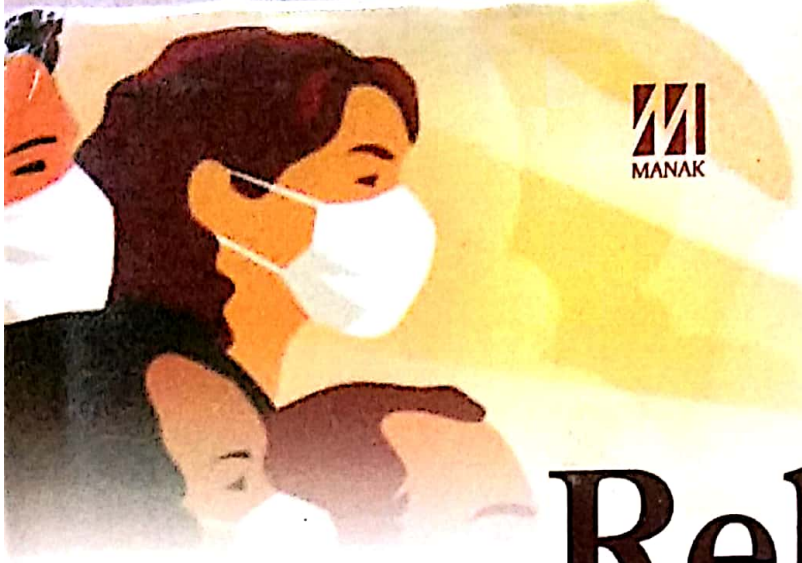

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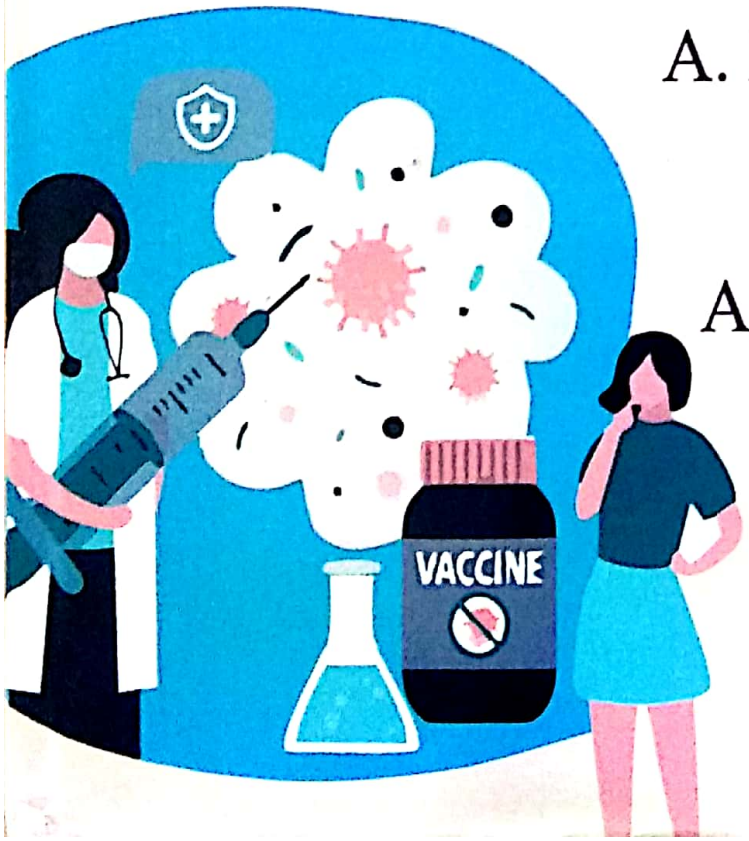

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Contents

CHAPTER 3

Realization of Digital Technology during Pandemic Situation by Teachers in Pollachi Taluk: An Analytical Study

R. Divyabharathi, G. Kaviya and M. Mehar Banu

Introduction

Digitalization refers to enabling or improving processes by leveraging digital technologies and digitized data. Therefore, digitalization presumes digitization. Digitalization increases productivity and efficiency while reducing costs. Digitalization improves an existing business process or processes but doesn't change or transform them. i.e., to say it takes a process from a human-driven for event or series of events to software-driven. Digitalization is the use of digital technologies to vary a business model and supply new revenue and value-producing opportunities; It's the method of moving to a digital business. Digital Technologies, which include Cloud Computing and Mobile Applications, have emerged as catalysts for quick process and citizen empowerment across the planet. Digital technologies are being increasingly employed by us in our everyday lives, from retail stores to government offices. Digital learning is replacing the traditional educational methods more and more each day. The inclusion of digital learning in the classrooms are can vary from simply using tablets instead of paper to using elaborate software programs and equipment as opposed to the simple pen. Add to it there has been increasing dependence on websites and study aids designed for at-home use. Even the use of social networks and communications platforms to create and manage digital assignments is on the rise. Irrespective of the extent of technology integrated into the classroom, digital learning has come to play a crucial role in education. It empowers students by getting them to be more interested in learning and expanding their horizons.

Below are the important online learning applications and tools which are prominently utilized as a part of the digitization of education in India.

Objectives of the Study

The following are the objectives of the study "Realization of digital technology during pandemic situation by teachers in Pollachi Taluk, Coimbatore District" — An analytical study is to cover the following objectives:

1. To understand the awareness and utilization of digital services by the sample respondents.
2. To identify the challenges to adopt digital technology.

Scope of the Study

- The study can be carried out at the national level to understand effective online teaching.
- At this situation, where the entire nation is fighting to win over Corona, it is very important to keep an effective education process continuous using various digitalization modes from which the students enjoy and gain.
- Such a study would help the Education Ministry develop certain rules and guidelines wherein certain online activity sessions can be made by the teachers to overcome the pandemic situation.

Limitations of the Study

In the conduct and completion of this study in a meaningful and manageable way and despite its important contributions, a number of limitations deserve mention.

- A major constraint of this study is its realization of digital technology during pandemic situations by teachers only.
- The data collection was restricted to Makkinampatti Panchayat Pollachi Taluk of Coimbatore district only.
- The methods and statistical tests have been utilized over a relatively short period of time.

Review of Literature

According to United Nations Educational, Scientific, and Cultural Organization (UNESCO) data as of 3 May 2020, almost 1.2 billion

students and youth around the world were affected by the closure of schools and universities due to the outbreak of COVID-19, representing 70 percent of this social segment worldwide. This same body has analyzed the consequences of the closure of schools and has established a series of arguments as to why it is a phenomenon of maximum urgency. Among the consequences for children of confinement are the psychological effects, social isolation, difficulties in accessing nutrition, and lack of physical exercise.

Petrie (2020) in his article titled "Quality education for all during COVID-19 crisis" stated that schools have been closed to cope with the global pandemic, and students, parents, and educators around the globe have felt the unexpected ripple effect of the COVID-19 pandemic. While governments, frontline workers, and health officials are doing their best to slow down the outbreak, education systems are trying to continue imparting quality education to all during these difficult times. Many students at home/living space have undergone psychological and emotional distress and have been unable to engage productively. The best practices for online homeschooling are yet to be explored.

Methodology

Designing an appropriate methodology and selection of analytical tools are important for a meaningful analysis of any research problem. In this section, an effort is formed to organize the strategy of this study. It includes a selection of the study area, sample design, period of study, collection of data, method of analysis, and tools of analysis. The samples were collected randomly selected from the teachers in Pollachi Taluk of Coimbatore District. The sample size is fixed at 150, where the School teachers numbering 108 and College faculty members numbering 42 out of the total sample.

Awareness and Utilization of Digital Services by the Teaching Faculty
Awareness on Basic Digital Literacy

S. No	*Variables*	*No. of Respondents*	*Percentage*
1.	**Digital Technology:**		
	Aware	150	100.00
	Unaware	0	0
2.	Network Data:	118	79.00
	3G,4G	9	6.00
	Modem	12	8.00
	WI-Fi	11	7.00
	Hotspot		
	TOTAL	150	100

Source: Primary Data

Awareness of Digital Technology

100 percent of the respondents are aware of digital technology.

Awareness of Network Data

79 percent of the respondents are aware of 3G and 4G network data, 8 percent of the respondents are aware of Wi-Fi network and 7 percent of the respondents are aware of Hotspot usage, and only 6 percent of the respondents are well known of Modem usage. It is inferred that the majority 79 percent of the respondents are aware of 3G and 4G network data usage.

Satisfaction Level on Educational Mode of Teaching

(Dependent variable: Satisfaction level)

Model	*Mode of Teaching*		
	B	*Std. Error*	*t*
(Constant)	30.694	3.313	9.263*
Google Classroom	.198	1.990	2.450*
Epic Unlimited Book for Kids	.257	.921	1.628
Kahoot	-.267	.701	-1.848
Zoom	-.184	1.531	-2.315
Kinvolved	.030	.642	.228
Micro-soft Teams	.255	.719	2.654*
Google Meet	.105	1.451	.830
WebEx	.075	.745	.602
Skype	.065	.691	.654
BYJU'S	-.293	.796	-2.265
	R^2 = .186 Adjusted R^2 = .128 F-ratio = 3.186 P-value = .000		

Note: *Significant at 1 percent

The implication of all these findings is that increase in the level of any of the explanatory variables with the positive sign will have a positive effect on the satisfaction level of the educational mode of teaching, whereas those explanatory variables with the negative sign will exert a negative relationship on the satisfaction level on the educational mode of teaching. Multiple regression analyses were conducted to evaluate the factors which determine the satisfaction level on the educational mode of teaching in the sample respondents. The analysis included ten explanatory variables

such as Google Classroom, Epic Unlimited Book for Kids, Kahoot, Zoom, Kinvolved, Micro-soft Teams, Google Meet, WebEx, Skype, and BYJU'S. Using the enter method it was found that educational mode of teaching factors explain a significant amount of the variance in the satisfaction level ($F = 3.186$, $p = .000$, $R^2 = .186$, Adjusted $R^2 = .128$).

The values of R^2 indicate that the variation in the educational mode of teaching to the extent of 18.6 percent in the satisfaction level of the respondents while the remaining percentage was due to other factors not specified in the model. The Coefficient of Kahoot, Zoom and BYJU'S educational mode of teaching was not significant. The variables which are found significant in determining the satisfaction level and educational mode of teaching are explained in relation to the data and information collected for the present study:

- Regression analysis reveals that Google Classroom had a positive influence on a significant amount of the variance in the satisfaction level ($B = .198$, $t = 2.450$, $p = .016$) for both school teachers and college professors.
- Zoom application mode of teaching had a negative influence on a significant amount of the variance in the satisfaction level ($B = -.184$, $t = -2.315$, $p = .022$) among school teachers.
- Micro-soft Teams had a positive influence on a significant amount of the variance in the satisfaction level ($B = .255$, $t = 2.654$, $p = .009$) for both school teachers and college professors.
- Google Meet had a positive influence on a significant amount of the variance in the satisfaction level ($B = .105$, $t = .830$, $p = .408$) for both school teachers and college professors.
- BYJU'S had a negative influence on a significant amount of the variance in the satisfaction level ($B = -.293$, $t = -2.265$, $p = .025$) among college professors.

Challenges Faced to adopt Digital Technology [Garrett Ranking]

Challenges	*Total Score*	*Garrett Mean Score*	*Rank*
Infrastructure Deficit	7044	46.96	VIII
High Cost of Implication	7956	53.04	III
Time Consuming	7923	52.82	IV
Beneficiaries may not have adequate knowledge of digitalization technology	7017	46.78	IX

Security of Transaction	7296	48.64	VII
Hacking the information	7623	50.82	VI
Advertisement	6480	43.2	X
Student's co-operation	7788	51.92	V
Internet speed	8031	53.54	II
Internet access problem	8313	55.42	I

Source: Primary Survey*Note: Average Score = Total score/ Total Respondents

On the basis of the ranks assigned by the sample respondents on different factors which challenges faced by digital services during pandemic situations by teachers are analyzed through the Garrett Ranking technique. The study has shown the various factors in obtaining the challenges faced by digital services i.e., ten challenges faced by digital services were identified by the respondents. Out of those ten, the Internet access problem (55.42 score) was ranked as the foremost challenges for the beneficiaries in obtaining the digital services. The Internet speed (53.54 score) was ranked second due to the respondents belong to rural area of Pollachi Taluk. The beneficiaries stated that they are used through digital services followed by High Cost of Implication (53.04) was 3rd rank, Time Consuming (52.82) was 4thrank, Student's co-operation (51.92) was 4th rank, Hacking the information (50.82) was 6th rank, Security of Transaction (48.64) was 7th rank, Infrastructure Deficit (46.96) was 8th rank, Beneficiaries may not have adequate knowledge of digitalization technology (46.78) was 9th rank, and Advertisement (43.2) was 10th rank respectively.

Suggestions and Conclusion

The research study suggested that online education is suitable for the school children and college students. More training courses is needed to create e-materials, video contents, discussion forum and quiz or multiple choice questions (MCQs) are to be provided to the children. Government and educational institution plan to continue the educational activities maintaining through online portal during COVID-19 to maintain the safety of the children. There is a requirement to deploy public funds to repair the web gap and make sure that students still learn digitally. The state governments/ private organizations should come up with ideas to deal with this issue of digital education. The Government may provide the free networking facilities to the teachers and students. Smart lap and virtual lap facilities free package of network data to be provided to the

teachers. Based on the findings of the study, it is recommended that digital technology services should be given opportunity to participate in varied software application for teachers and training skill programmes which would enhance the knowledge of the teachers.

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