Knowledge, Attitude And Practice Towards Teaching On A Virtual Platform Among Private School Teachers In Chennai

Research Article

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Abstract

Introduction: Digitalization has increased tremendously after the COVID-19 and digital platforms have been used now for education due to the social distancing measures. But the question also arises as to whether the teachers are adapted to rendering classes on a virtual platform. Teachers have a very basic understanding of technology. The necessary resources and tools is often lacking to conduct online classes by the school teachers.The aim of the study is to assess the knowledge, attitude and practice of online teaching among private school teachers in Chennai.

Materials And Methods: This study is a cross-sectional survey and 150 teachers were randomly selected from the private higher secondary schools in Chennai. This study was conducted during the month of January and February 2021. The questionnaire was sent through online platforms to assess the knowledge, attitude and practice regarding teaching on a virtual platform among private school teachers. The statistics was computed in SPSS software 22.0. Descriptive and Chi square tests were used to assess the association between the variables.

Results: Most teachers used Smartphones for conducting the online classes(60%) and laptop(17%) and Ipad and tablet devices were also used. 57% of the teachers used a zoom application to conduct online classes and 20 % used WhatsApp calls for conducting online classes. Google meet, Skype were the other applications used for conducting online classes.There was a significant association between teachers' perspective on virtual teaching and their teaching experience.

Conclusion: The study determined various perspectives from the school teachers about teaching on a virtual platform.The study concluded that 61.3% had insufficient knowledge and 38.7% had sufficient knowledge; 44.7% had negative attitude and 55.7% had a positive attitude and regarding practice and 42% of study participants had inadequate practice and 58 had adequate practice on teaching on online platforms.

Keywords: Attitude; Online Teaching; Knowledge,Practice; School Teachers.

Introduction

The COVID-19 pandemic was declared a national emergency and compelled the human society to maintain social distancing. This crisis has significantly disrupted the education sector which is a critical determinant of the country's economic future(Jena, 2020). Lockdown and social distancing measures while COVID-19 pandemic have led to closure of schools, colleges, university, training institutes in most of the countries. Consistent with UNESCO monitoring, 192 countries have implemented nationwide closure of academic institutions.(Mukhtar et al., 2020) But this extensive academic institutions closure occurred during an era that has generally been shaped by rapid transformation in technological innovations and digitalization. The online learning, distance and continuing education have become a panacea for this critical situation on COVID-19 pandemic.(Adnan and Anwar, 2020) Also online learning have made the physically challenged students with more freedom to participate requiring limited movement and learning

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in virtual platform.(Nambiar, 2020).

Online learning systems are web-based software for distributing, tracking, and managing courses over the Internet. It involves the implementation of advancements in technology to direct, design and deliver the learning content, and to facilitate two-way communication between students and faculty. (Cristina, Petru and Petru, 2017). They contain features such as whiteboards, chat rooms, polls, quizzes, discussion forums and surveys that allow instructors and students to communicate online and share course content side by side. These can offer productive and convenient ways to achieve learning goals(Mukhtar et al., 2020).

Schools in India followed the guidelines of state and union government and initiated virtual classes to bridge the gap and initiated mandatory virtual classes, and thus, teachers are unfailingly sharing their lessons over Skype call, Zoom call, Google hangouts, Microsoft teams or the other virtual class options to stay the training on(Sangeeta and Tandon, 2020). Although COVID-19 pandemic motivated the academic institutions and schools to go online, the question also arises as to whether the teachers are adapted to render classes on a virtual platform. Attempting to " flatten the curve" poses new challenges for academics and sheer urgency with many teachers having been told to transition away from in-person classes(. and Prasad, 2018; Kim, 2020).

The intended purpose of this research seeks to address the teaching on a virtual platform amid the COVID 19 pandemic and how can existing resources of educational institutions effectively transform formal education into online education with the help of virtual classes and other pivotal online tools in this continually shifting educational landscape based on teachers perspective.This research is needed to know the knowledge of teachers towards their confidence in using devices for online classes, engaging the students, how they organize the class and analyse students performance on online classes. This paper also aims in determining the attitude of the teachers towards virtual teaching on likert scale and practice towards online teaching like the tools used by the teachers during online classes and what was a teacher's perspective on online teaching.

Materials And Methods

Study Design

Cross sectional study.

Study Area

Chennai, the capital city of the state of Tamil Nadu.

Tamil Nadu in India has a diverse population of around 4.3 million(Kumar et al., 2015). It is a major cultural, economic and educational center in South India. Chennai holds the second place for literacy among metropolitan city centers in India with a 90.3% literacy rate(Kumar, 2014). The city has 394 private schools. A survey by the centre for Teacher Accreditation(Centa) in April 2020 revealed that the teachers taking online classes have tripled over the last three months in Chennai(Gass, 'Lee' Gillis and Russell, 2020).

Study Population

A list of private schools conducting classes through virtual platforms was obtained from the Government of Tamil Nadu District Statistical Hand book Chennai District 2016-2017. Following two-stage cluster sampling 150 teachers were selected from those private schools and the online questionnaire was circulated to them.

Inclusion Criteria

Private school teachers from the age of 25 - 60 years conducting online classes in Chennai and who were willing to participate in the study

Exclusion Criteria

Teachers who were not willing to participate.

Ethical Clearance

* Prior to the start of the study ethical clearance was obtained from the institutional Ethics Committee, Saveetha University.
* The anonymity of the participants was maintained.

Scheduling

Data collection was scheduled in the month of January and February 2021.

Sampling

A list of private schools was obtained from the Government of Tamil Nadu District Statistical Hand book Chennai District 2016-2017.Following two-stage cluster sampling, private higher secondary schools in Chennai were selected from which teachers who were taking online classes were selected. 175 teachers participated in the study and filled the questionnaire in which 25 forms were not completely marked. Therefore 150 teachers were included in this study.

Survey Instrument

A pre-tested, structured and self administered questionnaire was adapted from questionnaires used previously in studies done by Jinyoung Kim et al(Kim, 2020) , and Sarada Vadlamani et al (Vadlamani et al 2016) . The survey tool consisted of many parts.

The first section collected demographic information of the participants such as age, gender, educational qualification, teaching experiences.

The second section assessed the participants levels of knowledge regarding conducting an online class.

The third section assessed the participants attitude towards online teaching.

The last section of the questionnaire assessed the practices of teachers on a online platform and also had a question on whether this web based program can be supplemented to the curriculum in future.

Results

There were 150 participants who participated in the study in which 60.7% were females and 39.3% were males. Out of the school teachers participating 37% of the population belong to the age group of 31-40 years, 30 % belonged to the 41-50 age group% of the population were females and 38.3% were male gender (Table 1).Among the teachers who had below 20 years of teaching experience, 30 % of the population answered to make regular announcements, 10 % answered to host weekly synchronous sessions, 8% answered to give game type activities and 6% answered to post discussion questions. Among the teachers who had 20 years of teaching experience, 28% answered to make regular announcements, 6% to host weekly synchronous sessions, 4% to give game type activities and 12% answered to post discussion questions (p-value <0.05). For question number 2, 14 teachers who had below 20 years of teaching experience answered to communicate objectives and expectations 31% to provide explicit directions with text and videos, 2% with updating the class calendar and 3% with easy access to course information, with teaching experience with above 20 years, 10% of the teachers answered to communicate objectives and expectations, 28% of the teachers to provide explicit directions, 4% to update class calendar and 6% answered to easy access to course information (p-value-0.4). For question number 3, in the group of teachers having teaching experience below 20 years answered 20% of the teachers with monitor students progress ,12% with assignments, 13% with online quizzes and 4.6% to collect formative assessment data(p-value-0.7)(Table 2) .

Table 1: Distribution of study subjects according to age and gender

Age groups (in years)	Gender				Total	
	Male N (%)		Female N (%)		N	%
	N	%	N	%		
20-30	8	5.5%	15	10%	23	15
31-40	24	16%	31	20%	55	37
41-50	14	9%	31	20%	45	30
>50	13	8%	14	9%	27	18
Total	59	39.3%	91	60.7%	150	100

Table 2: Distribution of study participants regarding knowledge on virtual teaching

S.No	Questions	Teaching experience of 10-20 years	Teaching experience above 20 years	Chi square value	p-value
1	How did you engage the students in online teaching? Make regular announcements	45(30%)	43(28.67%)	6.522	0.08
	Post discussion questions	09(6%)	18(12%)		
	Host weekly synchronous session	10(6.67%)	06(4%)		
	Give game -type activities	13(8.67%)	06(4%)		
2	What are the ways to organise an online class? Communicate objectives and expectations	22(14.67%)	16(10.67%)	3.267	0.4
	Provide explicit directions (text or video)	47(31.33%)	42(28%)		
	Update class calendar	03(2%)	06(4%)		
	Easy access to course information	05(3%)	09(6%)		
3	How did you analyse the student performance in online teaching? Online quizzes	20(13.33%)	16(10.67%)	1.405	0.7
	Assignments	19(12.67%)	17(11.33%)		
	Monitor students progress	31(20.67%)	29(19.33%)		
	Collect formative assessment data	07(4.6%)	11(7.33%)		
4	What are the steps to encourage students to improve their academic performance?			2.502	0.3
	Good rapport and gestures	19(12.6%)	18(12%)		
	Give adjustments and accommodations	18(12%)	10(6.67%)		
	Respond to students in timely manner	40(26.6%)	45(30%)		

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Table 3 Distribution of study participants regarding attitude on virtual teaching

S.No	Questions	Teaching experience of 10-20 years	Teaching experience above 20 years	Chi Square Value	p-value
5	Do you feel web based training should be made available to supplement teacher? Yes	31(20%)	23(16%)	1.246	0.2
	No	46(30%)	50(33%)		
6	Did the students academic performance improve by online teaching? Yes	24(16%)	19(12%)	0.484	0.5
	No	53(35%)	54(36%)		
7	What was your perspective on online teaching? One way teaching session	24(16%)	38(25.33%)	6.741	0.00*
	Interactive sessions	53(35.33%)	55(23.33%)		
8	How was the behaviour of the students in E -teaching? Good	25(16%)	52(14%)	0.095	0.7
	Fair	22(34%)	51(34%)		
	Poor	0	0		

Table 4: Distribution of study participants regarding practice of online teaching

S.NO	Questions	Teaching experience of 10-20 years	Teaching experience above 20 years	Chi Square Value	p-value
9	"Which device did you use for online classes? Laptop/ Desktop"	15(10%)	14(9%)	8.745	0.05*
	Smartphone	40(26%)	51(34%)		
	Laptop/Desktop, Smartphone	19(12%)	8(5%)		
	"Smartphone,Ipad /Tablet"	1	0		
	All devices	2(1.3%)	0		
10	"What was the application you used for conducting classes? Skype"	1(0.67%)	3(2%)	18.98	0.00*
	Zoom	50(33%)	36(24%)		
	Google meet	15(10%)	5(3%)		
	Whatsapp call	6(4%)	24(16%)		
	Other Apps	5(3%)	5(3%)		
11	"How many hours you spent in E -teaching per day? 1-3 hours"	32(21%)	40(26%)	2.630	0.1
	3-6 hours	45(30%)	33(22%)		
	6-9 hours	0	0		

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Table 5: Association of teaching experience and practice of teaching via online platforms

Practice	Teaching experience		Total	Chi square value	P value
	10-20 years of experience (%)	More than 20 years of experience(%)			
Inadequate practice	22(34.92)	41(65.08)	63		
Adequate practice	55(63.21)	32(36.79)	87	11.712 a	0.001
Total	77	73	150		

For attitude questions, the teachers were asked about their perspective of online teaching for which teachers with experience below 20 years answered that 16% had one way teaching sessions and 35 % answered it was an interactive session and the group of teaching experience above 20 years answered 25% with one -way teaching sessions and 23% with interactive sessions and the association was significant with p-value < 0.05 (Table 3).

For questions on practice, 26% teachers with teaching experience below 20 years and 34% teachers with more than 20 years of teaching experience answered that they were using Smartphone (p-value<0.05) and for the question which application was used the most, 33% teachers with teaching experience below 20 years and 24% teachers with more than 20 years of teaching experience answered that they were using zoom call (p-value<0.05) (Table 4).

There was a significant association between the teaching experience of the teachers and their practice of teaching through online platforms. (p<0.05) (Table 5).

Discussion

The acquaintance of online teaching during COVID-19 pandemic was a step indeed to exploit the potential of technology for schools by keeping the safety of students and teachers without wasting their academic hours(Kim, 2020). Majority of the private higher secondary schools initiated virtual classes and teachers were sharing their lessons through Skype call, Zoom call and other virtual platforms(Sangeeta and Tandon, 2020). This was similar to the results of a similar study in Indonesia in 2020 (Aliyyah et al., 2020).

In the present study, teachers with less than 20 years of experience had interactive sessions and teachers with teaching experience above 20 years had a one way teaching session. Similarly in a study , the teachers told they use videos for the online teaching. (Aliyyah et al., 2020). Similarly from the students perceptive, they want a interactive learning than one way learning (Dhawan, 2020).

In the current study, smartphones were the most used device among both groups followed by laptop/desktop. Similarly, smartphones were predominantly used (Anis, 2020). Also in the present study, Zoom call was the application used predominantly by both the groups , this is similar to the study conducted in Indonesia (Assapari and Mugni Assapari, 2021).

Previous studies stated that there was a significant association on behaviours and feelings of students on their behaviour while attending online classes, mostly the students disagree to the state-

ment and said that they behaved well which was also similar with the current study 34% of the teachers answered that students behaviour was better in online classes in both the teachers group(Zhao et al., 2020).

In the present study, teachers expressed that there was only 3-6 hours of online class per day, similarly in a study conducted in China, the sleeping time was 8 hours for the students attending online classes and only they spent 3 to 4 hours for online classes. (Song, Wu and Zhi, 2020).

Another study also stated that social influence had insignificant relationship with behavioural intention and attitude had a significant impact on the behavioural intention. This study found that performance expectancy and facilitating conditions had a positive impact on behavioural intention as well as attitude (Sangeeta and Tandon, 2020; Song, Wu and Zhi, 2020). In the study done by Teo & Noyes 2014, seniority of the teachers and length of service plays a vital role in shaping the attitude toward the technology (Basilaia and Kvavadze, 2020; Lestari and Gunawan, 2020).

Implications Of The Study

The findings of the current study provide significant implications to the policy makers of the school to implement online teaching to improve and facilitate the students academic performance at the time of pandemic outbreak.

The study had few limitations, the study draws samples only from chennai, future studies may replicate the study in the remaining part of tamilnadu as exposure to technology varies in different parts of the state.

Conclusion

The study determined various perspectives from the school teachers about teaching on a virtual platform. The study concluded that more than half of the participants had sufficient knowledge,but majority of them had a positive attitude and had adequate practice on teaching on online platforms. This study proves that adequate training should be provided even to the teachers for teaching via online platforms.

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