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Research Paper

Study of Digital Competence and Techno-Pedagogical Skills of Secondary School Teachers

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ABSTRACT:
This research paper investigates the digital competence and techno-pedagogical skills of secondary school teachers. In the context of an increasingly digital world, it is crucial for teachers to possess the necessary knowledge and skills to effectively integrate technology into their teaching practices. The study aims to explore the levels of digital competence among secondary school teachers, identify the factors influencing the development of these skills, and assess the impact of digital competence on techno-pedagogical practices. The findings from this research will provide insights into the current state of digital competence among secondary school teachers and inform strategies for enhancing their techno-pedagogical skills.Education is the process of acquiring knowledge, life skills, moral values, beliefs, and habits that help individuals to lead fulfilling lives and contribute to society. Education is a fundamental human right that is essential for personal and social development. It is a lifelong process that starts from birth and continues throughout our lives. Education is critical for personal growth and development. It enables individuals to develop critical thinking skills, creativity, and problem-solving skills. It also helps individuals to understand the world around them, appreciate diverse cultures, and develop a sense of empathy and compassion. Education empowers individuals to make informed decisions, take responsibility for their actions, and achieve their full potential. Education also plays a vital role in economic development. It provides individuals with the skills and knowledge necessary to participate in the workforce and contribute to the economy. Education helps individuals to acquire the skills necessary for different types of jobs and to adapt to changing economic conditions. Education also contributes to innovation and technological advancements, which are critical for economic growth. Education is also essential for social development. It helps individuals to understand the social, cultural, and historical context of their communities and to appreciate diversity. Education promotes social cohesion and provides individuals with the skills necessary to participate in democratic processes and civic life. Education also plays a crucial role in promoting social justice and equality by providing equal opportunities to all individuals regardless of their background.

KEYWORDS: *Digital competence, Techno-Pedagogical Skills, Secondary school teachers, Teaching practices, Teacher, Education.*

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I. INTRODUCTION

Teaching is the process of imparting knowledge, skills, and values to learners. It is an art that requires the teacher to possess a combination of knowledge, experience, and skill to be effective. The concept of teaching has been around for centuries, and it has evolved over time to reflect changes in society and advances in technology. In this essay, we will explore the concept of teaching, its importance, and the qualities that make a good teacher. The importance of teaching cannot be overstated. It is through teaching that we transmit knowledge and skills from one generation to the next. Teaching is also a critical component of socialization, as it helps individuals develop the values, norms, and attitudes that are necessary for successful participation in society. In addition, teaching is essential for personal growth and development, as it allows individuals to acquire new skills, knowledge, and perspectives that can improve their lives. To be an effective teacher, one must possess a variety of qualities and skills. One of the most important qualities is subject matter expertise. A good teacher must have a deep understanding of the subject matter they are teaching, including its history, theories, concepts, and applications. This knowledge allows the teacher to provide clear explanations and

examples, answer questions, and guide learners in their understanding of the material. Another essential quality of a good teacher is the ability to communicate effectively. Communication is critical in teaching, as it allows the teacher to convey information, ideas, and concepts to learners. Effective communication requires the teacher to be clear, concise and organized in their presentation of information. It also involves active listening, as the teacher must be able to understand and respond to learners' questions and feedback. A good teacher must also be able to engage learners and create a positive learning environment. Engagement involves creating activities and assignments that are relevant, interesting, and challenging. A positive learning environment involves creating a classroom culture that is supportive, respectful, and inclusive. A good teacher must also be able to provide constructive feedback and support to learners to help them improve their skills and knowledge.

1.1 BACKGROUND

The history of Indian teacher education can be traced back to ancient times when the guru-shishya tradition was prevalent. Under this system, a student would live with a guru or teacher and learn all aspects of life from him. The guru would impart knowledge not only about academics but also about life skills, values, and ethics. During the colonial era, the British introduced the modern system of T.E. in India. In 1854, the first teacher training college was established in India in Madras (now Chennai), followed by the establishment of several other teacher training institutions across the country. These institutions focused on training teachers in the Western model of education, which emphasized rote learning and memorization.In today's digital age, technology has transformed various aspects of society, including education. The integration of technology in classrooms has the potential to enhance teaching and learning experiences, foster critical thinking and creativity, and prepare students for the digital demands of the 21st century. However, the successful implementation of technology in education heavily relies on the digital competence and techno-pedagogical skills of teachers.

Digital competence refers to the ability of individuals to effectively use digital tools, navigate digital environments, and critically evaluate and apply digital information. In the context of education, digital competence among teachers encompasses a range of skills, including technical proficiency, digital literacy, and the ability to integrate technology into pedagogical practices. Teachers with high levels of digital competence can leverage technology to create interactive and personalized learning experiences, engage students in meaningful ways, and facilitate collaboration and communication.

Techno-pedagogical skills focus on the integration of technology in teaching and learning processes. It involves the knowledge and expertise needed to select appropriate technology tools, design technology-enhanced instructional activities, and effectively manage digital resources in the classroom. Techno-pedagogical skills enable teachers to create dynamic learning environments, differentiate instruction to meet diverse student needs, and foster digital citizenship and critical thinking skills.

Understanding the digital competence and techno-pedagogical skills of secondary school teachers is of paramount importance. Secondary schools cater to students in a critical stage of their educational journey, where they are developing essential skills and knowledge for higher education and future careers. By equipping secondary school teachers with the necessary digital competence and techno-pedagogical skills, students can benefit from enhanced learning experiences that align with the demands of the digital era.Furthermore, the significance of studying digital competence and techno-pedagogical skills lies in the potential impact on educational equity. Technology can bridge the gap between students with different backgrounds, abilities, and learning styles. However, without teachers who possess the necessary skills and competence to effectively integrate technology, there is a risk of exacerbating existing educational inequalities. Ensuring that all secondary school teachers have access to professional development and support to enhance their digital competence can contribute to creating a more equitable and inclusive educational environment. Research in this field aims to examine the current state of digital competence among secondary school teachers, identify the factors that influence the development of these skills, and explore the impact of digital competence on techno-pedagogical practices and student outcomes. The findings can inform educational policymakers, administrators, and professional development providers in designing targeted interventions and support mechanisms to enhance teachers' digital competence. Ultimately, such efforts can lead to improved educational experiences and outcomes for secondary school students, preparing them for success in the digital age.

1.2 RESEARCH OBJECTIVES

1. To find out the level of digital competence of Secondary School Teachers.
2. To find out the level of the techno-pedagogical skills of Secondary school Teachers.
3. To find out whether the digital competence of Teachers differs significantly with respect to
- Gender (Male/ Female)
- Area of Residence (Rural / Semi-urban/ Urban)
- Subject Specialization (Arts/ Science)
- Experience: (Less than 10 years, more than 10 years)

4. To find out whether the techno-pedagogical skills of Teachers differ significantly with respect to

- Gender (Male/ Female)
- Area of Residence (Rural / Semi-urban/ Urban)
- Subject Specialization (Arts/ Science)
- Experience: (Less than 10 years, more than 10 years)

1.3 RESEARCH QUESTIONS

1. What is the current level of digital competence among secondary school teachers?

- This question aims to assess the digital competence of secondary school teachers by examining their proficiency in technical skills, digital literacy, Pedagogical knowledge related to technology integration, and attitudes toward technology.

2. What are the factors influencing the development of digital competence and techno-pedagogical skills among secondary school teachers?

- This question explores the individual-level and contextual factors that shape teachers' digital competence and techno-pedagogical skills. It may include factors such as age, gender, prior experience with technology, institutional support, access to resources, and opportunities for professional development.

3. How do secondary school teachers integrate technology into their instructional practices?

- This question examines the extent to which secondary school teachers incorporate technology in their teaching. It explores the types of technology tools and resources used, the instructional strategies employed, and the perceived impact on student engagement, motivation, and learning outcomes.

4. What is the relationship between digital competence and techno-pedagogical skills among secondary school teachers?

- This question investigates the connection between teachers' digital competence and their ability to effectively integrate technology into their pedagogical practices. It explores how higher levels of digital competence correspond to stronger techno-pedagogical skills and examines the impact on instructional practices and student outcomes.

5. What are the effective strategies for enhancing digital competence and techno-pedagogical skills among secondary school teachers?

- This question explores the approaches, interventions, and professional development initiatives that effectively support the development and enhancement of digital competence and techno-pedagogical skills among secondary school teachers. It aims to identify best practices and recommendations for improving teachers' digital competence and integrating technology effectively into their teaching practices.

II. LITERATURE REVIEW:

Study by Ertmer, Ottenbreit-Leftwich, and York (2012):
This study investigated the relationship between teachers' digital competence and their integration of technology in the classroom. The findings revealed that teachers with higher levels of digital competence were more likely to use technology for instructional purposes. The study emphasized the importance of providing teachers with opportunities for professional development to enhance their digital competence and integrate technology effectively.

Research by Voogt, Fisser, Pareja Roblin, Tondeur, and van Braak (2013):
This study examined the relationship between teachers' digital competence and their pedagogical practices in secondary education. The results indicated that teachers with strong digital competence were more likely to adopt student-centered and innovative pedagogical approaches. The study emphasized the need for teacher training programs to focus not only on technical skills but also on pedagogical knowledge and skills related to technology integration.

Study by Archambault and Crippen (2009):
This research explored the relationship between teachers' digital competence and their perceptions of the benefits and challenges of technology integration in secondary education. The findings showed that teachers with higher levels of digital competence had more positive attitudes toward technology and perceived greater benefits in terms of student engagement and learning outcomes. The study highlighted the importance of supporting teachers in developing their digital competence to overcome perceived challenges.

Research by Kozma (2014):
This study examined the impact of teachers' digital competence on student learning outcomes in secondary education. The findings indicated that teachers' digital competence positively influenced student achievement and engagement. The study emphasized the need for teacher training programs to focus not only on technical skills but also on pedagogical approaches that leverage technology effectively.

Study by Prestridge (2014):
This research investigated the factors that influence the development of digital competence among secondary school teachers. The study identified factors such as teachers' prior experience with technology, access to

technology resources, and ongoing professional development as critical determinants of digital competence. The findings highlighted the importance of providing teachers with support and resources to develop and enhance their digital competence.

Research by Hatlevik and Christophersen (2013):

This study explored the relationship between teachers' digital competence and their use of digital resources in secondary education. The findings indicated that teachers with higher levels of digital competence were more likely to use a wide range of digital resources in their teaching. The study emphasized the need for continuous professional development to enhance teachers' digital competence and promote the effective use of digital resources.

III. COMPONENTS OF DIGITAL COMPETENCE

Digital competence encompasses various components that collectively contribute to an individual's ability to use digital tools, navigate digital environments, and critically engage with digital information. The components of digital competence can vary slightly depending on the framework or model used, but they generally include the following:

1. Technical Skills: Technical skills refer to the ability to operate and utilize digital tools and technologies effectively. This includes proficiency in using hardware devices such as computers, tablets, and smartphones, as well as software applications and online platforms commonly used in educational settings. Technical skills also encompass knowledge of basic troubleshooting, file management, and data security practices.
2. Digital Literacy: Digital literacy involves the capability to find, evaluate, and utilize digital information effectively. It includes skills related to information retrieval, critical evaluation of sources, and the ethical use of digital content. Digital literacy also encompasses the ability to navigate online environments, understand digital communication protocols, and engage in online collaboration and networking.
3. Information Management: Information management focuses on the ability to organize, store, and retrieve digital information efficiently. This includes skills related to file organization, version control, data backup, and data security. Effective information management ensures that teachers can access and utilize relevant digital resources in their instructional practices.
4. Pedagogical Knowledge: Pedagogical knowledge refers to understanding how to integrate technology in teaching and learning processes. It includes knowledge of educational theories, instructional strategies, and assessment methods that leverage digital tools. Pedagogical knowledge also encompasses the ability to design technology-enhanced learning experiences, differentiate instruction using digital resources, and promote active and collaborative learning.
5. Critical Thinking and Problem-Solving: Digital competence involves the capacity to think critically and solve problems in digital contexts. This includes the ability to evaluate the reliability and validity of digital information, identify and address digital privacy and security issues, and adapt to new technologies and digital environments. Critical thinking and problem-solving skills are essential for teachers to navigate the evolving digital landscape and make informed decisions in integrating technology into their instructional practices.
6. Communication and Collaboration: Digital competence involves effective communication and collaboration in digital spaces. This includes skills related to online communication platforms, digital collaboration tools, and online etiquette. Teachers with strong communication and collaboration skills can facilitate effective online discussions, foster collaboration among students, and promote digital citizenship.
7. Digital Citizenship: Digital citizenship encompasses the responsible and ethical use of digital tools and resources. It involves understanding issues such as online safety, privacy, copyright, and digital rights. Digital citizenship skills including promoting digital etiquette, responsible online behavior, and ethical practices in using and sharing digital content.

IV. FRAMEWORKS AND MODELS FOR ASSESSING DIGITAL COMPETENCE

Assessing digital competence requires frameworks and models that provide a comprehensive and structured approach to evaluate individuals' skills, knowledge, and attitudes related to digital technology. Here are some prominent frameworks and models used for assessing digital competence:

1. DigComp Framework: The DigComp Framework, developed by the European Commission, provides a widely used reference for assessing digital competence. It consists of a set of key components and levels of proficiency in digital competence, including five competence areas: Information and data literacy, Communication and collaboration, Digital content creation, Safety, and Problem-solving. The framework offers a holistic approach to assessing digital competence across various contexts and provides a common language for discussing and evaluating digital competence.
2. ISTE Standards for Teachers: The International Society for Technology in Education (ISTE) has developed a set of standards for teachers to guide their digital competence assessment. These standards include areas such as Facilitator, Leader, Designer, Collaborator, Analyst, and Citizen. The ISTE Standards emphasize

the integration of technology into teaching practices, digital citizenship, and the use of technology to enhance student learning and creativity.

3. TPACK Framework: The Technological Pedagogical Content Knowledge (TPACK) framework focuses on the integration of technology, pedagogy, and content knowledge. It highlights the intersection of these three areas and emphasizes the importance of teachers' understanding of how technology can enhance and transform pedagogical approaches to support specific content areas. The TPACK framework provides a lens for assessing teachers' digital competence and their ability to effectively integrate technology in subject-specific teaching contexts.
4. SAMR Model: The SAMR (Substitution, Augmentation, Modification, Redefinition) model is a framework developed by Dr. Ruben Puentedura. It provides a progression of technology integration levels, ranging from simple substitution of traditional tasks to the transformation and redefinition of learning experiences through technology. The SAMR model helps assess the depth of technology integration and encourages teachers to move beyond using technology as a direct substitute for traditional methods.
5. NETS-T Standards: The National Educational Technology Standards for Teachers (NETS-T) framework, developed by the International Society for Technology in Education (ISTE), outlines a set of standards for assessing digital competence among teachers. These standards encompass areas such as Facilitating and Inspiring Student Learning and Creativity, Designing and Developing Digital-Age Learning Experiences and Assessments, and Engaging in Professional Growth and Leadership. The NETS-T standards provide guidance for assessing teachers' digital competence across multiple dimensions of their professional practice.

V. TECHNO-PEDAGOGICAL SKILLS AND THEIR INTEGRATION

Techno-pedagogical skills refer to the abilities of teachers to effectively integrate technology into their instructional practices. These skills encompass a combination of technological knowledge, pedagogical strategies, and the ability to apply them in meaningful and effective ways to enhance teaching and learning. Here are some key techno-pedagogical skills and their relationship to instructional practices:

1. Technology Integration: Techno-pedagogical skills involve the ability to integrate technology seamlessly into instructional practices. This includes selecting appropriate technological tools and resources that align with instructional goals and content. Teachers with strong techno-pedagogical skills can effectively incorporate digital resources, multimedia elements, interactive platforms, and collaborative tools to create engaging and interactive learning experiences.
2. Curriculum Design and Adaptation: Techno-pedagogical skills enable teachers to design and adapt curricula to integrate technology effectively. This involves aligning instructional goals and objectives with appropriate digital tools and resources, designing technology-enhanced learning activities, and modifying existing curricula to incorporate technology. Teachers with these skills can create authentic and meaningful learning experiences that leverage technology to enhance student understanding and engagement.
3. Differentiated Instruction: Techno-pedagogical skills support teachers in implementing differentiated instruction using technology. This involves using digital resources and tools to tailor instruction to meet the diverse learning needs and preferences of students. Teachers can leverage technology to provide personalized learning pathways, adaptive assessments, and individualized support. Techno-pedagogical skills empower teachers to use technology to differentiate instruction and create inclusive learning environments.
4. Collaborative Learning: Techno-pedagogical skills facilitate the implementation of collaborative learning strategies using technology. Teachers can utilize digital platforms, communication tools, and online collaborative spaces to foster collaboration, communication, and teamwork among students. They can facilitate online discussions, group projects, and peer feedback, promoting active learning and knowledge construction through collaborative interactions facilitated by technology.
5. Formative Assessment: Techno-pedagogical skills enable teachers to leverage technology for formative assessment practices. They can use digital tools and platforms to gather real-time data on student progress, provide immediate feedback, and adjust instruction accordingly. Techno-pedagogical skills support the effective use of online quizzes, interactive simulations, and multimedia presentations to assess student understanding and monitor learning outcomes.
6. Critical Thinking and Problem-Solving: Techno-pedagogical skills foster the integration of technology to enhance critical thinking and problem-solving skills. Teachers can utilize digital tools and resources to engage students in authentic problem-solving activities, inquiry-based learning, and data analysis. They can facilitate the use of technology for research, data interpretation, and collaborative problem-solving, empowering students to think critically and develop higher-order thinking skills.

VI. INTEGRATION OF TECHNOLOGY IN PEDAGOGY

The integration of technology in pedagogy refers to the incorporation of digital tools, resources, and technology-based instructional strategies into teaching practices. This integration aims to enhance and transform traditional pedagogical approaches by leveraging the affordances of technology to support and enrich student learning experiences. Here are some key aspects of the integration of technology in pedagogy:

1. Enhancing Instructional Delivery: Technology integration in pedagogy enables teachers to deliver instruction in more dynamic and interactive ways. They can use multimedia presentations, videos, simulations, and other digital resources to present content in engaging and visually appealing formats. This helps capture students' attention, increase their motivation, and facilitate comprehension of complex concepts.
2. Promoting Active Learning: Technology integration encourages active learning by providing opportunities for students to actively engage with content and participate in hands-on learning experiences. Teachers can use technology to create interactive activities, virtual labs, online discussions, and collaborative projects that foster student engagement, critical thinking, and problem-solving skills.
3. Personalizing Learning: Technology integration allows for personalized learning experiences tailored to individual student needs and preferences. With the help of adaptive learning platforms, intelligent tutoring systems, and educational apps, teachers can provide personalized learning pathways, adaptive assessments, and targeted interventions. This helps address the diverse learning styles, abilities, and interests of students, enhancing their learning outcomes.
4. Facilitating Collaboration and Communication: Technology integration in pedagogy facilitates collaborative learning and communication among students. Online collaboration tools, video conferencing, and learning management systems enable students to collaborate on group projects, engage in peer discussions, and provide feedback to their peers. This fosters collaboration, communication, and teamwork skills, preparing students for real-world collaboration in the digital age.
5. Supporting Assessment and Feedback: Technology integration supports various assessment practices and provides timely feedback to students. Teachers can use online assessment tools, learning analytics, and digital portfolios to monitor student progress, assess learning outcomes, and provide immediate feedback. Technology also enables the use of formative assessment strategies, allowing teachers to make timely instructional adjustments based on student performance data.
6. Cultivating Digital Literacy and 21st-century Skills: The integration of technology in pedagogy helps cultivate digital literacy and 21st-century skills among students. By engaging with technology in their learning activities, students develop skills such as information literacy, digital citizenship, critical thinking, creativity, collaboration, and technological proficiency. These skills are essential for success in the digital age and prepare students for future challenges and opportunities.

VII. RESEARCH METHODOLOGY:

Research methodology refers to the systematic approach or method followed to conduct research. It is the process of identifying, selecting, analyzing, and interpreting data in a scientific manner to answer a research question or to solve a problem. In this article, we will provide an introduction to research methodology, covering its importance, types, steps, and tools. Research methodology is important for several reasons. Firstly, it ensures that the research is conducted in a systematic and scientific manner, ensuring that the results are reliable and valid. Secondly, it provides a clear roadmap for the researcher to follow, which makes the research process more organized and efficient. Finally, it helps the researcher to identify the appropriate data collection and analysis methods for the research question. There are two main types of research methodology: quantitative and qualitative. Quantitative research methodology involves collecting and analyzing numerical data, while qualitative research methodology involves collecting and analyzing non-numerical data.

7.1 Population

Government secondary school teachers of Greater Noida and Ghaziabad of Uttar Pradesh were selected for this study.

7.2 Sample

A sample is a part of the population that was chosen randomly for the study. The sample was selected from the government schools of Greater Noida and Ghaziabad of Uttar Pradesh. 4 schools were selected from these two regions. Twenty-five teachers per school were selected for the study and were fairly represented.

NAME OF THE SCHOOL	N	%
MahamayaBalika Inter College	25	0.25
Government Girls Inter College	25	0.25
Community School	25	0.25
PanchsheelBalak Inter College	25	0.25

TOTAL	100

TABLE 1: School-wise distribution of the sample

7.3 TOOLS USED FOR THE STUDY

The following tools were used for the data collection

1. Techno Pedagogical Skill Scale was designed by the investigator with guidance from their research supervisor.
2. Digital Competence skills scale was designed and formulated by the investigator with guidance from their research supervisor.

7.4 DATA ANALYSIS

Data was collected using questionnaire tools. Descriptive and inferential statistics were used for the interpretation of the scores in relation to the objectives stated and hypotheses formulated.

The following statistical techniques were used by the researcher to analyze the data:

1. The percentage method was used to measure the level of digital competence and techno-pedagogical skills of the secondary school teachers
2. T-test was used to find out whether the digital competence and techno-pedagogical skills of Teachers differ significantly with respect to

• Gender (Male/ Female)
• Area of Residence (Rural / Urban)
• Subject Specialization (Arts/ Science)
• Experience: (Less than 10 years, more than 10 years)

VIII. RESULTS:

The data collected for this study was organized, classified, and statistically analyzed in alignment with the research objectives. The study focused on three key variables: digital competence, techno-pedagogical skills, and teacher effectiveness. To analyze the data, various statistical techniques were employed, including descriptive analysis, and differential analysis. These techniques were used to gain insights and examine the relationships between the variables.

8.1 Levels of Digital Competence among Secondary School Teachers

LEVEL		N	PERCENTAGE
60-70	LOW	8	8%
70-80	MODERATE	21	21%
80-90	HIGH	58	58%
90-100	EXPERTISE	13	13%

TABLE 2
Level of digital competence of secondary school teachers

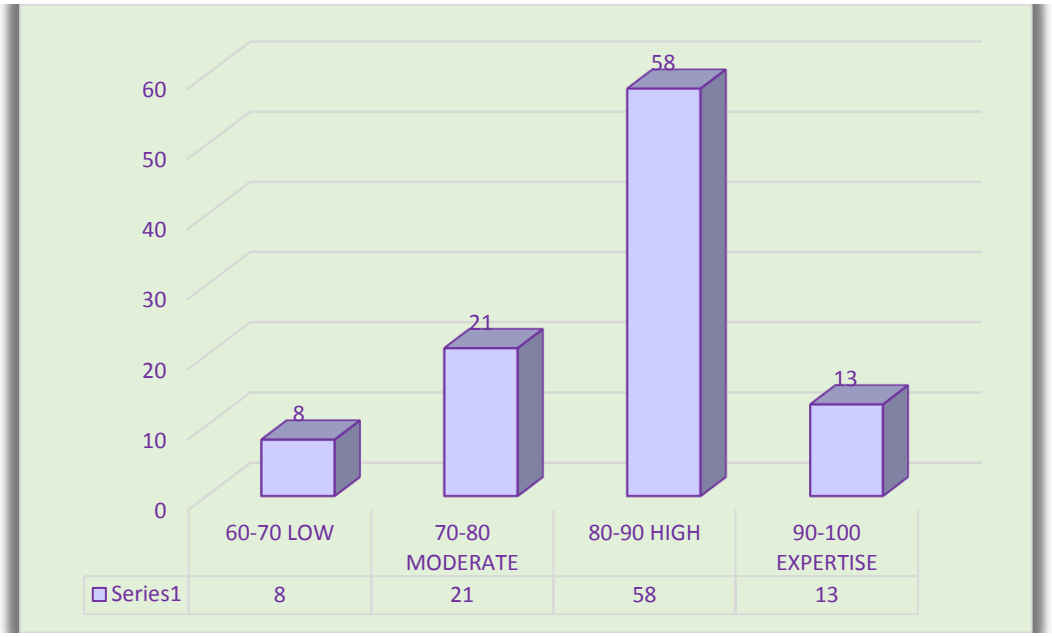

FIG 1: LEVEL OF DIGITAL COMPETENCE OF SECONDARY SCHOOLTEACHERS

8.2Level of Techno-Pedagogical Skills of secondary school teachers

LEVEL		N	PERCENTAGE
60-70	LOW	10	10%
70-80	MODERATE	27	27%
80-90	HIGH	53	53%
90-100	EXPERTISE	10	10%

TABLE 3
Level of techno-pedagogical skills of secondary school teachers

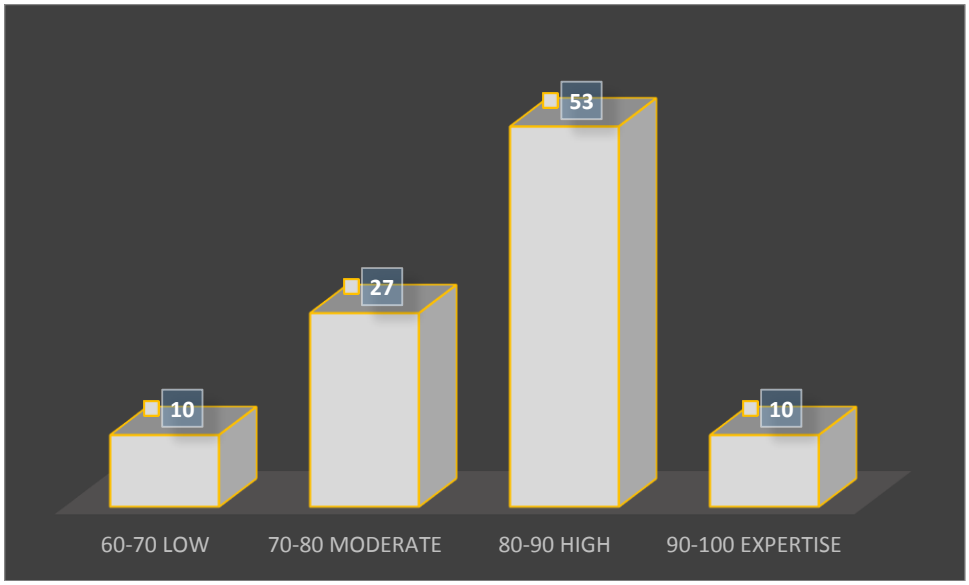

FIG 2: LEVEL OF TECHNO-PEDAGOGICAL SKILLS OF SECONDARY SCHOOL TEACHERS

8.2 FACTORS INFLUENCING DIGITAL COMPETENCE AND TECHNO-PEDAGOGICAL SKILLS OF SECONDARY SCHOOL TEACHERS

8.2.1 AREA OF RESIDENCE OF THE TEACHERS

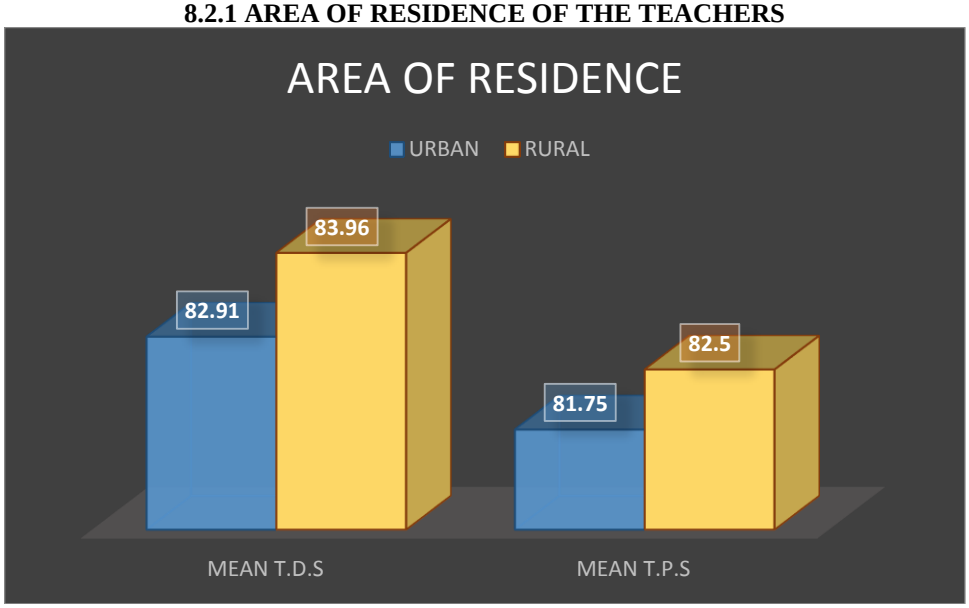

FIG 3: Area of residence of teachers

8.2.2 SUBJECT SPECIALIZATION

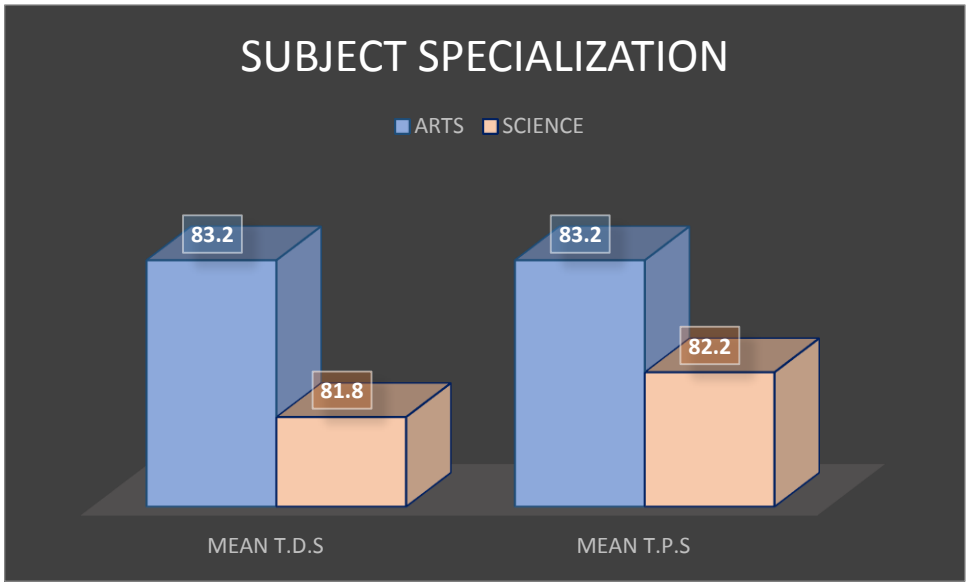

FIG 4: subject specialization of teachers

8.2.3 YEARS OF EXPERIENCE

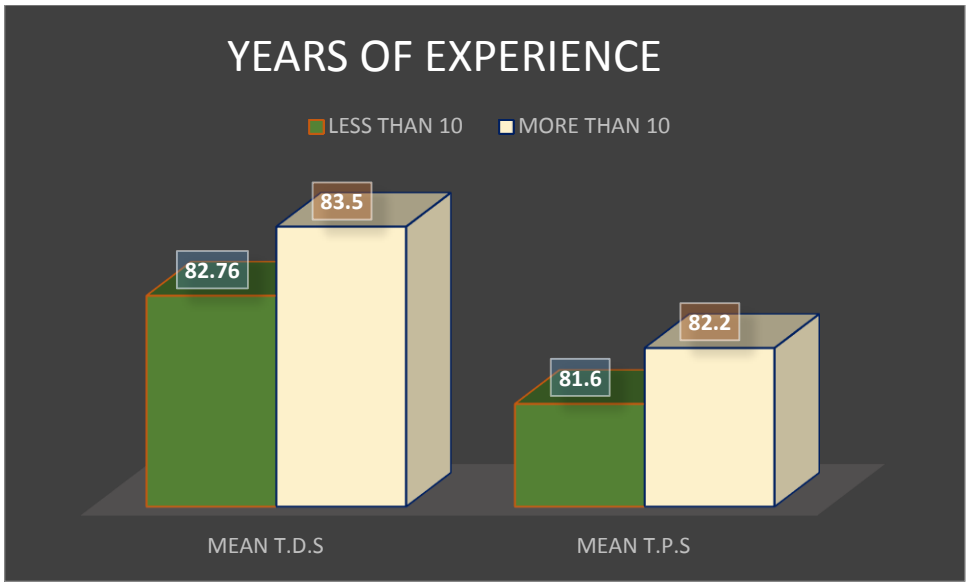

FIG 5: Years of experience of teachers

8.2.4 GENDER

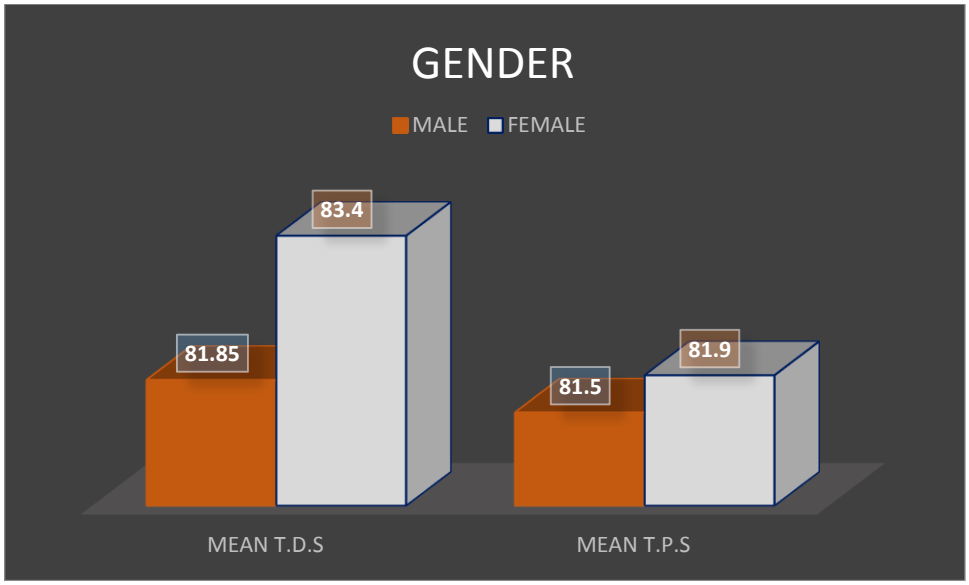

FIG 6: Gender of the teachers

IX. DISCUSSION:

9.1 Interpretation of Results

- It was found that there is not much difference in the digital competence skills of Secondary School Teachers of Greater Noida and Ghaziabad.
- It was found that there is not much difference in the digital competence skills of Secondary School Teachers of Greater Noida and Ghaziabad.
- It was found that said that there is no significant difference in the digital competence of male and female teachers.
- It was found that there is no significant difference in the digital competence of teachers residing in urban and rural areas.
- It was found that there is no significant difference in the digital competence of secondary school teachers with respect to their experiences.
- It was found that there is no significant difference in the digital competence of secondary school teachers with respect to their specialized subjects.

- It was found that there is no significant difference in the techno-pedagogical skills of male and female teachers.
- It was found that there is no significant difference in the techno-pedagogical skills of teachers residing in urban and rural areas.
- It was found that there is no significant difference in the techno-pedagogical skills of secondary school teachers with respect to their experiences.

X. SUMMARY OF FINDINGS:

The findings of the study on the digital competence and techno-pedagogical skills of secondary school teachers can be summarized as follows:

Digital Competence Skills:

a. There is not much difference in the digital competence skills of secondary school teachers in Greater Noida and Ghaziabad.

b. There is no significant difference in the digital competence skills between male and female teachers.

c. There is no significant difference in the digital competence skills between teachers residing in urban and rural areas.

d. There is no significant difference in the digital competence skills of teachers based on their experience.

e. There is no significant difference in the digital competence skills of teachers based on their specialized subjects.

Techno-Pedagogical Skills:

a. There is no significant difference in the techno-pedagogical skills between male and female teachers.

b. There is no significant difference in the techno-pedagogical skills between teachers residing in urban and rural areas.

c. There is no significant difference in the techno-pedagogical skills of teachers based on their experience.

XI. RECOMMENDATIONS FOR FUTURE RESEARCH

- This study focused on just one state to seek digital competence and techno-pedagogical skills of secondary school teachers.
- This study was delimited to just two regions but more districts could have been added to widen the study
- The study can also be done on primary teachers of government schools.
- This study was limited to the digital competence and techno-pedagogical skills of government secondary school teachers but the study could have been widened by studying both government and private teachers.
- The sample was limited to 100 secondary school teachers but research can be planned on large samples too.

XII. CONCLUSION:

This research paper will contribute to the existing body of knowledge by providing insights into the digital competence and techno-pedagogical skills of secondary school teachers. The study will shed light on the current state of teachers' digital competence, identify factors influencing its development, and explore the relationship between digital competence and techno-pedagogical practices. The findings will help inform educational institutions and policymakers about the importance of providing appropriate support and professional development opportunities for teachers to enhance their digital competence and effectively integrate technology into their teaching practices.The integration of technology in pedagogy has the potential to enhance instructional practices, promote active learning, personalize education, foster collaboration, and develop essential 21st-century skills among students.The reviewed studies emphasize the need for teachers to develop digital competence, including technical skills, pedagogical knowledge, and the ability to integrate technology effectively into their teaching practices. Professional development programs play a crucial role in supporting teachers in acquiring and enhancing these skills. It is important to provide teachers with ongoing training, access to resources, and support systems to promote their digital competence and enable them to effectively integrate technology into their classrooms.

REFERENCES

[1]. Agrawal, YP. (1998). Statistical Methods Concepts, Application and Computation. Sterling Publisher Pvt. Ltd, 122-123.

[2]. Avni Y. (2017). The Factors Affecting Techno-Pedagogical Competencies and Critical Thinking Skills of Preservice Mathematics Teachers. Malaysian Online Journal of Educational Sciences, 5(2), 66-81.

[3]. Beaudin, L., &Hadden, C. (2004). Developing techno pedagogical skills in preservice teachers. In Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, 492-498. Norfolk, VA: Association for the Advancement of Computing in Education. Retrieved from http://www.innovateonline.info/index.php?view=article&id=36

[4]. Bhattacharya, I., & Sharma, K. (2007). India in the knowledge economy – an electronic paradigm. International Journal of Educational Management, 21(6), 543-568.
[5]. Dash, M. K. (2007). Integration of ICT in teaching Learning: A challenges. Edutract, 6(12), 11-13.
[6]. Ganjalo, A, Suáreaz-Rodríguez JM, Belloch C, Bo RM. (2011). Training needs of teachers in ICT: Training profiles and elements of complexity. Relieve, 17(2). Retrieved from https://goo.gl/dbcpzw.
[7]. Khan S. (2011). New pedagogies on teaching science with computer simulations. Journal of Science Education and Technology, 20(3), 215-232. Retrieved from https://goo.gl/wYAjbq.
[8]. Koehler, M. J., & Mishra, P. (2005). What Happens When Teachers Design Educational Technology? The Development of Technological Pedagogical Content Knowledge. Journal of Educational Computing Research, 32(2), 131-152.
[9]. Lee, M. H., & Tsai, C. C. (2010). Exploring teachers' perceived self-efficacy and technological pedagogical content knowledge with respect to educational use of the World Wide Web. Instructional Science, 38, 1-21.
[10]. Monsivais, M. I., McAnally, L., &Lavigne, G. (2014). Application and validation of a techno-pedagogical lecturer training model using a virtual learning environment. RevistadeUniversidadySociedaddelConocimiento, 11(1), 91-107. Retrieved from http://doi.dx.org/10.7238/rusc.v11i1.1743.
[11]. National Curriculum framework, (2005) New Delhi: National Council of Educational Research and Training.
[12]. Pradeep Kumar SL. (2018). A Study of Techno - Pedagogical skills of Secondary school Hindi teachers working in Kerala, IJARIIE, 4, 2395-4396
[13]. Parkash J, Hooda R. (2018). 'A Study of Techno-Pedagogical Competency among Teachers of Government & Private Schools of Haryana State. International Journal of Current Advanced Research, 07(1), 9301-9306.