

SECONDARY EDUCATION SCHOOL TEACHERS ATTITUDE TOWARDS DIGITAL TECHNOLOGY: AN ANALYTICAL STUDY

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Abstract

Digital technology knowledge and usage are the demand of time. This research intends to assess the instructor's attitude toward using digital technologies in the classroom. 'Attitude towards Digital Technology' constructed by the researchers and administered on teachers of secondary schools of Lucknow district, U.P. India. This study has 150 respondents in its sample. Research design is descriptive type under its survey method was implemented. A stratified sort of sampling procedure was employed under probability. Researcher try to find, Are there any significant variation in secondary education school teachers in utilizing digital technologies based on (i) Gender (Male and Female) (ii) Types of Institution (Government, Government- aided and Private) (iii) Teaching Subject (Arts, Science and commerce) and (iv) School board (UP, CBSE and ICSE). Findings revealed that: There is no substantial disparity between teacher's attitude towards utilizing digital technology on the basis of Gender (Male and Female) (ii) Types of Institution (Government, Government- aided and Private) (iii) Teaching Subject (Arts, Science and commerce), and (iv) There is considerable disparity in secondary education school educators toward digital technology based on types of school board (UP, CBSE and ICSE). Findings show that compared to UP board teachers, favourable attitude of the CBSE and ICSE boards teachers have for digital technology.

KEYWORDS: Digital Technology, Attitude

Introduction

The use of technology has ingrained itself into our daily lives, with in second we can communicate with other only because of technology, it touches almost every corner of our life. We saw that, there is paradigm shift in education field, knowledge was spread from preaching to classroom system and now a day we are trying to include digital technology too in our classroom for better education. As we know the teachers are the nation builders. So, to create a strong nation, educators must also keep up with current trends and utilise online resources and technologies in their teaching moreover, for this attitude of educators towards the employment of digital technology is crucial. Actually, attitude is an expression of thinking or feeling or person's outlook towards certain thing, situation and person. It has to deal with our cognitive domain of our mind which encompasses our thought, emotions beliefs and actions showing how an individual respond or react and approaches towards the various aspects of our life. Similarly, when we are talking about the attitude of educators towards the usage of technology it means, what a person as a teachers thinking about utilization of technology in education? their thought may vary with others few of them may think that, it is only a digital tool help in teaching learning process, it may enhance their teaching efficiency, connectivity and innovation while few of them may think that ,it adversely impact on

teaching – learning, teachers may have pessimistic outlook towards utilization of technology in education. May be other will go to use it with much precaution; they may concerned with the issues like privacy, dependency and may have adverse impact on their mental health.

Why do educators employ technology in the classroom?

In the current educational system, it is nothing new for educators to integrate digital technology into the classroom. Although, it's important to consider the teacher's perspective on digital technology. In the classroom, experiential learning has a greater impact on students than traditional lecture or discussion approaches, with the help of various digital technologies teachers engage their students in teaching and learning procedure and make it more interesting. So, it is indispensable for the teachers, that they should include digital technology in education. Teachers should incorporate different technology in their teaching learning process and upgrade themselves.

Review of relevant literature

Davidovitch and Yavich (2021)

This study examine the Israeli educators attitude towards advanced technological tool as teaching –learning aids and comparing the Generation Y(26-42) and Generation X (43-65) teachers attitude towards advanced technology. For this researchers administered a questionnaire on 150 Israeli teachers. Teachers have general attitude towards use of advanced technology and they evaluate that Israeli teachers of Generation Y have more optimistic attitude than Generation X teachers towards advanced technology.

Pongsakdi , Kortelainen & Veermans (2021)

Investigated the effect of ‘digital pedagogy training’ through in-service program on educators attitude toward usage of digital technology. Investigators administered self report questionnaire on 98 elementary and lower secondary school faculties of Southern Finland. To understand the effect of ‘digital pedagogy training’ investigator used experimental research, out of 98 only 22 teachers who attended the in- service program were completed both pre and post test. The findings showed that educators with lack of confidence level toward digital technology after training their confidence level has boosted while teachers with high confidence showed no significant changes.

Semberger & Konrad (2021)

The purpose of this article is to figure out Slovan student instructors' attitudes about using digital technology, investigators framed four elements: 1. Teaching and learning, 2. Assessment and critical thinking, 3. Empowering learners and 4. Facilitating learner’s digital competency. Results showed that a maximum number of educators have an optimistic attitude toward adding digital technology into the classroom and attitude is an essential factor to check out the teacher’s level of proficiency in using digital technology.

Singh & Sharma (2023)

As digital technology integrated into ICT, the following study evaluates the attitude of educators of senior secondary school of Saharanpur, U.P, India towards ICT. The study's hypotheses are:

- (i) Does there a notable difference between female and male and Arts and Science stream teacher’s attitude towards ICT? (ii) Is there any noteworthy correlation between female and male teacher’s And Arts and Science stream teachers towards ICT? Findings are: (i) There is no significant disparity between female and male teachers and Arts and Science teachers attitude

towards ICT. (ii) There is positively high correlation between female and male teachers and Arts and Science teacher's.

Alieto-et-al. (2024)

Researchers in their study trying to examine the teachers attitude towards online teaching and technological proficiency especially gender basis and to check any correlation in educators towards e-teaching, educators technological competences and their technological accessibility. For this quantitative research researchers used –descriptive – correlation research design. Findings revealed that: Teachers attitude have positive inclination towards online teaching. (ii) There are no significant variations in the attitude, technological proficiency and accessibility between the female and the male teachers. (iii) There is positive correlation between teacher's attitude towards e-teaching and educators level of technological competency and also their accessibility to technology.

Objectives of study-

1. To evaluate secondary education school teachers' attitude towards usage of the digital technology.
2. To study secondary education school teacher's attitude toward utilizing digital technology depending on gender and types of institutions.
3. To study secondary education school teacher's attitude toward utilizing digital technology depending on teaching subject and school board.

Hypotheses

Ho 1: There is no remarkable variation in secondary education school teachers' attitudes towards the usage of digital technology based on gender.

Ho2 There is no remarkable variation in secondary education school teachers' attitudes towards the usage of digital technology based on types of institutions.

Ho3: There is no remarkable variation in secondary education school attitudes towards the usage of digital technology based on their teaching subject.

Ho4: There is no remarkable variation among secondary education school teachers' attitudes towards the usage of digital technology based on school boards.

Research Methodology

After reviewing the objectives under descriptive method researcher used survey technique. To collect the data researcher has constructed a questionnaire 'Attitude towards Digital Technology' (ATDT) which has four dimensions namely: (i) Perception for digital technology (ii) Interest and Acceptance, (iii) The function of the digital technology in teaching-learning process (iv) Values and digital wellbeing used assess the attitude of teachers towards usage of the digital technology. The data were taken from government, government- aided and private schools educators and sample consist of one hundred and fifty secondary school educators. There are forty-five statements on the scale based on five point Likert's Rating Scale. Information was gathered from the study's participants. Descriptive statistics was calculated by Mean, SD and The t-test and Analysis of Variance (ANOVA) employed to compute inferential statistics from the collected data.

Data Analysis and Interpretation

Objective 1: To evaluate secondary education school teachers' attitude towards usage of the digital technology.

Table1.1 showing percentage analysis of secondary education school teachers' attitude about digital technology

Teachers Attitude	Number	Percentage
Low	23	15.33%
Average	99	66%
High	28	18.66%

It is deduced from the table that 15.33% (23) secondary education school educators attitude is low toward digital technology while 66% (99) secondary education school teachers attitude is average toward digital technology and 18.66% (28) secondary education school educators attitude is high toward digital technology. So, it is shown that the majority of educators have a favourable attitude toward digital technology.

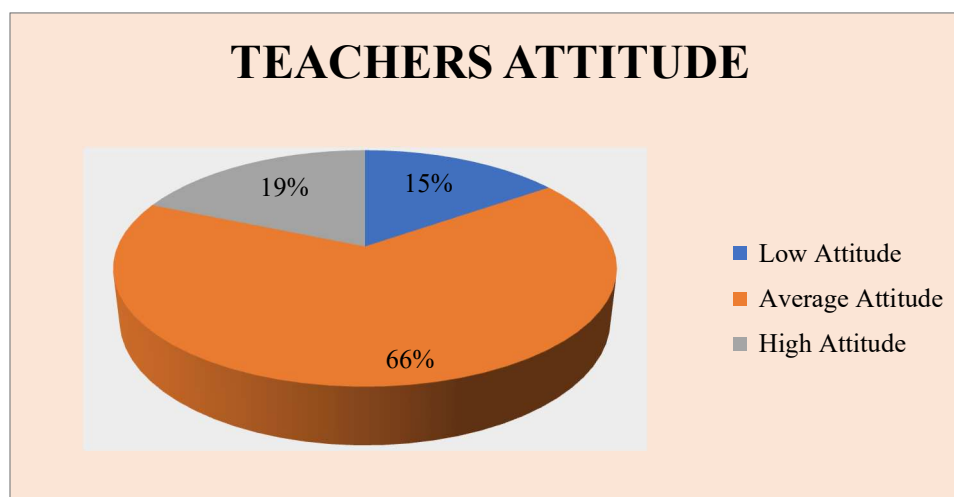


Figure1.1 showing graphically the teacher's perspective on digital technology

H0 1: There is no remarkable variation in secondary education school teachers' attitudes towards the usage of digital technology based on gender.

Table1.2: showing, t-ratio in secondary education schools male and female teacher's attitude toward digital technology.

Gender	N	Mean	S D	df	t	Significant level at 0.05
Male	57	166.72	16.521	148	0.671	Not Significant
Female	93	168.48	14.096			

(At 0.05% level of significance, the table value is 1.96)

The obtained value of t is 0.671 and the tabulated value is (1.96) which is higher than the obtained value. So, it is not significant at 0.05 level. So, the hypothesis is accepted. Consequently, the analysis showed that there is no remarkable variation in secondary education school educators attitude towards use of digital technology based on gender (male and female). Finding inferred that gender is not the determinant for the teacher’s attitude towards digital technology. The graphical representation is shown below in figure 1.1

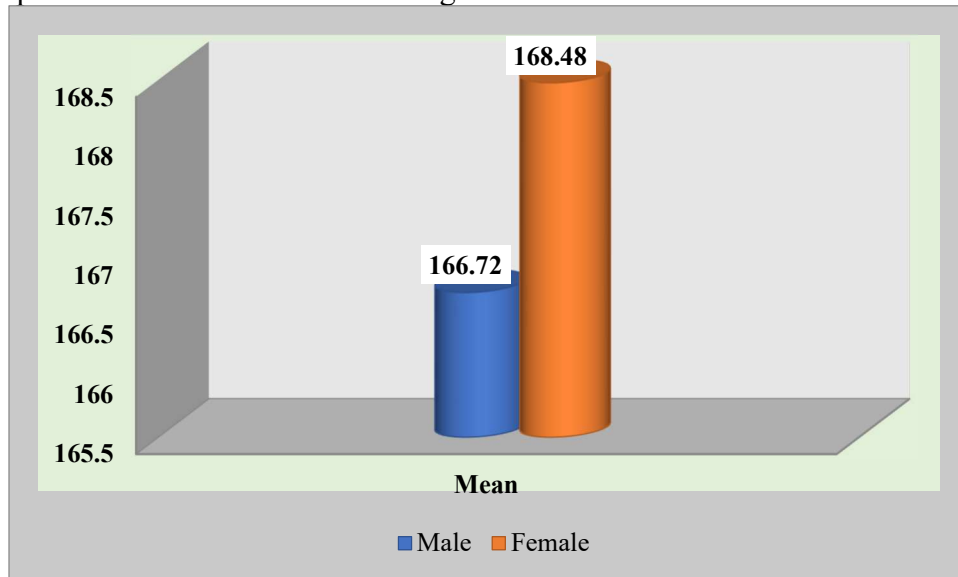


Figure 1.2:-Graphical representation of Mean Score of teachers (male and female) attitude toward digital technology use

H0 2: There is no remarkable variation in secondary education school teachers' attitudes towards the usage of digital technology based on types of institutions.

Table 1.3: Showing F - ratio of teacher’s attitude toward digital technology based on types of institution (Government, Government- Aided and Private)

Source of Variance	Sum of Squares (SS)	df	Mean Square (MS)	F	Significant level at 0.05
Between Groups	654.168	2	327.084	1.46	Not Significant
Within Groups	33022.605	147	224.644		
Total	33676.773	149			

(Table value ‘ F ’ is 3.05 at 0.05%)

In above table 1.3, the calculated value ‘ F ’ is 1.46, which is below the critical value (3.05). Hence, the hypothesis accepted, and there is no significant disparity in the attitude of secondary education school teachers toward digital technology based on types of institution (Government, Government- Aided and Private).

H0 3: There is no remarkable variation in secondary education school towards the usage of digital technology based on their teaching subject.

Table1.4 : Showing F-ratio of teachers attitude towards the usage of digital technology according to the teachers teaching subjects (Arts, Science, and Commerce)

Source of Variance	Sum of Squares	df	Mean Square	F	Significant level at 0.05
Between Groups	88.72	2	44.361	.194	Not Significant
Within Groups	33588.05	147	228.490		
Total	33676.77	149			

(Table value ‘F’ is 3.05 at 0.05%)

The calculated value is 0.194 which is above the critical value is (3.05), so hypothesis accepted. Thus, it is representing from the data that, there is no remarkable variation in secondary education school educator’s attitude with regard to digital technology having different streams (Arts, Science and Commerce).

H0 4: There is no remarkable variation among secondary education school teachers' attitudes towards the usage of digital technology based on school boards.

Table1.5: Showing F-ratio of teacher’s attitude towards usage of digital technology on the basis of types of school board (UP, CBSE and ICSE)

Source of Variance	Sum of Squares	df	Mean Square	F	Significant level at 0.05
Between Groups	3392.573	2	1696.287	8.234	Significant
Within Groups	30284.200	147	206.015		
Total	33676.773	149			

(Table value ‘F’ is 3.05 at 0.05% level of significance)

From the above table 1.4 revealed that the calculated value ‘F’ is 8.234, which is above the critical value (3.05). Hence the hypothesis rejected, there is remarkable variation in secondary education schools teachers’ attitude towards digital technology based upon school board. So, to check out between which groups there is remarkable variation in secondary education schools teachers’ attitude toward digital technology.

Table1.6: Showing t-ratio in secondary education school educator’s attitude towards usage of the digital technology based upon school board types(UP, CBSE and ICSE)

School Board	N	Mean	SD	df	t-value	Significant level at 0.05
UP	44	161.00	17.130	115	2.715	Significant
CBSE	73	169.18	13.243			
CBSE	73	169.18	13.243	104	1.76	Not Significant
ICSE	33	173.88	12.549			
UP	44	161.00	17.130	75	3.807	Significant
ICSE	33	173.88	12.549			

After post hoc researcher found that (i) Calculated value ‘t’ is 2.715 which is higher than the table value (1.96) so, there is remarkable variation between UP board teachers and CBSE board educators attitude toward digital technology (ii) Obtained value is 1.76 which is below the t- value (1.96) so, there is no remarkable disparity between CBSE board teachers attitude and ICSE board educators attitude toward digital technology. (iii) Calculated value is 3.807 which is higher than the critical value so, there is remarkable variation between UP board teachers and ICSE board educator’s attitude toward digital technology, from the data we can infer that CBSE and ICSE board educator’s have favourable attitude toward digital technology than UP board teachers.

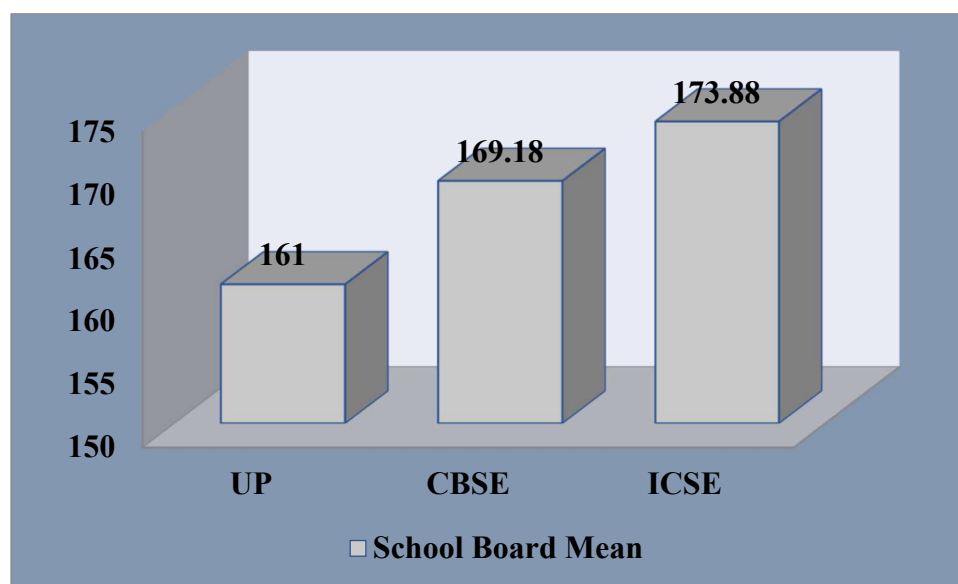


Fig.1.3: Graphical representation of Mean Score of secondary education schools educators’ attitude towards usage of digital technology based upon school board type’s board.

Conclusion

We come to the conclusion that digital technology plays indispensable role in teaching- learning process. Study showed that majority of the educators have optimistic attitude regarding digital technologies and also gender is not the determinant for teacher's attitude for digital technology. Like in this paper, in Singh & Sharma (2023) and Alieto-et-al. (2024) studies we also discovered that there isn't remarkable disparities between educator's (male and female) attitude for digital technology. Singh & Sharma (2023) revealed that teachers of different stream (Arts and Science) have no significant disparities in their attitude. Similarly, there is no remarkable variation in educator's attitude for digital technology based on teachers teaching subjects (Arts, Science and Commerce). From the Alieto-et-al (2023) study we discovered a strong correlation between teacher's attitude towards online teaching, their technological competency and their access to technology. In Pongsakdi, Kortelainen & Veermans (2021) study researcher found that training on digital pedagogy enhances the teacher's confidence level. Teachers of different institutions (government, government- aided and private) have no any significant disparity in educator's attitude for digital technology but there is remarkable variation in the attitude of educator's of different school boards (UP, CBSE and ICSE) researcher found that CBSE and ICSE board teachers attitude is positive compare to UP board teachers.

Suggestions

Drawing from the results of the attitude of teachers, the following recommendations are put forth:

- (i) The curriculum needs to be updated and designed so that teachers can teach as many topics as possible in a blended learning environment.
- (ii) Institutions should promote inclusion of technology in education.
- (iii) Institutions, particularly those in government schools, ought to support educators who employ digital technology.
- (iv) Institutions should encourage teachers to practice more digital technology to generate good attitudes among them.
- (v) Future scholars can conduct studies to identify the elements/factors that help in generating good attitudes in teachers.
- (vi) Further, researchers can conduct study on other level teachers (higher education teachers, primary school, etc.), and on students also.

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