



ATTITUDE OF THE MIDDLE SCHOOL TEACHERS TOWARDS DIGITAL TECHNOLOGY

Author

Mrs. S. Deivanai, Research Scholar, Vels Institute of Science, Technology & Advanced Studies, Pallavaram, Chennai- 600117.

C-Author

Dr. K. Sheeba, Associate Professor in Education, Vels Institute of Science, technology & Advanced Studies, Pallavaram, Chennai- 600117. Email: sheebakarpagam.k@gmail.com

Abstract

The digitalization of education refers to the introduction of new technologies into the educational process, as well as the transformation of teaching methods and communication among various educational stakeholders. The potential of digital technologies in education is viewed by teachers largely in a positive light. Therefore, examining teachers' attitudes toward digitalization is essential for enhancing the effectiveness of education and ensuring the successful implementation of technologies in the educational process. The survey method is employed for this investigation. Data is gathered using the random sampling approach. The data came from over 520 teachers, 218 of them were from the State board and 302 from the CBSE board. Results revealed that there is significant mean difference between genders, board of the school, marital status and internet users in both perception of the teachers towards the students study skills and attitude towards teacher digital technology using in the classroom. To comprehensively understand teachers' attitudes toward digitalization, future studies should examine not only the implementation of new tools but also how the educational experience can be rethought and transformed.

Keywords: State board, CBSE, Perception of the teachers, Study skills, Attitude of the teacher's digital technology.

INTRODUCTION

The purpose of education is to make individuals more capable of developing their intrinsic abilities. It has the power to enlighten individuals and make it possible for them to live a life that is filled with joy and tranquility. In order to provide universal access to quality education on the foundational pillars of access, equity, quality, affordability, and accountability in education, the Government of India has taken the initiative to revamp the existing system. By implementing the National Education Policy (NEP)-2020 in the country, the government has taken this step. Through the provision of high-quality education to all individuals, the Policy envisions an education system that is anchored in Indian ethos

and that contributes directly to the transformation of India into a knowledge society that is equitable and vibrant.

This will ultimately result in India being a worldwide knowledge superpower (MHRD, 2020). Collins and Halverson (2010) and Starichenko 2020 are two examples of researchers who are in agreement that digital technologies are essential teaching tools in the modern context of educational digitalization. These technologies contribute to the efficiency of the learning process and foster interactive learning environments, which in turn enhance student motivation! According to Petrov et al. 2023, an additional benefit of digital technologies is that they create new avenues for communication and connection between educators, students, and parents.

Several studies highlight the extensive potential of digital technology to enhance cognitive growth and customize learning using a variety of immersive educational tools. These tools include learning games that involve problem-solving, modeling software, 3D printing, and augmented and virtual reality. The learning process can be improved in terms of both its quality and its effectiveness when learners engage with dynamic digital environments. This allows learners to investigate and discuss essential concepts from a variety of angles. To summarize, according to Štemberger and Konrad (2021), attitude towards digital technology refers to an individual's appraisal of the arrival of new types of technology in any given setting, whether it is favorable or bad.

Organization and interpretation of sensory stimuli into meaningful information that can be used for decision making is the process that is referred to as perception. Personal interpretation of the information acquired from one's environment is the sole basis for an individual's perspective of a particular person or event. There is a possibility that this is not accurate or factual. The judgments that teachers make, and the outcomes that they obtain as a result of using digital technology in the classroom, are influenced by these perspectives, which affect the decisions that teachers make. The view that a teacher has of the students' ability to study is a factor in the learning results of those students, according to research. Digitalization and digital technology have become an essential component of the educational system, which has resulted in a profound shift in the methodology of instruction as well as the professional responsibilities of educators.

PURPOSE OF THE STUDY

In a period of swift transformation, digitalization significantly influences various facets of our existence, particularly within the educational sphere, as it alters the methods by which we process, convey, and assimilate information via efficient and accessible digital technologies. In this sense, the digitalization of education pertains to the integration of novel technology into the educational framework, alongside the evolution of pedagogical approaches and interactions among diverse educational stakeholders. Educators predominantly perceive the potential of digital technologies in education favorably. Digitalization serves as an interactive instrument that enhances learner engagement in education (Raave et al. 2024), facilitating the adaption of appropriate study skills to individual needs and enhancing learning results based on the adopted study skills. A positive teacher-student connection facilitates the reduction of unwanted behavior and dropout rates, ultimately improving student learning results.

The teacher's digital competencies, disposition, familiarity, and communication skills contribute to the cultivation of positive interactions within the classroom. The presence of pleasant interactions was associated with a reduction in off-task behaviors among students (distractions). Teachers' perceptions of students' study skills positively correlate with enhancements in student learning, attitude, engagement, and motivation during class, indicating that personal experiences given by teachers resonate with some students long after they depart from school. In light of the swift advancement of digitalization and changing educational requirements, establishing a more engaging, dynamic, and student-centered learning environment is a goal. Strategic initiatives in educational digitalization must prioritize eliminating obstacles and cultivating favorable attitudes toward digital technologies among educators. This strategy is crucial for achieving the successful and sustainable integration of

technology, enhancing educational outcomes, and fostering a superior learning environment for all stakeholders.

Digitalization and digital technologies have become essential components of the education system, fundamentally altering teaching methodologies and the function of educators. Consequently, analyzing educators' perspectives on digitalization is crucial for improving educational efficacy and facilitating the successful integration of technology within the learning process. Teachers' attitudes are influenced by multiple elements, including expectations, obstacles, competences, and views of technology effectiveness.

REVIEW OF RELATED LITERATURE

A qualitative analysis of teachers' views regarding digital educational technology was examined by Ekaterina et al. in 2026. 50 Russian teachers from various regions—45 of whom were female—with an average age of 43 and an average tenure of 18 years were polled for the study. The authors examined respondents' responses to open-ended questions concerning the goals and methods of utilizing digital technology, the benefits and drawbacks of digitalization in education, and teachers' opinions of the role of digitalization in education going forward. School teachers' attitudes toward digitalization are characterized by a number of interconnected key themes and features (educational, material and technological, psychological, and transformational) that were identified through phenomenological investigation.

The results show that despite the broad positive perception of digital transformation, some resistance still exists. Many educators refer to a lack of various forms of support for the use of digital technology as well as inadequate technical and material resources in schools. The impact of education on society is enormous. It teaches people how to think and make the proper choices. Assefa Kibret Melaku et al.'s study from 2025 aims to comprehend the attitudes, behaviors, and difficulties of teachers and students regarding the use of active learning strategies in elementary schools. The study's primary goal was to evaluate the degree of active learning implementation and pinpoint the key obstacles to its effective use in government-selected elementary schools. The researcher employed both quantitative and qualitative techniques and a descriptive survey design to accomplish the goal. 200 students in grades 7 and 8, 180 teachers, eight principals, and eight students participated in the study, which was carried out in eight elementary schools. Principals and supervisors were chosen by purposive selection, whereas teachers and students were chosen through simple random sampling using lottery techniques. Interviews and questionnaires were used to collect data.

While summaries and themes were used to examine qualitative data, descriptive statistical tools were used to assess quantitative data. According to the study's findings, courses were more teacher-dominated, indicating a low level of active learning approach adoption. Direct instruction and lectures were the most widely used instructional strategies. The results showed that the main obstacles to implementing the active learning technique in primary schools in this study area were administrative, curriculum-related, material scarcity, and financial resources.

Amita Rana, Aniruddha Ray, and Bijay Kumar Mohanty's (2025) study aims to investigate secondary school teachers' perspectives toward the usage of e-learning platforms in the teaching-learning process. In particular, it looked at teachers' general attitudes, determined the major influencing elements—like proficiency and device access—and explored the mediation function of motivation in the connection between administrative support and teacher attitudes. Using data from 600 participants, correlation and mediation analyses showed that competence, device access, and attitude were significantly positively correlated. Additionally, the mediation model verified that the impact of administrative assistance on instructors' perceptions of e-learning platforms is substantially mediated by motivation. These results highlight the necessity of comprehensive institutional support and teacher incentive initiatives to improve the effective use of digital tools in the classroom.

The professional expertise of teachers and the teaching-learning activities employed in classrooms have a direct impact on the quality of education that pupils get. The way that instructors and students

view the teaching-learning activities that are employed in their classrooms can have an impact on and provide insight into the quality of education. Thumah Mapulanga and Anthony Bwalya (2024) conducted a comparative study to examine how 40 teachers and 469 students perceived the teaching-learning activities utilized in secondary school biology classrooms. Likert-scale surveys on paper were used to gather data from the participants, who were chosen from eight secondary schools in Zambia. The statistical package for the social sciences (SPSS) was used to analyze the data in order to calculate Chi square tests and frequencies. The findings showed that for every indication of teaching-learning activities, teachers had more favorable opinions than students. Additionally, for the majority of the teaching-learning activities (65%), the perceptual differences between teachers and students were statistically significant. The findings also showed that participants had unfavorable opinions of the teaching-learning activities in the areas of "making biology teaching learning easy" and "assessment strategies."

Owing to the widespread use of technology in many spheres of society, educational institutions must likewise equip their students to be technologically literate (Kalanada, 2005). This is the reason why there has been a daily increase in the usage of technology in classrooms and schools in general. In order to fully profit from the use of technology in education, policy planners must take into account all relevant variables and settings, whether directly or indirectly. Numerous educational academics have investigated the different aspects that affect the usage of technology in the classroom. Teachers' attitudes regarding computers are the most significant element influencing the effective usage of computers in the classroom. Therefore, Gourav Mahajan's (2016) study sought to investigate teachers' attitudes toward the usage of technology in the classroom. Using an easy sampling technique, a sample of one hundred teachers was selected from ten schools in the Nurpur and Jawali Blocks of District Kangra for the current study. The researcher employed a self-made questionnaire to gather data. About 25% of the teachers had solely positive attitudes about using technology in the classroom, according to the report. Teachers' attitudes on the usage of technology in the classroom did not significantly differ based on their gender or level of teaching experience.

METHODOLOGY

The study involved teachers from the State Board and CBSE Board in Chennai District, who instructed all subjects for grades VI to X, utilizing a survey methodology. This inquiry utilizes the survey method. Data is collected with the random sampling method. The data was sourced from more than 520 educators, comprising 218 from the State board and 302 from the CBSE board. The evaluation of teachers' perceptions concerning students' academic capabilities was conducted via a customized tool developed by the researcher, based on the Pew Research Center's Intent and American Life Project online survey targeting middle and high school educators (2012). The measure comprises four dimensions—student study habits, the influence of digital ecology on learning, e-learning in the classroom, and the utilization of cell phones in the educational process—totaling 38 items. The study assesses teachers' attitudes on the use of digital technology as a teaching tool.

RESEARCH QUESTIONS:

1. Is there is any significant mean difference between the male and female teachers with respect to perception of teachers about students study skills and attitude of teachers towards technology in the classroom?
2. Is there is any significant mean difference between the State and CBSE board teachers with respect to perception of teachers about students study skills and attitude of teachers towards technology in the classroom?
3. Is there is any significant mean difference between the married and unmarried teachers with respect to perception of teachers about students study skills and attitude of teachers towards technology in the classroom?

4. Is there is any significant mean difference between the teachers using the internet or not user of the internet with respect to perception of teachers about students study skills and attitude of teachers towards technology in the classroom?

FINDINGS OF THE RESEARCH QUESTIONS:

1. Is there is any significant mean difference between the male and female teachers with respect to perception of teachers about students study skills and attitude of teachers towards technology in the classroom?

Variables and its Dimensions	Gender				‘t’ Value	Level of Significance
	Male Teachers (N=261)		Female Teachers (N=259)			
	Mean	S.D	Mean	S.D		
Perception of teachers – Student Study skills	85.84	24.378	130.56	24.389	20.908	P<0.001 S
Attitude of Teachers towards technology in the classroom	91.49	21.045	96.34	7.291	3.510	P<0.001 S

From the data presented in the table above, it can be deduced that female teachers have a more favorable impression of the academic abilities of their students than male teachers do. It has been discovered that female teachers report a favorable significant difference with regard to the perception of teachers about the study skills of pupils. This difference is significant at a 1% level compared to the perceptions of their male counterparts. According to another survey, female instructors had a more positive attitude toward the implementation of technology in the classroom than their male counterparts do. In addition, it has been discovered that there is a favorable and significant difference in attitude with regard to the utilization of technology in the classroom at the 1% level.

1. Is there is any significant mean difference between the State and CBSE board teachers with respect to perception of teachers about students study skills and attitude of teachers towards technology in the classroom?

Variables	Type of Board				‘t’ Value	Level of Significance
	State Board (N=218)		CBSE (N=302)			
	Mean	S.D	Mean	S.D		
Perception of teachers – Student Study skills	104.57	32.753	110.67	33.130	2.087	P<0.005 S
Attitude of Teachers towards technology in the classroom	90.41	22.625	96.43	7.350	4.316	P<0.001 S

The data shown in the table above suggests that teachers working for the CBSE board had a more favorable assessment of the kids' ability to learn than teachers working for the state board. It has been discovered that teachers working for the CBSE board claim that there is a positive significant difference with regard to the perception of teachers about the study skills of pupils. This difference is shown to be significant at a 5% level compared to their counterparts. Additionally, it has been stated that teachers from the CBSE board have a more positive attitude toward the utilization of technology in the classroom compared to teachers from the state board. In addition, it has been discovered that there is a favorable and significant difference in attitude with regard to the utilization of technology in the classroom at the 1% level.

1. Is there is any significant mean difference between the married and unmarried teachers with respect to perception of teachers about students study skills and attitude of teachers towards technology in the classroom?

Variables	Marital Status				‘t’ Value	Level of Significance
	Married (N=460)		Unmarried (N=60)			
	Mean	S.D	Mean	S.D		
Perception of teachers – Student Study skills	106.65	33.652	119.35	25.884	3.441	P<0.001 S
Attitude of Teachers towards technology in the classroom	93.62	16.763	96.13	6.642	2.170	P<0.005 S

The data presented in the table above suggests that teachers who are not married have a more favorable opinion of the academic abilities of their students than those who are married. It has been discovered that teaching professionals who are not married report a favorable and substantial difference in their perceptions of students' academic abilities. This difference is determined to be significant at a 1% level, which is significantly higher than the perceptions of married teachers. It has also been noted that instructors who are not married have a more positive attitude toward the implementation of technology in the classroom than teachers who are married. Furthermore, it has been discovered that there is a favorable and significant difference in attitude with regard to the utilization of technology in the classroom at the 5% percentage level.

1. Is there is any significant mean difference between the teachers using the internet or not user of the internet with respect to perception of teachers about students study skills and attitude of teachers towards technology in the classroom?

Variables	Internet User				‘t’ Value	Level of Significance
	Yes (N=285)		No (N=235)			
	Mean	S.D	Mean	S.D		
Perception of teachers – Student Study skills	112.19	33.841	104.75	31.724	2.583	P<0.001 S
Attitude of Teachers towards technology in the classroom	94.11	16.026	93.66	15.873	0.325	P>0.005 NS

Based on the data presented in the table above, it can be deduced that teachers who use the internet have a more favorable impression of their pupils' academic abilities than teachers who do not use the internet. It has been discovered that instructors who use the internet claim that there is a positive significant difference with regard to the perception of teachers about the study skills of pupils. This difference is reported to be significant at a 1% level compared to teachers who are married. Both instructors who use the internet and teachers who do not use the internet were found to have the same attitude regarding the use of technology in the classroom, according to the findings of the study.

CONCLUSION

Educators, as pivotal agents of transformation in the classroom, are instrumental in the effective incorporation of digital technologies. Their attitudes, ideas, and behaviors are essential in determining the adoption and utilization of technology in educational institutions. Comprehending both the techniques of technology integration and the intrinsic motivations and pedagogical skills of educators is crucial for establishing an environment that fosters innovative teaching practices and for developing professional development programs that meet the genuine needs and challenges of contemporary educational institutions. This encompasses enhancing educational infrastructure, offering customized professional development initiatives to augment digital literacy, and alleviating stress related to technology integration. Teachers' attitudes regarding ongoing, incomplete reform processes must also be considered. Ongoing methodological, technical, and administrative assistance is essential to cultivate a favorable psychological atmosphere, reduce resistance, and guarantee the successful integration of digital technology in education.

To thoroughly comprehend educators' perspectives on digitalization, future research should investigate not only the adoption of new tools but also the potential reimagining and transformation of the educational experience. The individual traits and personal dispositions of educators must be taken into account, as these elements affect the cultivation of favorable attitudes toward innovation.

REFERENCE

2. Amita Rana, Dr. Aniruddha Ray, Dr. Bijay Kumar Mohanty (2025). Embracing EdTech: A Study on Secondary School Teachers' Attitudes on E-Learning Platforms. International Journal of Advanced Research in Science, Communication and Technology International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal ISSN: 2581-9429 Volume 5, Issue 1. ISSN: 2581-9429. DOI: 10.48175/IJARSCT-28909.
3. Assefa Kibret Melaku, Ali Yasin Ali and Taemyalew Mezgebe Tesfaye (2025). Teachers' and students' perception, practices, and challenges of active learning strategy utilization in primary schools of North Wollo Zone, Ethiopia. . Smart Learning Environments (2025) 12:51 <https://doi.org/10.1186/s40561-025-00391-4>
4. Cornelius-White, J. (2007). Learner Centered Teacher-Student Relationships Are Effective: A Meta-Analysis. Review Of Educational Research, 77(1), 113-143. <https://doi.org/10.3102/003465430298563>.
5. Dika, S. L., & Singh, K. (2002). Applications of Social Capital in Educational Literature: A Critical Synthesis. Review of Educational Research, 72(1), 31-60. <https://doi.org/10.3102/0034654307200103> 1
6. Ekaterina V. Bushina, Azkhariya M. Karimova, Aleksandra P. Fakhretdinova (2026). A Study of Teachers' Attitudes towards Digital Educational Technologies: a Qualitative Analysis. Population and Economics Vol.10 (1), pp. 1-21. <https://doi.org/10.3897/popecon.10.e149104>.
7. Gourav Mahajan (2016). Attitude of Teachers towards the use of Technology in Teaching. An Int. J. of Education and Applied Social Sciences Vol 7 1 Issue 2. DOI: 10.5958/2230-7311.2016.00031.3.

8. Hughes, J. N., Cavell, T. A., & Willson, V. (2001). Further Support for the Developmental Significance of the Quality of the Teacher–Student Relationship. *Journal of School Psychology*, 39(4), 289–301. ht Muller, C. (2001). The Role of Caring in the Teacher-Student Relationship for At-Risk Students. *Sociological Inquiry*, 71(2), 241–255. <https://doi.org/10.1111/j.1475.682x.2001.tb01110.x> 23.
9. Muller, C., Katz, S. R., & Dance, L. J. (1999). Investing in Teaching and Learning. *Urban Education*, 34(3), 292–337. <https://doi.org/10.1177/0042085999343003> [tps://doi.org/10.1016/s0022.4405\(01\)00074-7](https://doi.org/10.1016/s0022.4405(01)00074-7)
10. Thumah Mapulanga and Anthony Bwalya (2024) Teachers’ and students’ perceptions of teaching-learning activities used in secondary school biology classrooms: a comparative study, *Cogent Education*, 11:1, 2372144, DOI: 10.1080/2331186X.2024.2372144
11. Uitto, M. (2012). ‘Behind every profession is a person’: Students’ written memories of their own teacher–student relationships. *Teaching and Teacher Education*, 28(2), 293–301. <https://doi.org/10.1016/j.tate.2011.10.009> 32.
12. Varga, M. (2017). The Effect of Teacher Student Relationships on the Academic Engagement of Students Retrieved 3 September 2022, from https://mdsoar.org/bitstream/handle/11603/3893/VargaMeagan_paper.pdf?sequence=1 &i.

