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Attitude of Secondary School Teachers Towards Digital Learning in West Bengal

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Abstract:

Digital learning has revolutionized the educational landscape. The government is investing in digital learning and implementing various initiative to expand digital learning. Digital learning, facilitated by the application of technology in the classroom. Digital learning rooted in the integration of ICT based education and e-learning. Present study aimed to analyze the attitude towards digital learning of secondary school teachers based on gender, residency, and length of service of secondary school teacher. The sample consists of 45 secondary school teachers, collected from Kakdwip Block, South 24 Parganas, West Bengal. The investigation conducted the descriptive survey method and used a self-administered attitude scale for collecting data, which was previously validated by experts, and reliability of the scale is established by the investigator. For the analysis of data, Percentile, Mean (M), Standard deviation (SD), and t-test were used. The finding of the study reveals that there is no significant difference between the attitude of the secondary school teachers towards digital learning based on gender (male & female), residency (rural & urban), and length of service (below 10 years & above 10 years). Present study will help to increase secondary school teacher's interest in digital learning in secondary school and promote its implementation in the classroom.

Keywords: attitude, digital learning, secondary school teacher

Introduction

The entire world is rapidly coming under the influence of modern technology. Education also has no alternative. The global education system is gradually adopting advanced technology. Digital technology has become an integral part of teachers daily pedagogical practices. While the education systems in developed countries are quite technologically advanced, the COVID-19 lock down highlighted the critical need for digital technology in education system worldwide. We opted for digital learning as the superior alternative education system at that time. In current situation, India has been reached to advance digitalization education system and is replacing the traditional class room practices. The government of India implantation to enhance and facilitate digital technology education e.g. National Digital Library (NDL), EPG Pathsala, E-Adhayan, UGC-MOOC, E-Pathya, Sodhganga platform, E-Sodhsindhu, E-Yantra, Tutorial portal, Virtual Labs, Vidwan portal, DIKSHA, SWAYAM, SWAYAM PRABHA, NISHTIHA, Gyandoot etc.

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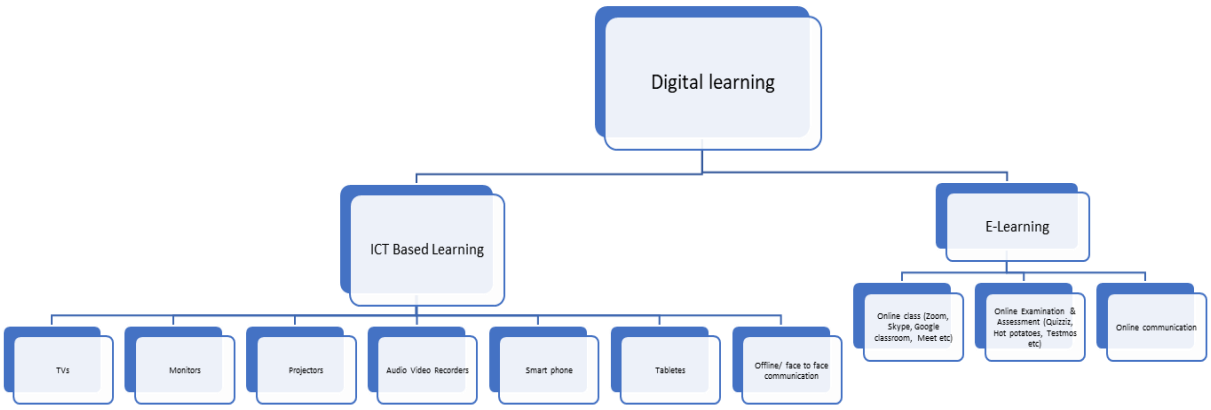
National Education Policy (NEP-2020) announced to making "India a global knowledge super power" by proposing several changes from the school to college level in Indian education system with impulse on digital education. The West Bengal Government's 'Taruner Swapna Scheme' was launched in 2022 to provide financial support to learner for acquire smart phones, tablets or PCs etc.

Digital Learning and Secondary Education

The technology in education concept refers to digital learning. There is a wide variety of educational and training gadgets e.g. TVs, Monitors, Overhead projectors, Video Cassette recorders, tape recorders, smart boards, smart phone, tablets, computers etc. While technology in education is often associated with hardware, what we call the practices in ICT (Information Communication Technology) based education. On the other side e- learning utilizes software application to deliver educational contents i.g. online classes (Zoom, Skype, Google classroom, Meet etc), online examination and assessment (Quizziz, Quize maker, Hot potatoes, Testomos etc), online communication etc. This comprehensive list encompasses all the aspects of digital learning.



According to NEP 2020, the secondary level of education is grades 9 to 12 which is divided into two phases: classes 9 and 10 & classes 11 and 12.

Smart classrooms represent a contemporary approach to teaching and learning, enhancing educational practices at all levels through the use of advanced technology. he Government of India has been equipping schools with digital devices, software, and smart classroom facilities to promote digital learning. However, in West Bengal, the use of these resources remains limited. About 88% of schools do not use smart classrooms daily for subjects like science, mathematics, and English, while 68% of schools never use them for teaching social science (Sethy & Mohalik, 2019). Although the government has taken some policy towards the implementation of digital learning & teaching but it is also necessary that teacher should have a positive intention about this modern concept of teaching and learning. Both teacher's attitude and skill towards digital learning are significantly important. Teachers are responsible for implementing digital learning, which includes ICT based learning and conducting online classes, examination and communication.

Panda and Neha 2024 study on bichronous online learning found that male teachers tend to have a more positive attitude toward bichronous online learning compared to female teachers. The study also indicates that male teachers show greater interest and confidence in using this approach during their teaching A study conducted by Berkova et al. 2024 study on teachers' stress during COVID distance education investigated teachers' subjective emotional experiences in the use of digital tools and revealed that they experienced considerable stress during distance education in the COVID-19 period. Bhadana and Dwivedi (2023) reported a significant difference in attitudes toward e-learning between male and female secondary school teachers. A study by Islahi and Nasrin 2019 study on teachers' attitude towards technology found that teachers, regardless of gender, generally demonstrate a positive attitude toward the use of technology.

Need of the study

The researcher found that many researchers have been done on school teacher's attitude towards digital learning at different level of school education. Most of the study has been done on teacher's attitude towards digital learning on the basis of gender, area and other dimensions. However, very few studies found in the area focusing on teacher's attitude towards digital learning on the length of service in secondary school of West Bengal. No comprehensive studies found in South 24 Parganas attitudes of secondary school teacher towards digital learning at secondary school. It is natural to examine the attitudes towards digital learning of secondary school teachers on the basis of their gender, area and length of service. Hence the study is relevant.

Objectives

i. To study the attitude of secondary school teachers towards digital learning at secondary school;
ii. To assess the attitude towards digital learning of secondary school teachers on the basis of length of service (below 10 years and above 10 years);
iii. To study the attitude toward digital learning of secondary school teachers on the basis of gender (male and female);
iv. To study the attitude toward digital learning of secondary school teachers on the basis of regional area (rural and urban).

Hypotheses

H01: There will be no significant difference between male and female secondary school teacher on the basis of attitude towards digital learning at secondary school;

H02: There will be no significant difference between below 10 years length of service and above 10 years length of service of secondary school teachers on the basis of attitude towards digital learning at secondary school;

H03: There will be no significant difference between rural secondary school teachers and urban secondary school teachers on the basis of attitude towards digital learning at secondary school.

Delimitations of the Study

- The study has been delimited to three independent variables - Gender (Male & Female), Residency (Rural & Urban), Length of Service (Below 10 years & Above 10 years) and one dependent variable – Attitude towards Digital Learning.
- The scope of the study is limited to secondary school teachers from various educational institutions located in the South 24 Parganas district.
- Sample has been also delimited to 45 secondary school teachers only.

Methods

Sample

45 secondary school teachers participated in this study of where 9 (20%) were female and 36 (80%) were male and five participants did not respond to this inquiry. The participant's average Lenth of service as a secondary school teacher was 12.4 years (SD= 7.3; 0-31years). The sample is collected from Kakdwip block, South 24 Parganas secondary government aided rural schools in West Bengal by purposive sampling.

Data Collection

The data were collected by using a researcher's self-administered questionnaire which was previously validated by Experts from Diamon Harbour Women's University. The questionnaire measures 'Attitude Towards Digital Learning of Secondary School Teacher'. It was measured by a cluster of 30 statements, which respondents were asked to rate on a five-point Likert scale: 1-Strongly Disagree, 2-Disagree, 3-Not Sure, 4-Agree, & 5-Strongly Agree. SPSS version 17 was used for data analysis. The pilot test was run on 46 secondary school teachers.

Data Analysis

The Cronbach's Alpha (α) reliability of test revealed that all the items showed good or satisfying internal consistency. The result of Cronbach's Alpha (α) based on standardized items is 0.828.

The norm of the scale is also determined using percentile. Those who scored more than 126 and above were considered having a high positive attitude and those who scored in between 117 to 125 were considered moderate attitude and finally, those who scored less than 110 were negative attitudes towards digital learning. Independent t-test is applied for determining perception towards digital learning.

Table 1:

Attitude level of school teachers toward Digital Learning				
Level of	N	Mean	S. D	Status
	45	117.33	11.803	Moderate

Above table 1 reveals, the mean attitude of secondary school teachers towards digital learning at secondary school to be 117.33 which indicate a moderate level attitude towards digital learning (M=117.33, N=45, S.D.=11.803).

Table 2:

Difference of Attitude between Male & Female Secondary School Teacher									
Descriptive Statistics					t- test for Equality of Means				
Gender	N	Mean	Std Deviation	Std Error Mean	T value	df	Sig	Mean Difference	Std Error Difference
Male	36	117.94	12.266	2.044	0.690	43	0.494	3.056	4.425
Female	9	114.89	9.981	3.327					

From data presented in Table 2 above, there is an indication of statistically not significant difference among the secondary school teachers towards the digital learning at secondary school, between male (M=117.94, SD=12.266) and female (M=114.89, SD=9.981), where t=0.690, P=0.132 were greater than P=0.05, meaning the researcher failed to reject the null hypothesis which state that no significant difference between male and female secondary school teacher on the basis of attitude towards digital learning at secondary school.

Table 3:

Difference of Attitude between Below 10 Years and Above 10 Years of Service Length of Secondary School Teacher									
Descriptive Statistics					t- test for Equality of Means				
Length of Service	N	Mean	Std Deviation	Std Error Mean	T value	df	Sig	Mean Difference	Std Error Difference
Below 10 years	13	117.00	13.178	3.655	-0.119	43	0.906	-0.469	3.962
Above 10 Years	32	117.47	11.421	2.019					

The result indicate in Table 3 revealed that there is no significant difference between below 10 years length of service (M=117.00, SD=13.178) and above 10 years length of service (M=117.47, SD= 11.421) of secondary school teachers on the basis of attitude towards digital learning at secondary school, where t= -0.119, P= 0.906 which is greater than P= 0.05, meaning the researcher failed to reject null hypothesis which state that no significant difference between

below 10 years length of service and above 10 years length of service of secondary school teachers on the basis of attitude towards digital learning at secondary school.

Table 4:

Difference of Attitude between Rural Secondary School Teacher & Urban Secondary School Teacher									
Descriptive Statistics					t- test for Equality of Means				
Area	N	Mean	Std Deviation	Std Error Mean	T value	df	Sig	Mean Difference	Std Error Difference
Rural	27	117.70	13.922	2.679	0.225	43	0.8	0.926	3.63
Urban	18	116.78	7.975	1.88					

The result of t-test indicated in Table 4 also provide support for the null hypothesis which stated that no significant difference between rural secondary school teachers and under secondary school teachers (M=116.70, SD=13.922) and urban secondary school teachers (M=116.78, SD= 7.975) on the basis of attitude towards digital learning at secondary school. The t= 0.255and P= 0.800 which is greater than P= 0.05 while the researcher failed to reject the null hypothesis which state that no significant difference between rural secondary school teachers and urban secondary school teachers on the basis of attitude towards digital learning at secondary school.

Major Findings

- The attitude of the secondary school teachers towards digital learning at secondary school is moderate.
- There is no difference of attitude between male and female secondary school teachers towards digital learning at secondary school.
- There is no difference in the attitude towards digital learning of secondary school teachers based on their length of service.
- The study did not identify any significant difference in the attitudes of rural and urban secondary school teachers toward digital learning at the secondary level.

Discussion

This study sought to determine the level of secondary school teachers' attitudes toward digital learning. The study established that teachers of secondary school, attitude toward digital learning in secondary school not have significant influence on secondary education. A study reveals that, 'all schools have desktop, projectors, printer and scanner. But no school have interactive board which plays an essential role in the teaching learning process in smart classroom' (Sethy & Mohalik, 2019). The study revealed that there was no significant difference in attitudes toward digital learning between male and female secondary school

teachers. But the mean score revealed that male teachers tend to have a slightly more positive attitude compared to female teachers. There is also no substantial disparity of attitude towards digital learning was observed between rural teacher and urban teacher in secondary school. Teacher's attitude towards digital learning do not vary based on their years of experience.

Conclusion

Positive attitude of secondary school teacher towards digital learning is not the only approach to implementing the digital learning in secondary school education. Additionally, the school environment should be well-equipped with digital technology, infrastructure and have foster and environmentally rich setting. Teachers require comprehensive training to effectively implement digital teaching and learning methodologies in their classroom. The number of smart classrooms in every school should be increased, and smart class periods should be included in the class schedule to ensure their regular use. Ultimately it is imperative for the government to lead the charge in promoting awareness of this matter and to implement support and enquire mechanism in secondary school education.

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