	Between Groups	4.396	3	1.465	2.872	.037
	Within Groups	149.485	293	.510		
	Total	153.881	296			
YSOTFH_MEAN	Between Groups	14.710	3	4.903	6.859	.000
	Within Groups	209.459	293	.715		
	Total	224.168	296			

An analysis of variance (ANOVA) is executed to check teaching from home and teachers opinion on online classes and examinations among the deferent age groups of teachers. In the case of teaching from home the significant value is less than 0.05 hence null hypothesis is rejected that is there is significant deference among various age groups of affiliated college teachers regarding teaching from home. Teachers' opinion on online classes and examinations the significant value is also less than 0.05 therefore the null hypothesis is rejected and there is significant deference among teachers opinion on online classes and examinations among various age groups of affiliated college teachers.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
TFH_MEAN	Between Groups	14.365	2	7.183	15.136	.000
	Within Groups	139.516	294	.475		
	Total	153.881	296			
YSOTFH_MEAN	Between Groups	16.193	2	8.097	11.446	.000
	Within Groups	207.975	294	.707		
	Total	224.168	296			

An analysis of variance (ANOVA) is executed to check teaching from home and teachers opinion on online classes and examinations among the nature of affiliation of colleges. In the case of teaching from home the significant value is less than 0.05 hence null hypothesis is rejected that is there is significant deference among the nature of affiliation of colleges regarding teaching from home. Teachers' opinion on online classes and examinations the significant value is also less than 0.05 therefore the null hypothesis is rejected and there is significant deference among teachers opinion on online classes and examinations among nature of affiliation of colleges.

DISCUSSION AND CONCLUSION

After the outbreak of Covid 19 pandemic, most of the educational institutions have understood the importance of conducting online classes and providing the option for teachers to work from home using Information and Communications Technology (ICT) to meet the challenges of the changed circumstances. The covid19 pandemic has opened up a new way of working for many across the universe without any urban-rural difference and the most important catalyst is the video conferencing platforms and workflow management apps that has simplified the communication modes, made it very user friendly and virtually free of cost. The changed scenario has sparked an appetite among the tutors to learn new skill and adopt a novel concept of teaching using the synchronous e-learning/ teaching tools that are real time, helps in setting up virtual class rooms and allows the student to ask questions and the teacher to answer questions instantly. Though the concept was not new and adopted by famous management institutes across the globe to impart education to students who wanted to continue studies part time without attending the colleges and universities. They were using satellite based technology that are very much costly compared to the present day communication platforms and apps to set-up virtual class rooms and to conduct classes to the students enrolled to different courses offered by them online.

Covid19 being so contagious and life threatening, it has become a necessity for the people to keep away for one another to prevent the spread of dangerous novel corona virus and this has prompted the Government, institutions and the businesses to switch to a virtual communication platform for the conduct of the day to day affairs without affecting the productivity and the need to step out from the comfort and safety of one's home. The present day video communication/ live meeting services offered by Google (Google meet), Microsoft (Microsoft teams) Zoom Video Communications (Zoom), Jio Platforms (Jio meet) etc. are simple, economical and easily accessible to anyone in this planet having an internet connection and a smartphone, laptop or PC. The features like sharing audios, videos, screens, presentations etc. using the apps, easy accessibility and economy have made them easier for anyone to switch to virtual online mode instantly and to connect with anyone, anywhere in the world.

Educational institutions jumped on the bandwagon and started using the video communication services offered by a plethora of companies to ensure that the act of teaching continues in an effective manner and designed a system by which the tutors of their institutions can give their students a comprehensive learning and guarantee satisfaction. It is felt that teachers' need to adapt to the changing situations and should accept the ways provided by the institution to ensure that the teaching continues by protecting the health and life of the teachers, faculties, students and the society as a whole. The abrupt transformation that swept the education industry has resulted in changes to the domain where the study was conducted and the Arts and Science higher educational institution switched to online tutoring in this region as well.

Palakkad district is one of the rural districts in India and most of the teachers in the area of study live in villages lacking in uninterrupted internet facility and technological support. The main challenge for the institutes were to instill confidence among the faculty about the effectiveness of online teaching and the academic quality as it was altogether an unusual and new concept for the academicians here. The types of gadgets to be used, the quality of internet connectivity, the effectiveness of communication, how to share presentations and videos, how can the students raise queries, how to address the questions in real-time were all the concerns for the tutors that were needed to be addressed before the start of online classes. The universal appetite for mass upskilling and the special initiatives taken by the teachers had resulted in the adaption of new method of teaching in this part of the world too.

The key observations made during the study were that most of the teachers in the colleges for higher education in Arts and Science in Palakkad district under Calicut University, Kerala, use smartphones for online classes, for sharing audios and videos of longer duration and they are prone to concentration lapses and other health issues as very few have access to laptops, desktops and tablets that would considerably reduce the physical stress. The majority of the teachers hail from a weak financial background and availing better gadgets and uninterrupted internet facility are beyond their capability. The teachers of higher education institutions are expecting financial and technological support from government and financial institutions by way of providing interest free loans or any such option. In the present scenario teachers do not want online examinations in arts and science colleges because they feel that the infrastructure and technological platforms available in the educational institutions and the pattern of examinations are not conducive enough to accept online examinations. The teachers' opinion score is very lower in conducting online examinations.

The study throws light into the efforts taken by the educational institutions to mitigate the risk of contracting highly contagious pandemic by avoiding the physical contact of the teachers, students and all other employees of the educational institutions. In the era when the information and communications technology is so advanced and easily accessible to the public around the world, making use of video conferencing solutions meant for group meetings and communication in the field of education in remotest of village in a Palakkad is possible to keep the teaching and learning go uninterrupted even during the periods of lockdown across the country. Even though the study domain is a rural area the educational institutions have adopted the video communication/ live meeting services offered by Microsoft, Zoom, Google, Jio Platforms etc., for online teaching and the teachers are trained enough to conduct classes in an efficient manner. Being a rural area the wired and wireless internet connectivity is comparatively poor compared to the urban areas of Kerala and due to this the preferred method for online teaching was sharing "pre-recorded audio-video" to the students than the live classes using the software solutions or apps.

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