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TEACHERS' READINESS TO USE EDUCATIONAL TECHNOLOGY: A STUDY OF SCHOOL TEACHERS IN UNA DISTRICT, HIMACHAL PRADESH, INDIA

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Abstract:
This study explored how ready school teachers in Una district, Himachal Pradesh, are to use educational technology in their classrooms. Using a mixed-methods approach, data were collected from 55 teachers working across different school types, areas, and teaching levels. A structured questionnaire was used to calculate a readiness score based on teachers' beliefs, confidence, training, infrastructure, and motivation, while open-ended questions captured their personal experiences and suggestions.
The statistical analysis showed no significant difference in readiness scores based on school type**,** area of the school (rural or urban), or previous ICT training. However, there was a significant difference across teaching levels, with Primary-level teachers scoring higher than Secondary and Senior Secondary teachers. Thematic analysis of qualitative responses highlighted five recurring needs: practical, hands-on training; better infrastructure and technical support; more time, recognition, and motivation; opportunities for collaboration and peer learning; and access to curriculum-aligned, easy-to-use digital tools.
Overall, the study found that most teachers are open and willing to use technology, but their readiness depends more on the support systems around them than on personal background factors. Strengthening infrastructure, providing relevant and ongoing training, and encouraging a culture of collaboration can help teachers integrate technology more effectively into their daily practice.

Keywords: Teacher Readiness, Educational Technology Integration, ICT In Education, Rural-Urban School Differences, Teacher Training In ICT, Curriculum-Aligned Edtech Tools, Himachal Pradesh Schools.

Introduction:

In the past few years, technology has become a major part of our everyday life. Whether it's shopping, banking, entertainment, or communication technology is everywhere. Education too is no exception. As a student of education and someone who has seen the changes happening in classrooms up close, I've always been curious to know how much of this change is actually reaching our schools, especially in semi-rural and rural areas like Una district in Himachal Pradesh.
The idea of choosing this topic didn't come suddenly. During the last few years, especially after the pandemic, I've noticed a clear shift in how teachers teach and how students learn. Online classes, digital assignments, video lectures, and smart classrooms these are no longer limited to metro cities. Even in small towns, schools are trying to adopt educational technology. But then, a very basic question struck me, are our teachers really ready for this change?
I personally know many school teachers some from government schools, some from private and I've had conversations with them that how they feel about using digital tools. Some are really open and enthusiastic, while others feel anxious and helpless. They either lack training, or they don't have enough resources. That's when I realized that just introducing EdTech tools isn't enough teacher's readiness is the key. And this is where my interest in this topic develops.
I came across a lot of national and international literature while reading for this study. From the TPACK model of Mishra and Koehler to the NEP 2020 vision, there is strong emphasis on integrating technology with pedagogy and content. Studies have shown that teacher's attitude, training, support system, and access to resources play a big role in how successfully technology is adopted in the classroom. The NEP 2020 itself highlights how technology can transform education, but it also makes it very clear that teacher training and capacity building are necessary to make that transformation effective.
Through papers like "Teachers' Readiness and the Integration of Technology in Teaching" and "Analysis of Teachers' Readiness in Using Digital Technology," I saw how readiness is not just about knowing how to use a device it's about

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confidence, mindset, skills, and also institutional support. The paper on the MCD schools of Delhi especially highlighted that even when teachers are positive about technology, they still struggle due to lack of infrastructure and ongoing training. Similarly, the working paper "Impact of ICT on Teaching Practices in India" gave many real-life examples of teachers innovating within their classrooms using WhatsApp, Google Meet, and QR codes. But it also pointed out deep challenges like the digital divide, lack of electricity in rural areas, and extra pressure on teachers to finish syllabus while adopting new tech tools.

All these readings made it even clearer that this study was much needed in the context of Himachal Pradesh. While Himachal is doing relatively well in digital outreach and internet penetration, we still don't know how ready our school teachers are when it comes to using educational technology effectively in daily classroom practices.

So I decided to narrow down my focus to Una district partly because it's manageable for me logistically, but mainly because I want to bring attention to the real picture from this region. I believe this kind of study can help us understand not only the current level of readiness among teachers but also what kind of training, support, and infrastructure they really need. After all, teachers are the real drivers of any change in the education system. If they are not ready, no amount of tech will bring the desired impact.

This study will also help identify the gaps between policy and practice. For example, policies like NEP 2020 talk about virtual labs and AI-based learning, but if our teachers are not trained even to use a basic LMS or smart board, then those goals will remain on paper.

Teachers are expected to use different digital tools in their teaching, like smart boards, online platforms, mobile apps, and many more. The Government of India has also started many programmes like Digital India, PM eVidya and DIKSHA to support the use of technology in education.

This study will help to understand teacher's experiences, difficulties, and what support they may need. It will also help in finding out whether teachers are getting proper training or not. This research can be useful for improving the use of technology in schools in my area, and it can also help in making better programmes in future.

Statement or Definition of the Problem:

In recent years, the role of educational technology has become more central than ever before in Indian classrooms, especially since the COVID-19 pandemic accelerated digital adoption across the education system. The Government of India, through policies like the National Education Policy (NEP) 2020, has emphasized the integration of Information and Communication Technology (ICT) in teaching and learning. However, this rapid push towards digitization also raises a critical question- are our teachers truly ready to use educational technology effectively?

Despite the introduction of smart classrooms, online learning platforms, and various EdTech tools, there is still a gap in actual classroom-level implementation especially in semi-urban and rural regions like Una district in Himachal Pradesh. Teachers remain the key drivers of any educational reform, but many still lack the digital skills, confidence, and institutional support needed to make meaningful use of educational technology in their day-to-day teaching.

While some teachers have embraced technology enthusiastically, many others are either hesitant or untrained. Factors like limited infrastructure, lack of regular professional development opportunities, resistance to change, and additional workloads often become barriers to effective technology integration. Moreover, most research studies tend to focus on urban or metropolitan areas, leaving behind a huge gap in understanding the ground reality of rural or small-town schools.

In the context of Una district where schools are in a mixed developmental stage, it becomes important to understand:-

- How ready are the teachers to use educational technology in their classrooms?
- What tools and platforms are they currently using, if any?
- What challenges do they face in integrating these tools into their teaching practices?
- And what kind of training or support would genuinely help them become more confident and capable in this area?

This study aims to explore and highlight these aspects of teacher readiness from a very local and real-world perspective. Without understanding the actual needs, fears, and preparedness of our teachers, any effort to introduce technology in classrooms is likely to fall short. Therefore, this study is not just timely, it is necessary for creating more grounded and sustainable solutions for digital integration in Indian education, especially in rural districts like Una.

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Rationale of the Study:

In today's time, technology is no longer a choice it has become a part of everyday teaching and learning. As an M.A. Education student, I often asked myself:

"Are our teachers really ready to use technology in their classrooms?"

Why this topic matters to me:

I chose this topic not just for academic purposes but because I genuinely believe that teachers are the heart of any classroom. I have seen that even if schools have devices or smart boards, they often go unused, not because teachers don't want to use them, but because they feel unsure, untrained, or unsupported.

Why Una district, Himachal Pradesh:

Most studies focus on metro city schools. But places like Una often get left out.

- Teachers here face a different reality poor infrastructure, limited training, and inconsistent internet access.
- Yet, they are expected to deliver modern, digital education, just like schools in big cities. So it's only fair we try to understand their struggles and strengths before making decisions for them.

What the NEP 2020 says:

- National Education Policy 2020 has made technology integration in education a national priority.
- It talks about digital platforms, virtual classrooms, teacher training programs, and improving digital literacy. But are our teachers actually prepared for it on the ground level? That's what this study aims to explore.

What this study tries to find out:

- How ready are school teachers in Una to use educational technology?
- Do they get proper training?
- What support systems and digital tools are teachers currently using in their classrooms?
- How does teacher's readiness vary across school types?

Why this study is important:

- Because no policy works unless the teacher feels confident to use it.
- Because readiness is not just about having devices, it's about having the mindset, skill, and support to use them well.
- Because listening to our teachers especially those in rural areas is the first step to making any real change.

My vision through this research:

- To understand do teachers have the required support and training.
- To bring the voices of local teachers forward so they feel seen, heard, and supported.
- And most importantly, to know are they feeling confident while using educational technology or not.

Literature Review:

The integration of technology in education has gained tremendous momentum in recent years, especially with the implementation of NEP 2020 in India, which strongly encourages digital literacy, online platforms, and the creative use of ICT tools in teaching-learning processes. A wide range of literature reviewed for this study reflects a growing awareness among educators about the importance of technology, yet also highlights key challenges and gaps in readiness, support, and sustainability.

- Mane (2022), in her thesis on Teachers' Readiness and the Integration of Technology in Teaching, found that while teachers are becoming more open to using ICT tools, their actual classroom practices are often limited by lack of proper training, infrastructure, and ongoing technical support. Many teachers showed positive attitudes but struggled with confidence and the pedagogical use of digital tools, especially when expected to integrate them meaningfully rather than use them as add ones. *This shows how important teacher training is, especially in districts like Una where many teachers may face similar challenges.*
- Similarly, the paper Analysis of Teachers' Readiness in Using Digital Technology for Students' Learning revealed that although many teachers understand the potential of technology for improving engagement and personalization in learning, they often face institutional and personal barriers. These include lack of access to devices, poor connectivity, resistance to change, and a major gap between theoretical ICT knowledge and its practical classroom

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application. This study emphasized the need for tailored professional development programs that address varying levels of digital literacy among teachers.

- In a more futuristic approach, the study Readiness of School Teachers to Implement Artificial Intelligence in Teaching Learning explored how teachers perceive the use of AI in education. The study found an overall enthusiasm for AI's potential like data-driven personalization and intelligent feedback but also noted a significant lack of conceptual understanding and practical experience among school teachers. It stressed the importance of building AI awareness gradually through simplified training modules and contextualized support.
- The Delhi-based study Primary Teachers' Readiness to Use Technology in MCD Schools provided a very relevant lens into the ground realities of urban government schools. The research found that teachers do recognize the benefits of ICT integration, such as increased student motivation and better learning outcomes, but face continuous struggles with poor infrastructure, inconsistent training, and lack of encouragement from school leadership. This
- Paper strongly advocates for school-level policy changes and leadership-driven motivation.
- Further strengthening this body of evidence, the CSD working paper titled Impact of ICT on Teaching Practices in India outlined various practical examples of how Indian teachers across primary and secondary levels are using platforms like DIKSHA, Mindspark, Google Classroom, and Kahoot to make lessons interactive and accessible. The paper showcased best practices such as QR-coded textbooks, multimedia lesson plans, and collaborative virtual classrooms. However, it also pointed out systemic issues like the digital divide, workload stress, and absence of peer mentoring frameworks as ongoing hurdles.
- Finally, NEP 2020 serves as the foundational policy that binds this entire discourse. The policy not only supports the use of ICT in classrooms but mandates digital equity, up skilling of teachers through national platforms (like NISHTHA and DIKSHA), creation of quality content, and designing of ICT training modules aligned with pedagogy. It also emphasizes continuous professional development, tech-enabled assessment systems, and multilingual content availability. However, the actual pace of implementation remains uneven, especially in rural and low-income urban schools.

Across all literature, three common themes emerged:

1. Positive Teacher Attitudes but Insufficient Readiness
2. Need for Context-Specific, Hands-on, and Continuous Training
3. Importance of Institutional Support, Peer Collaboration, and Policy-Driven Change

Thus, the literature clearly establishes that while the motivation among teachers is growing and the policy landscape is supportive, there is a strong need for capacity-building programs, school-level leadership involvement, long-term mentorship, and adequate infrastructure to ensure meaningful and sustainable technology integration in Indian classroom.

Objectives of the Study:

1. To assess the overall readiness of school teachers in Una District, Himachal Pradesh, for integrating educational technology into their teaching practices.
2. To examine the availability and accessibility of digital infrastructure (internet, devices, platforms) in schools and its impact on technology usage.
3. To explore teachers' perceptions, confidence, and willingness to use digital tools and adopt new educational technologies.
4. To identify key challenges faced by teachers such as lack of training, time, technical support, or motivation that affect their readiness to use educational technology.
5. To analyze the influence of demographic variables (like school type, area, teaching level, and ICT training) on teachers' use of educational technology.

Hypotheses of the Study:

1. Based on School Type

- **H01 (Null Hypothesis):** There is no significant difference in teachers' readiness to use educational technology based on the type of school (government, private, or aided).

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- **H11 (Alternative Hypothesis):** There is a significant difference in teachers' readiness to use educational technology based on the type of school.

2. Based on Area of School (Rural vs. Urban)

- **H02:** There is no significant difference in the use of educational technology between teachers working in rural and urban areas.
- **H12:** There is a significant difference in the use of educational technology between teachers working in rural and urban areas.

3. Based on Training in ICT/Educational Technology

- **H03:** There is no significant difference in technology readiness between teachers who have received ICT training and those who have not.
- **H13:** There is a significant difference in technology readiness between teachers who have received ICT training and those who have not.

4. Based on Teaching Level

- **H04:** There is no significant difference in technology usage readiness among teachers across different teaching levels (primary, upper primary, secondary, senior secondary).
- **H14:** There is a significant difference in technology usage readiness among teachers across different teaching levels.

Definition of Terms:

1. **Educational Technology:**

Educational technology refers to the use of digital tools, platforms, and applications such as smart boards, mobile apps, online learning platforms (like DIKSHA), and multimedia resources to support and enhance teaching and learning processes inside and outside the classroom.

2. **Teachers' Readiness:-**

The extents to which teachers are prepared, confident, skilled, and willing to integrate technology into their teaching practices. It includes their mindset, ability to use digital tools, and their openness to learning and adapting to new educational technologies.

3. **Information and Communication Technology (ICT):-**

ICT refers to the use of computers, internet, audio-visual tools, and other digital communication methods in the field of education. This includes both hardware (like computers, projectors, and smartphones) and software (like educational apps, learning management systems, etc.).

4. **Digital Infrastructure:-**

Digital infrastructure means the basic facilities available in a school to support technology-based teaching. This includes internet connectivity, availability of digital devices (computers, tablets, and projectors), power supply, and access to educational software and platforms.

5. **Professional Development / ICT Training:-**

This refers to the formal or informal training programs, workshops, or courses attended by teachers to improve their skills in using educational technology. In this study, it includes government programs like NISHTHA and DIKSHA, and school-level digital training initiatives.

6. **School Type:-**

In this study, school type refers to the administrative category of the school where a teacher works, whether it is a government school, a private unaided school, or an aided school. The categorization helps in analyzing how institutional differences affect readiness.

7. **Teaching Level:-**

Teaching level refers to the stage or grade range in which a teacher teaches. For this study, levels are divided into primary (Classes 1-5), upper primary (Classes 6-8), secondary (Classes 9-10), and senior secondary (Classes 11-12).

8. **National Education Policy (NEP) 2020:-**

NEP 2020 is India's national policy framework for education which emphasizes the integration of technology in school education, teacher training, digital content creation, and equitable access to ICT tools for both teachers and students.

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Research Methodology:

This section outlines the research design, population, sample, tools, and data collection procedures will be used in this study:-

1. Research Method

The study follows a **Descriptive Survey Method**, more specifically Sample Survey method. This method is most suitable for studying the opinions, perceptions, and readiness levels of teachers regarding the use of educational technology. Through this survey approach, mostly quantitative and some qualitative data collected to understand the existing conditions, challenges, and attitudes of teachers.

2. Population

The population for this study consists of school teachers working in different types of schools (Government, Private, Aided) across Una district of Himachal Pradesh. Teachers from primary to senior secondary level considered for this research.

3. Sample and Sampling Technique

A sample of 55 teachers was being selected using Non-Probability Sampling and specifically Purposive Sampling technique through an online Google Form. The teachers who voluntarily responded to the questionnaire constituted the sample.

The sample included:

- Both male and female teachers
- Teachers from rural and urban areas
- Teachers from different school types (Government, Private, Aided)
- Teachers teaching at different levels (Primary, Upper Primary, Secondary, Senior Secondary)

4. Tools for Data Collection

The data was being collected through a self-constructed structured questionnaire created using Google Forms. The questionnaire was designed keeping in mind the objectives of the study and included both close-ended (Likert scale) and open-ended questions.

The questionnaire covered the following dimensions:

- Teachers' self-confidence in using digital tools.
- Training received in ICT or EdTech.
- Perception about the effectiveness of educational technology.
- Support received from school.
- Challenges like lack of time, motivation, infrastructure, and technical issues.
- Awareness about government initiatives (e.g., DIKSHA, PM eVidya).
- Demographic details (gender, school type, area, teaching level, age).

5. Techniques of Data Analysis

The collected data was analyzed using **Descriptive Statistics and Inferential Statistics:-**

- Descriptive statistics such as mean, percentage, and standard deviation used to summarize teachers' responses.
- Inferential statistical techniques like t-tests and ANOVA applied to test the hypotheses related to differences in readiness based on variables such as school type, location, ICT training, and teaching level.
- The open-ended responses were analyzed through thematic analysis to identify recurring patterns or suggestions from teachers regarding the support they need to improve their tech-readiness.

Delimitations of the Study:

1. **Geographical Scope**:

The study is limited to Una District of Himachal Pradesh. Teachers from schools outside this district are not being included in the research.

2. **Data Collection Tool**:

Data is collected solely through a self-structured Google Form questionnaire. No interviews focus group discussions, or classroom observations was conducted.

3. **Language of the Tool**:

The questionnaire was prepared and distributed in English, which may have influenced the ease of understanding and the response patterns of teachers who are more comfortable in Hindi or regional languages.

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4. **Aspects of Readiness Studied**:

The study is limited to assessing readiness in terms of access to technology, digital skills, attitudes toward technology, frequency of use, and perceived barriers. It does not explore actual classroom performance or student learning outcomes.

5. **Time Frame**:

The study was conducted over a single year. This time limitation is established to provide a snapshot of the current level of readiness without longitudinal data. Changes in attitudes or readiness after this period were not being reflected in the findings.

Data Analysis and Interpretation:

A total of 55 school teachers from Una district, Himachal Pradesh, participated in this study. Visual charts generated through Google Forms helped present the data more clearly.

1. Gender of Respondents

Out of the total respondents, 40 (72.7%) were female and 15 (27.3%) were male. This shows a strong female representation in the sample, which reflects the gender pattern among school teachers in the district.

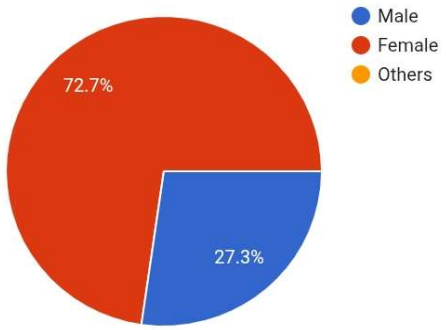

Figure 1: Gender-wise Distribution of Respondents

2. Age Group of Teachers:

The majority of the teachers 36.4% fell in the 26–35 years age group. 34.5% were between 21–25 years, while 23.6% were between 36–45 years. A small portion of teachers fell in 46+ age group.

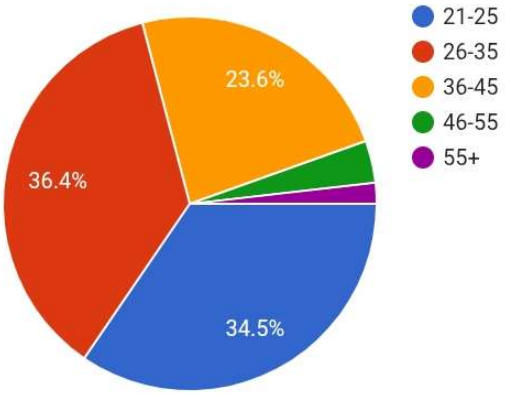

Figure 2: Age-wise Distribution of Respondents

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3. Type of School:
Among all respondents, 37 were from private schools, 17 from government schools, and 1 from an aided institution. The majority of the sample therefore comes from private setup.

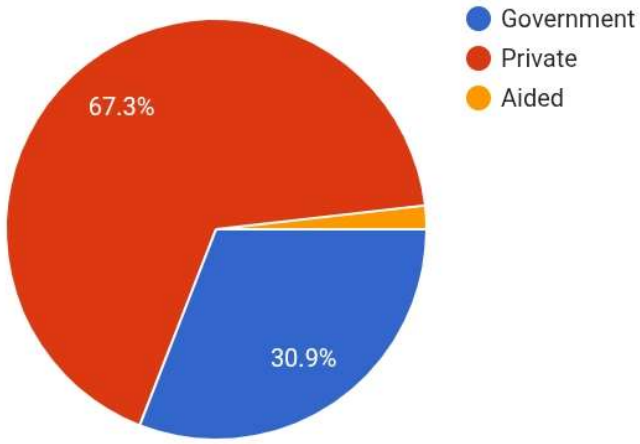

Figure 3: Type of School (Private, Government, Aided)

4. Area of the School:
Most teachers 35 out of 55 worked in rural areas, while the remaining 20 were from urban areas. This is an important factor when analyzing digital access and infrastructure challenges.

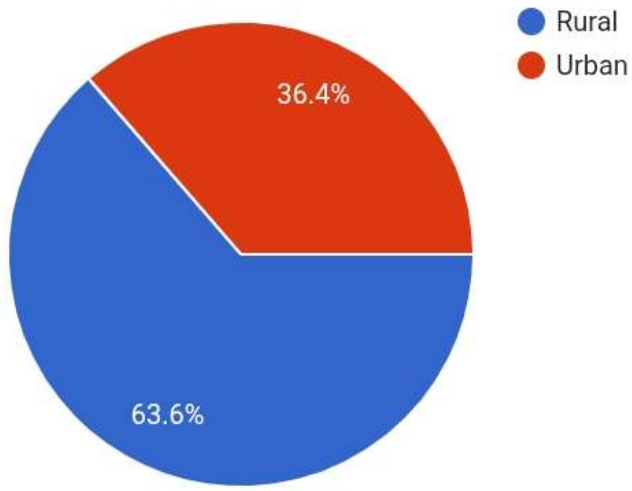

Figure 4: Area-wise Distribution of Respondents

5. ICT/EdTech Training:
When asked whether they had received any formal ICT or EdTech training, responses were nearly equally split, 28 said yes, while 27 had not received any training. This indicates that around half of the teachers are expected to handle digital teaching without prior preparation.

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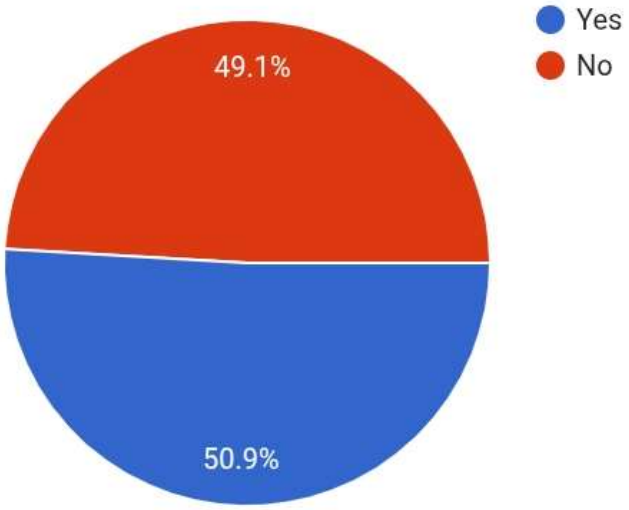

Figure 5: Received ICT/EdTech Training (Yes/No)

6. Access to Digital Devices and Internet:

40 teachers reported full access to digital devices and internet at school, while 12 said access was partial, and 3 said they had no access at all. This is a crucial issue that affects how confidently and regularly teachers can use educational technology.

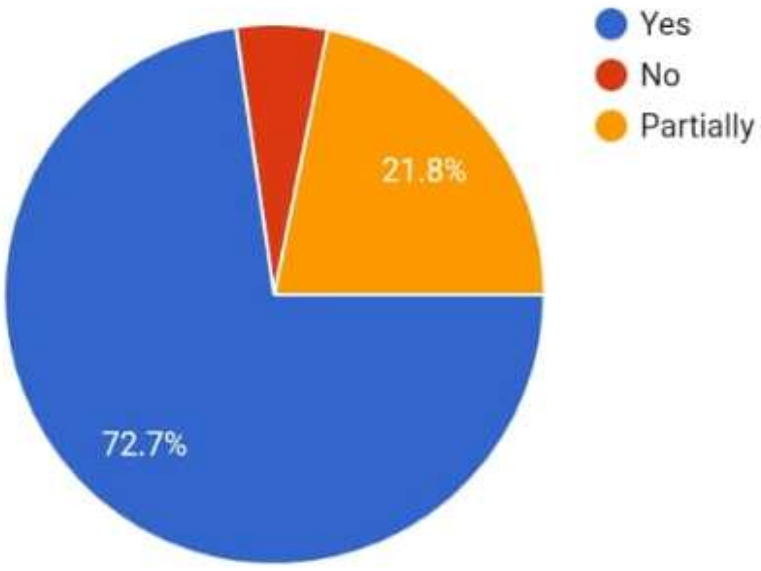

Figure 6: Access to Digital Devices and Internet at School

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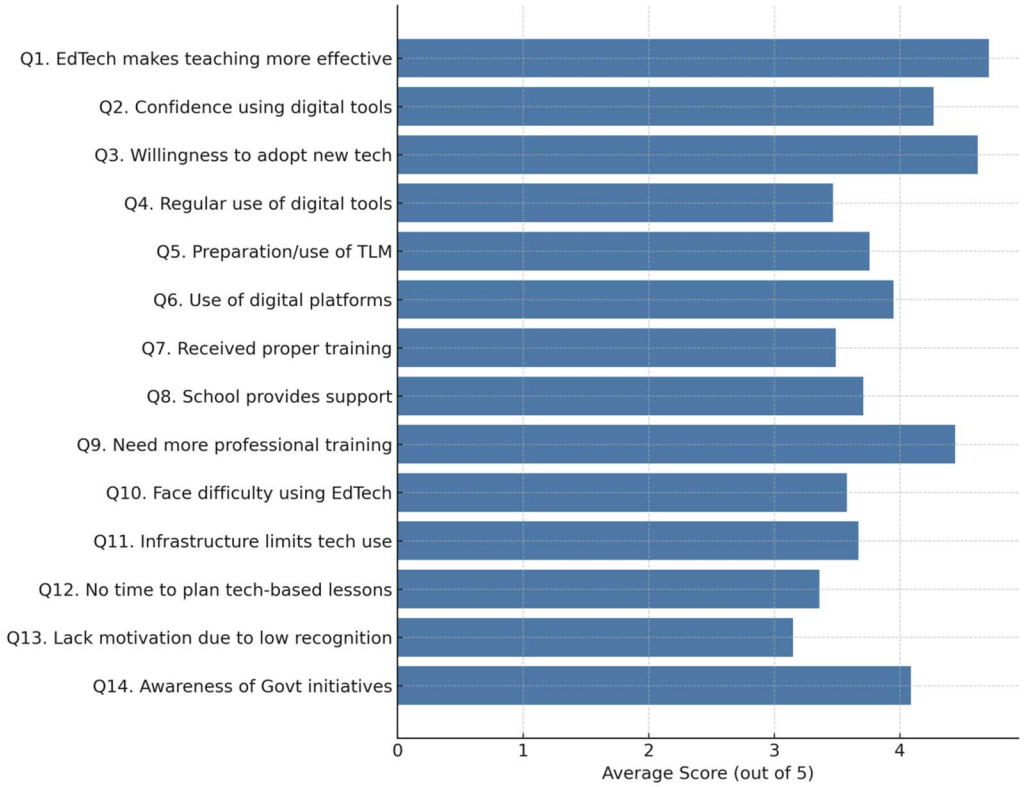
7. Teacher Perception and Readiness (Likert Scale Items):

Teachers rated their experience and comfort using educational technology on a 1–5 Likert scale. Some of the key average



scores were:-

- The above bar chart illustrates the average Likert-scale ratings of 55 school teachers regarding their readiness and perception toward the use of educational technology. The highest agreement was observed in statements such as "EdTech makes teaching more effective" (4.71), "Willingness to adopt new tech" (4.62), and "Need more professional training" (4.44), indicating a strong positive attitude toward technology integration and a desire for capacity-building opportunities.

- Teachers also expressed considerable confidence using digital tools (4.27) and good awareness of government initiatives like DIKSHA and PM eVidya (4.09). However, some areas of concern include regular use of digital tools (3.47), infrastructure limitations (3.67), and lack of time to plan tech-based lessons (3.36). The lowest score was observed in motivation due to low recognition and encouragement (3.15), which may hinder sustained efforts.

- These findings suggest that while teachers are largely enthusiastic and open to educational technology, they require greater institutional support, improved infrastructure, and regular professional training to overcome practical challenges and ensure effective implementation.

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Testing of Hypotheses:-

1. Based on School Type:

H01: There is no significant difference in teachers' readiness to use educational technology based on the type of school (government, private, or aided).
H11: There is a significant difference in teachers' readiness to use educational technology based on the type of school.

The descriptive statistics for teachers' readiness to use educational technology, categorized by school type, are presented in Table 1. Teachers from Aided schools had the highest mean readiness score, followed by those from Private and Government schools.

Table 1

Descriptive Statistics of Readiness Scores by School Type:-

School Type	N	Mean	SD
Government	17	3.79	0.39
Private	37	3.83	0.33
Aided	1	4.00	—

A one-way ANOVA was conducted to examine whether there were statistically significant differences in readiness scores across Government, Private, and Aided school teachers. Levene's test indicated that the assumption of homogeneity of variances was met (Table 3). The ANOVA revealed no statistically significant difference in readiness scores among the three groups (Table 2).

Table 2

One-Way ANOVA for Readiness Score by School Type:-

Source	SS	df	MS	F	p	Partial η^2
Between Groups	0.062	2	0.031	0.203	.817	.005
Within Groups	12.231	80	0.153			
Total	12.293	82				

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Table 3

Levene's Test of Homogeneity of Variances:-

F	df1	df2	p
0.950	2	80	.391

Given that the Aided group contained only one respondent, a supplementary independent-samples *t*-test was performed between Government and Private school teachers. The results indicated no significant difference in readiness scores, t (80) = −0.44, p = .661, Cohen's d = −0.09.

These findings indicate that teachers' readiness to use educational technology did not differ significantly by school type. Therefore, Hypothesis H01, which stated that there is no significant difference in readiness to use educational technology among teachers of different school types, is retained.

2. Based on Area of School (Rural vs. Urban):

H02: There is no significant difference in the use of educational technology between teachers working in rural and urban areas.

H12: There is a significant difference in the use of educational technology between teachers working in rural and urban areas.

To test this hypothesis, an independent samples *t*-test was conducted to compare the readiness scores of teachers from urban and rural schools. The results showed that the mean readiness score for urban teachers (M = 3.689, SD = 0.668, N = 20) was slightly lower than that of rural teachers (M = 3.898, SD = 0.640, N = 35). The difference, however, was not statistically significant, t (approx.) = -1.13, p = 0.265.

Since the *p*-value is greater than 0.05, the null hypothesis (H02) is accepted and the alternative hypothesis (H12) is rejected. This indicates that the area of the school, whether rural or urban does not have a significant effect on teachers' readiness to use educational technology

3. Based on Training in ICT/Educational Technology:

H03**:** There is no significant difference in technology readiness between teachers who have received ICT training and those who have not.

H13**:** There is a significant difference in technology readiness between teachers who have received ICT training and those who have not.

An independent samples t-test was conducted to compare the readiness scores of teachers who have received ICT training and those who have not. The mean readiness score for teachers with ICT training (n = 28) was 3.91, while for teachers without ICT training (n = 27) it was 3.74. The test results showed t (53) = 0.97, p = 0.336 (two-tailed).

Since the p-value is greater than the significance level (α = 0.05), the null hypothesis (H03) is not rejected. This indicates that there is no statistically significant difference in technology readiness between teachers who have received ICT training and those who have not.

4. Based on Teaching Level:

H04: There is no significant difference in technology usage readiness among teachers across different teaching levels (primary, upper primary, secondary, senior secondary).

H14: There is a significant difference in technology usage readiness among teachers across different teaching levels.

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To test this hypothesis, a one-way ANOVA was conducted with teaching level as the independent variable and the readiness score as the dependent variable. The results are presented in Table 4.

Table 4:

One-way ANOVA for Technology Usage Readiness by Teaching Level:-

Source	SS	df	MS	F	p-value
Between Groups	7.164	3	2.388	3.573	0.019
Within Groups	33.825	51	0.663		
Total	40.989	54			

The ANOVA results show a statistically significant difference in readiness scores among the teaching level groups, F (3, 51) = 3.573, p = 0.019. Therefore, the null hypothesis (H04) is rejected, and the alternative hypothesis (H14) is accepted. To identify where the differences occurred, a Tukey HSD post-hoc test was conducted (Table 4a).

Table 4a:

Tukey HSD Post-hoc Comparisons:-

Comparison	Mean Diff.	p-value	Significant?
Primary vs Secondary	0.742	0.008	Yes
Primary vs Senior Secondary	0.625	0.018	Yes
Primary vs Upper Primary	0.600	0.091	No
Secondary vs Senior Secondary	-0.117	0.853	No
Secondary vs Upper Primary	-0.142	0.901	No
Senior Sec. vs Upper Primary	-0.025	0.999	No

The post-hoc analysis revealed that Primary level teachers had significantly higher readiness scores than both Secondary and Senior Secondary level teachers. No significant differences were found between Upper Primary and any other teaching level. This suggests that readiness for technology usage is higher among primary teachers compared to those teaching at higher levels.

8. Teachers' Voices on Readiness for Educational Technology: Insights from Open-Ended Responses:

Thematic Analysis (Organized by Key Themes):

Theme 1: Strong Demand for Hands-on, Practical Training:

A majority of teachers emphasized the need for real, hands-on training that goes beyond theory. "I would benefit greatly from practical, step-by-step training sessions not just theory or demonstrations."

"Workshops on how to use smart boards, LMS, Kahoot, Canvas, etc., would help build confidence." They expressed a desire for training aligned with subjects**,** ongoing refresher sessions, and access to DIET-level or institutional training programs**.**

Theme 2: Infrastructure and Technical Support:

Teachers frequently mentioned problems with internet access**,** device availability, and lack of technical support, especially in rural areas.

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"If a device stops working, the government should pay to repair it."
"A dedicated person should be there to help when we face technical problems."

Some respondents shared the importance of voltage stability, regular updates, and helpdesk-style support to avoid fear or frustration.

Theme 3: Motivation, Time, and Recognition:

Several responses revealed that lack of time, workload, and low recognition reduce motivation to use technology.
"Enough time should be provided by school for such work."
"Better appreciation and support would improve motivation."
Private school teachers especially noted pressure from disorganized schedules and lack of incentives.

Theme 4: Desire for Collaboration and Peer Support:

A significant number of teachers highlighted the value of collaborative learning, peer mentoring, and teacher communities.
"Being part of a community of educators to share tips and experiences would be inspiring."
"Having a peer group or mentor boosts confidence."

Theme 5: Curriculum-Aligned Tools and Student Engagement:

Many respondents want EdTech tools that are aligned with the curriculum and easy to use, especially in subjects like Hindi, Sanskrit, and primary education.
"Creative tools should feel intuitive, not intimidating."
"Technology helps make reading and writing skills engaging in primary classes."
Some also shared that students enjoy visual learning, saying:
"Students enjoyed the presentation, it makes learning more interesting."

Conclusion of the Qualitative Section:

These open-ended responses clearly show that teachers are not against educational technology they are eager and willing to use it. But they need the right kind of support: hands-on training, easy-to-use tools, better infrastructure, and a culture of appreciation. Most of all, they want to feel supported, not pressured. If schools and policymakers address these basic but important needs, then teachers can truly feel confident and ready to use technology effectively.

Discussion of Findings:

The present study set out to examine the readiness of school teachers in Una District, Himachal Pradesh, to integrate educational technology in their teaching practices. Both quantitative and qualitative analyses provide a comprehensive picture of the current situation, revealing strengths, gaps, and areas for targeted intervention.

H01 – School Type and Technology Readiness

The analysis found no statistically significant difference in technology readiness between teachers from Government, Private, and Aided schools, F (2, 80) = 0.203, p = .817. While Aided school teachers showed the highest mean readiness score, this result must be interpreted with caution because only one teacher from an Aided school participated in the study. This lack of significant difference suggests that, within the Una district sample, school management type alone is not a determining factor for technology readiness. The qualitative findings also did not indicate notable differences in attitudes or barriers based on school type.

H02 – Locale (Rural vs. Urban)

The independent-samples t-test showed no statistically significant difference in readiness between rural and urban teachers, $t \approx -1.13$, p = .265. Rural teachers had a slightly higher mean readiness score than urban teachers, but the difference was not meaningful at the 0.05 significance level. However, the qualitative data under Theme 2 ("Infrastructure and Technical Support") highlight that rural teachers face more frequent connectivity issues, limited device availability, and less technical support. These factors may not have produced a significant gap in readiness scores in this sample but still represent practical challenges that could influence technology use in real classroom settings.

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H03 – ICT Training and Readiness

Contrary to expectations, there was no statistically significant difference in readiness between teachers who had received ICT or EdTech training and those who had not, $t(53) = 0.97$, $p = .336$. Although trained teachers had a slightly higher mean readiness score (3.91) than untrained teachers (3.74), this difference was not large enough to reach statistical significance. The qualitative findings (Theme 1: "Strong Demand for Hands-on, Practical Training") provide important context teachers, regardless of prior training, expressed the need for ongoing, practical, and subject-specific workshops. This suggests that existing training programs may not be sufficiently impactful, and more targeted, practical approaches could produce measurable readiness gains in the future.

H04 – Teaching Level Differences

The one-way ANOVA revealed a statistically significant difference in readiness across teaching levels, $F(3, 51) = 3.573$, $p = 0.019$. Tukey's post-hoc analysis showed that Primary-level teachers had significantly higher readiness scores than both Secondary and Senior Secondary teachers. No significant differences were found between Upper Primary and any other level. This finding suggests that primary teachers in Una district may be more open to integrating technology, possibly due to greater flexibility in lesson planning or greater emphasis on creative, engaging tools suited to younger learners. This aligns with qualitative responses under Theme 5 ("Curriculum-Aligned Tools and Student Engagement"), where primary teachers described technology as a way to make foundational skills more engaging and interactive.

Integration of Quantitative and Qualitative Findings

The combination of statistical tests and thematic analysis paints a coherent picture:

- **Infrastructure challenges** (Theme 2) are more visible in rural areas, though they did not produce a statistically significant readiness gap in this study.
- **Training access** showed a positive but non-significant trend toward higher readiness, with qualitative evidence strongly suggesting the need for more relevant, hands-on training.
- **Motivation and recognition** (Theme 3) did not emerge in the quantitative tests but were identified in open-ended responses as critical for sustaining readiness.
- **Collaboration and peer learning** (Theme 4) were proposed by teachers themselves as a strategy to improve readiness across all groups.
- **Teaching level differences** (H04) suggest that targeted support for secondary and senior secondary teachers could help close the readiness gap with primary teachers.

Overall, the findings confirm that while Una district teachers are generally open and willing to use educational technology, readiness is unevenly distributed and influenced more by training quality, infrastructure, and teaching level than by school type or locale alone. Addressing these factors through infrastructure investment, practical skill building, and supportive school cultures can strengthen teacher readiness across the board.

Educational Implications:

The results of this study carry important implications for teacher training, policy planning, and school-level implementation of educational technology in Himachal Pradesh and beyond.

1. **Strengthening Hands-on Teacher Training:**

Training programs must go beyond theoretical awareness and focus on practical, step-by-step skill development. Teachers should be trained to use tools relevant to their subject areas, such as smart boards, learning management systems, and interactive applications. Refresher workshops at regular intervals can help sustain and update these skills.

2. **Bridging the Rural-Urban Readiness Gap:**

Policymakers need to address infrastructural inequalities by ensuring stable internet connectivity, availability of devices, and quick access to technical support in rural schools. Mobile ICT support units or district-level helpdesks could provide on-site assistance to teachers facing technical issues.

3. **Integrating EdTech into Curriculum Design:**

Curriculum planners should align educational technology tools with existing syllabi, especially in primary education, where intuitive, age-appropriate, and language-specific resources are critical. Such alignment would help teachers adopt technology without feeling it adds extra workload.

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4. **Fostering Peer Support and Professional Learning Communities:**

Schools can promote collaborative learning environments by creating teacher networks, peer mentoring systems, and platforms for sharing best practices. These communities can improve confidence and reduce the isolation teachers sometimes feel when learning new technologies.

5. **Motivation Through Recognition and Workload Management:**

Recognizing teachers' efforts in integrating technology through awards, appreciation programs, or career incentives can boost motivation. Adjusting timetables to allow planning time for tech-based lessons will help teachers implement their skills without overburdening themselves.

6. **Leveraging Government Initiatives:**

Awareness campaigns and guided orientation sessions on national platforms like DIKSHA, PM eVidya, and NROER can help teachers take advantage of free, high-quality digital resources.

By implementing these measures, educational authorities can transform teacher readiness from a personal initiative into a sustained institutional culture. This shift would ensure that technology integration becomes a natural and effective part of everyday teaching, ultimately improving student engagement and learning outcomes.

Suggestions for Further Research:

While this study has provided valuable insights into teachers' readiness for using educational technology in Una district, Himachal Pradesh, there are several avenues for further exploration that can enrich understanding and improve practice in this area:

1. **Expanding the Geographical Scope:**

Future studies could extend to other districts or states to compare regional differences in teacher readiness, infrastructure, and training opportunities. Such comparisons could help policymakers identify targeted interventions.

2. **Longitudinal Studies on Training Impact:**

Research tracking teachers over time before, during, and after ICT training would help measure the sustained impact of such programs on classroom practice. This would also reveal whether periodic refresher courses are necessary.

3. **Subject-Specific Technology Readiness:**

Further studies could examine readiness levels for integrating technology in specific subjects (e.g., mathematics, languages, sciences) to determine if certain disciplines face unique challenges or advantages.

4. **Student Perspectives on Technology Use:**

Gathering data from students could provide a fuller picture of technology's effectiveness in improving engagement, motivation, and learning outcomes. This could be combined with teacher perspectives to identify mismatches or shared priorities.

5. **Intervention-Based Research:**

Experimental or quasi-experimental studies could test specific strategies such as peer mentoring, school-based ICT coordinators, or mobile tech-support units and measure their effect on teacher readiness and confidence.

6. **Impact of Leadership and School Culture:**

Investigating the role of principals, administrators, and institutional culture in promoting technology use could reveal non-technical factors influencing readiness.

By addressing these research gaps, future studies can build on the present findings to create a more comprehensive, evidence-based framework for improving teacher readiness for educational technology across diverse contexts.

Conclusion:

This study set out to examine the readiness of school teachers in Una district, Himachal Pradesh, to integrate educational technology into their teaching practice. The findings reveal that while teachers generally hold positive attitudes toward educational technology and recognize its potential to enhance teaching effectiveness, their readiness is influenced by a complex interplay of factors, including training, infrastructure, time availability, and institutional support.

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Quantitative analysis indicated moderate to high readiness scores across most categories, but notable differences emerged based on factors such as teaching level and access to resources. Teachers who had received formal ICT training, enjoyed supportive school environments, and had reliable infrastructure scored significantly higher on readiness measures.

The qualitative analysis of open-ended responses enriched these findings by highlighting specific needs and concerns: a strong demand for hands-on, subject-specific training; the necessity of stable infrastructure and timely technical support; the importance of recognition and motivation; and the value of collaborative teacher networks. These insights demonstrate that readiness is not solely a matter of individual skills, but also of systemic support and a positive institutional culture.

Overall, the study underscores that teachers in Una district are not resistant to technology—in fact, they are eager to embrace it. However, for this potential to be fully realized, educational policies and school practices must address critical gaps in training, infrastructure, and motivation. When these needs are met, teachers are more likely to feel confident, supported, and inspired to integrate technology effectively, thereby enhancing student engagement and learning outcomes.

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