# The Role of Modern Educational Technology in Teaching Reform in Chinese Rural Schools-A Case of Rural School in Zhao Ming, Xiang Yang City

**Liu Wenshung[1], Khoirul Anwar[2]**

[12] Department of Education and Society, Institute of Science Innovation and Culture, Rajamangala University of Technology Krungthep, Bangkok, Thailand

khoirul.a@mail.rmutk.ac.th

***Abstract***

*Focusing on Zhaoming Middle School in Xiangyang City, this study investigates how contemporary educational technology is incorporated into teaching reform in Chinese rural schools. The study intends to evaluate the present level of technology adoption, pinpoint important variables impacting its efficacy, and investigate implementation-related obstacles. By tackling these issues, the study adds to the larger conversation about educational equity and how technology might help close the gap between rural and urban areas. Both qualitative focus group discussions and quantitative surveys were included in the mixed-methods approach. Teachers from Zhaoming Middle School comprised the study's population; 400 questionnaires were sent out, and 355 valid answers (88.75% response rate) were gathered. Six instructors from different fields also participated in focus groups, offering deep insights into technology difficulties. Perceived usefulness, perceived ease of use, perceived value, and efficacy of digital tools were measured using a 19-item Likert-scale questionnaire, and recurrent themes in teacher experiences were identified by thematic analysis. The results show that teachers have a generally positive attitude toward technology and recognize its potential to improve student engagement and instructional efficiency. Nevertheless, Significant obstacles exist, such as inadequate infrastructure, teacher training, unequal student access, and poor policy implementation. Statistical findings from structural equation modeling, or SEM, support perceived value's impact in promoting digital literacy and learning behaviors. The study's conclusions provide theoretical contributions to technology acceptance models in education and useful advice for legislators, educators, and technology developers in forming rural digital education reforms. The study's implications underscore the necessity of focused infrastructure investment, extensive teacher training programs, and more robust policy enforcement to guarantee sustainable technological integration in rural schools.*

***Keywords:*** *Educational Technology, Rural Schools, Technology Adoption, Teaching*

## 1. Introduction

In China, integrating contemporary educational technology into rural instruction is both a historical development and a modern requirement, tackling the dual issues of regional inequality and educational modernization [1]. The idea of educational technology first appeared in the 20th century with the introduction of audio-visual aids. As digital advances proliferated, its use progressively broadened [2]. Under the guise of "audio-visual education," China's first attempts to integrate technology into the classroom started in the 1980s and eventually developed into all-encompassing plans for raising accessibility and quality [3]. This historical trajectory highlights the growing understanding of how technology can improve teaching methods and close educational inequalities [4], [5].

Practically speaking, China's rural schools confront particular difficulties, highlighting the importance of including contemporary teaching tools [6]. These include restricted access to

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cutting-edge instructional resources, remote locations, and insufficient funding [7]. Due to these limitations, rural children are frequently disadvantaged compared to their urban counterparts, perpetuating disparities in educational opportunities and results [8], [9]. Digital platforms, multimedia tools, and smart classrooms are examples of contemporary educational technologies that provide useful answers by facilitating interactive learning, encouraging teamwork, and improving the availability of top-notch instructional materials. In this situation, technology serves as both a tool and a bridge to close the gap between rural and urban areas [10], [11].

Despite the potential advantages, the complete use of contemporary instructional technologies in rural schools is hampered by several unresolved issues [9]. The successful use of digital tools in classrooms is hampered by a number of issues, including obsolete gear and erratic internet connectivity [10]. Furthermore, educators in remote regions frequently lack the digital literacy and training to properly use these devices [9]. Because not all kids can afford the gadgets and materials needed for technology-driven learning, so socioeconomic inequities worsen the issue. In order to guarantee that technology integration is equal and successful, these obstacles draw attention to the structural problems that must be resolved [11].

The Chinese government's dedication to educational justice and poverty alleviation, which has made improving rural schools a strategic priority, is a significant historical factor contributing to the emphasis on rural education reform [12], [13]. Initiatives incorporating technology into education are essential to promoting innovation and closing the gap between rural and urban areas as part of larger socioeconomic development objectives [14]. The study's goals become more pertinent against this historical backdrop, which aligns with national policy and international educational trends [15].

The report suggests solutions to the issues raised, like boosting teacher preparation, expanding infrastructure spending, and encouraging fair access to technology for all children [16]. These useful suggestions are based on the real-world experiences of rural educators and the structural problems they encounter rather than being purely academic [3]. The study is to support the successful deployment of technology solutions in rural areas by concentrating on practical approaches.

The study's unresolved issues, including policy implementation gaps and insufficient technical assistance, emphasize how difficult systemic change can be [12]. A multifaceted strategy engaging stakeholders at all levels—from legislators to educators and community members—is needed to address these problems [17], [18]. By highlighting these difficulties, the study emphasizes the importance of a comprehensive approach to guarantee that technology promotes educational change rather than hinders it [19].

The study highlights the significance of contemporary educational technology as a key force behind teaching transformation in Chinese rural schools. The study offers important insights into this field's systemic potential and challenges by examining historical, practical, and unresolved issues. Its conclusions have important ramifications for researchers, educators, and policymakers, suggesting that technology may one day revolutionize educational equity and quality in rural communities.

Thus, the following inquiries are found in this study:

1. How is contemporary educational technology used in teaching reform in Chinese rural schools?
2. What important variables affect how well contemporary educational technology supports teaching reform in rural Chinese schools?
3. What are the main obstacles Chinese rural schools face when using contemporary educational technologies in their reforms?

## 2. Related Literature

### *Educational Teaching Technology: Evolution and Impact*

Since its inception in the 1930s in the United States, educational technology has experienced substantial evolution [20]. It connects theory and practice and was defined 1994 as the

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integrated design, development, application, management, and evaluation of learning processes and resources [4]. Its acceptance has been spearheaded by Western countries, especially the United States, which emphasize creative and skill-focused teaching methods. Multimedia presentations and student-made course materials are innovations that encourage active learning and change how students and teachers interact [1]. Technology's increasing influence is demonstrated by the introduction of screen recording lectures since 2007 and California's interactive iPad materials, which led to 78% of students earning "excellent" or "good" reviews. Furthermore, contemporary teaching methods are still influenced by antiquated pedagogical techniques like Comenius' intuitive teaching and Socratic inquiry [2]. Although technological innovations have many advantages, experts advise against being overly dependent on them, stressing that technology should enhance learning objectives rather than detract from them.

### *Technology Acceptance Model in Educational Contexts*

A fundamental paradigm for comprehending teachers' and students' readiness to embrace educational technology is still the Technology Acceptance Model (TAM). TAM's effectiveness in forecasting user behavior in technology adoption is regularly highlighted by research [10]. Examining the elements that affect technology's adoption is crucial as it becomes increasingly integrated into different aspects of schooling. Two important factors influencing technology adoption are perceived usefulness and ease of use [12]. Teachers who understand the efficiency advantages of online learning platforms and electronic whiteboards are likelier to want to use them. Similarly, technological systems' simplicity of use is crucial; adoption rates drastically drop if they are complicated or lack sufficient technical support. Consequently, a more open environment for technology-driven instruction is created by guaranteeing usability and offering efficient training [13].

### *Perceived Usefulness in Educational Technology Adoption*

It is often known that one of the main factors affecting teachers' acceptance of technology-based teaching approaches is perceived usefulness [14]. Perceived utility, as defined by TAM, is the degree to which teachers believe technology can increase teaching effectiveness, improve learning outcomes, and simplify instructional procedures. According to research, teachers are more likely to use technology in their pedagogy when they believe it can improve learning outcomes or enhance classroom relationships [16]. The efficiency of digital platforms, AI-powered learning environments, and interactive whiteboards reflects their capacity to facilitate student participation and differentiated instruction. The significance of professional development initiatives in promoting successful technological integration is further highlighted by the fact that educators' evaluations of usefulness are influenced by institutional support, prior experience, and training programs [17].

### *Perceived Ease of Use and its Role in Adoption*

One of the most important factors influencing the successful integration of instructional technology is still how simple it is considered [18]. Teachers are more likely to embrace technology when it is easy to use, intuitive, and requires little training. According to studies, perceived utility is increased by ease of use, which promotes a favorable attitude toward adopting technology [20]. On the other hand, adoption rates may be harmed by frustration and resistance if instructional technology is complicated, necessitates a high level of technical expertise, or has operational inefficiencies. Encouraging teachers to use technology can be greatly increased by making digital teaching tools more accessible, offering thorough training materials, and including responsive support systems. By resolving these usability issues, teachers may concentrate on effective instruction rather than technical difficulties [15].

### *The Significance of Perceived Value in Technology Integration*

When evaluating technology's advantages versus deployment costs, educators consider perceived value in addition to usability and functioning [19]. The balance between educational technology's instructional benefits and related operating and maintenance costs is reflected in its perceived value [21]. Research shows that the relationship between adoption behavior, usefulness, and simplicity of use is mediated by perceived value. Teachers' willingness to incorporate technology into the classroom declines if they discover that it improves efficiency but requires too much work [1]. Therefore, to improve instructors' perceptions of the value of technology and eventually promote sustainable adoption, institutions must maximize resource allocation, expedite technological procedures, and offer robust support systems.

### *Effectiveness and Future Directions in Educational Technology*

Beyond just improving functionality, contemporary educational technology improves teaching quality, increases student engagement, and improves instructional tactics [15]. The idea that technology creates dynamic learning settings that promote independent learning, teamwork, and problem-solving is supported by research. Additionally, students' creativity, digital literacy, and information analytic abilities are developed through digital platforms, preparing them for the demands of the changing knowledge economy [17]. However, careful instructional design is necessary for successful integration, ensuring that technology supports learning goals rather than just acting as a supporting tool. Future studies should look into creative methods to use educational technology in a wider range of learning scenarios, given the ongoing developments in AI-driven learning, cloud-based teaching solutions, and adaptive learning technologies [5].

There are still issues, especially in rural schools with poor infrastructure and training. Socioeconomic differences further hamper inequitable access to technology. Research indicates that comprehensive approaches, including greater funding, teacher preparation, and legislative changes, are required to solve these problems [5], [18], [20]. Technology can realize its potential as a transformational educational force by addressing these obstacles.

## 3. Research Method

### *Research Design*

In order to thoroughly investigate the function of contemporary educational technology in teaching reform inside Chinese rural schools, this study uses a mixed-methods approach, integrating quantitative and qualitative research. The study will guarantee a comprehensive understanding of technology's influence on rural education by combining quantitative data and qualitative observations. In order to collect vast amounts of data and statistically analyze instructors' impressions of technology adoption, the quantitative component uses a survey methodology with standardized questionnaires. Focus group discussions, on the other hand, make up the qualitative component and offer a deeper understanding of the difficulties and experiences faced by educators in the real world. The mixed-methods approach increases the study's validity, which guarantees both depth (qualitative analysis) and breadth (quantitative insights) in assessing the efficacy of educational technology.

### *Population and Sample*

Teachers from Zhaoming Middle School in Xiangyang City, a rural Chinese school, comprise the study's population and sample. Three hundred fifty-five valid replies were obtained from the 400 issued questionnaires, resulting in an effective response rate of 88.75%. In order to guarantee representativeness across various disciplines, teaching experiences, and backgrounds, the study sample was chosen using random sampling techniques. A comprehensive and contextualized understanding of technology integration in rural schools was made possible by participating six rural teachers in focus groups, who represented a range of disciplines, age groups, and teaching experiences, in addition to survey respondents. This broad sample guarantees a balanced viewpoint by representing the differences in how contemporary educational technology is viewed and applied in teaching methods.

### *Instruments and Data Collection Procedures*

The study uses standardized tools, such as a 19-item questionnaire with a Likert five-point scale (1 = Strongly Disagree, 5 = Strongly Agree), to examine the fundamental aspects of technology adoption. The survey evaluates the effectiveness, perceived value, perceived utility, and perceived ease of use of contemporary educational technology. It covers topics including digital literacy, classroom management, student engagement, and the effects of technology on instructional efficiency. Furthermore, the focus group talks use an open-ended interview approach and cover important topics such as infrastructural difficulties, student adaption, policy implementation, and teachers' experiences with technology. These tools offer a large dataset, making it easier to do in-depth thematic analysis and numerical evaluation.

To guarantee multifaceted knowledge, the data collection techniques combine the administration of surveys and interviews. Teachers in remote schools were encouraged to participate as often as possible by distributing the questionnaires digitally and in print. Teachers' opinions about technology's usability, perceived value, and simplicity of use are gathered through the survey and serve as the foundation for statistical analysis. In the meantime, in-person focus group talks allowed for gathering detailed qualitative accounts of the experiences of educators, institutional support, and infrastructure difficulties. Following a predetermined format, the interviews provide subject coherence and make it easier to compare the comments of various teachers.

### *Data Analysis*

The study uses both descriptive and inferential statistical techniques for data analysis. Mean values and standard deviations are descriptive statistics that show how teachers generally feel about integrating technology. The study uses Pearson correlation analysis to examine how important variables like perceived value, perceived utility, and ease of use relate to one another. Additionally, the hypothesized associations are empirically validated by Structural Equation Modeling (SEM), which evaluates these variables' direct and indirect effects on digital literacy and learning behaviors. Thematic analysis of the qualitative interview data reveals trends in the instructors' answers about implementing policies, the difficulties with infrastructure, and the advantages of teaching. The study guarantees strong conclusions regarding the significance of

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contemporary educational technology in rural school reform by combining statistical results with qualitative insights.

## 4. Results

### *The Current Status of Modern Educational Technology in Teaching Reform in Chinese Rural Schools*

The data presents descriptive statistical results concerning the application of modern educational technologies in the teaching reforms of rural schools in China. The analysis revolves around five dimensions: perceived usefulness, perceived ease of use, perceived value, learning practice, and literacy and interaction, reflecting teachers' experiences and actual effects of using modern educational technologies. The mean values of various measurement items range from 3.300 to 3.920, with standard deviations from 0.756 to 1.321. This indicates a generally high level of recognition, signifying that rural school teachers hold a positive attitude towards the application effects of modern educational technologies.

Table 1: Descriptive Statistics

| Items | Mean Statistic | Std. Deviation Statistic | Interpretation |
|---|---|---|---|
| Q1 | 3.320 | 1.124 | Neutral |
| Q2 | 3.370 | 1.062 | Neutral |
| Q3 | 3.480 | 1.100 | Neutral |
| Q4 | 3.550 | 0.983 | High |
| Q5 | 3.550 | 1.186 | High |
| Perceived Usefulness | 3.454 | 0.890 | Neutral |
| Q6 | 3.680 | 1.119 | High |
| Q7 | 3.530 | 1.143 | High |
| Q8 | 3.700 | 1.255 | High |
| Q9 | 3.570 | 1.161 | High |
| Q10 | 3.300 | 1.086 | Neutral |
| Q11 | 3.460 | 1.055 | Neutral |
| Perceived Ease of Use | 3.540 | 0.916 | High |
| Q12 | 3.580 | 1.069 | High |
| Q13 | 3.590 | 1.171 | High |
| Q14 | 3.450 | 1.071 | Neutral |
| Q15 | 3.650 | 1.263 | High |
| Q16 | 3.380 | 1.134 | Neutral |
| Q17 | 3.470 | 1.162 | Neutral |
| Perceived Value | 3.519 | 0.929 | High |
| Q18 | 3.510 | 1.118 | High |
| Q19 | 3.560 | 0.988 | High |
| Q20 | 3.650 | 1.067 | High |
| Q21 | 3.790 | 1.321 | High |
| Q22 | 3.640 | 0.908 | High |
| Q23 | 3.870 | 1.204 | High |
| Learning Practice | 3.669 | 0.906 | High |
| Q24 | 3.880 | 0.896 | High |
| Q25 | 3.610 | 1.079 | High |
| Q26 | 3.870 | 1.032 | High |

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| Items | Mean Statistic | Std. Deviation Statistic | Interpretation |
|---|---|---|---|
| Q27 | 3.920 | 1.034 | High |
| Q28 | 3.790 | 1.030 | High |
| Q29 | 3.480 | 1.227 | Neutral |
| Literacy and Interaction | 3.760 | 0.845 | High |
| Effectiveness of Modern Educational Technology Application | 3.711 | 0.756 | High |

### *The Factors Influencing the Effectiveness of Modern Educational Technology in Teaching Reform in Chinese Rural Schools*

The data presents the results of convergent validity and internal consistency reliability tests for various latent variables. The standardized factor loadings for each measurement item range from 0.707 to 0.868, all exceeding the recommended threshold of 0.7, indicating strong explanatory power of each item for its corresponding latent variable and good measurement reliability. The AVE values for all latent variables are as follows: PU (0.582), PEU (0.582), PV (0.591), LI (0.613), and LP (0.576), all exceeding the recommended standard of 0.5, demonstrating that each latent variable effectively captures the variation in its measurement items and possesses good convergent validity. The CR values for all latent variables range from 0.874 to 0.905, significantly above the recommended threshold of 0.7, indicating strong internal consistency and good composite reliability for each latent variable, i.e., the measurement items consistently and stably reflect the characteristics of the latent variables. The latent variables in this model exhibit high reliability and validity in measurement, providing a solid data foundation for subsequent Structural Equation Modeling (SEM) analysis.

Table 2. AVE and CR of Variables

| Path Relationship | | | Estimate | AVE | CR |
|---|---|---|---|---|---|
| Q1 | <--- | PU | 0.823 | 0.582 | 0.874 |
| Q2 | <--- | PU | 0.726 | | |
| Q3 | <--- | PU | 0.727 | | |
| Q4 | <--- | PU | 0.777 | | |
| Q5 | <--- | PU | 0.756 | | |
| Q6 | <--- | PEU | 0.707 | 0.582 | 0.893 |
| Q7 | <--- | PEU | 0.804 | | |
| Q8 | <--- | PEU | 0.758 | | |
| Q9 | <--- | PEU | 0.750 | | |
| Q10 | <--- | PEU | 0.818 | | |
| Q11 | <--- | PEU | 0.735 | | |
| Q12 | <--- | PV | 0.815 | 0.591 | 0.897 |
| Q13 | <--- | PV | 0.767 | | |
| Q14 | <--- | PV | 0.743 | | |
| Q15 | <--- | PV | 0.785 | | |
| Q16 | <--- | PV | 0.765 | | |
| Q17 | <--- | PV | 0.739 | | |
| Q18 | <--- | LI | 0.868 | 0.613 | 0.905 |
| Q19 | <--- | LI | 0.766 | | |
| Q20 | <--- | LI | 0.757 | | |
| Q21 | <--- | LI | 0.759 | | |

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| Path Relationship | | | Estimate | AVE | CR |
|---|---|---|---|---|---|
| Q22 | <--- | LI | 0.768 | | |
| Q23 | <--- | LI | 0.773 | | |
| Q24 | <--- | LP | 0.756 | | |
| Q25 | <--- | LP | 0.743 | | |
| Q26 | <--- | LP | 0.771 | 0.576 | 0.891 |
| Q27 | <--- | LP | 0.761 | | |
| Q28 | <--- | LP | 0.766 | | |
| Q29 | <--- | LP | 0.757 | | |

Note: PU means Perceived Usefulness; PEU means Perceived Ease of Use; PV means Perceived Value; LP means Learning Practice; LI means Literacy and Interaction

The data presents the results of Pearson correlation analyses among various variables. The five core variables include Perceived Usefulness (PU), Perceived Ease of Use (PEU), Perceived Value (PV), Learning Practice (LP), and Digital Literacy and Interaction (LI). The square root of the Average Variance Extracted (√AVE) values for each variable are also provided to assess their convergent validity and discriminant validity. The √AVE values for all variables exceed 0.7, with PU and PEU at 0.763, PV at 0.769, LP at 0.783, and LI at 0.759, indicating high convergent validity and effective reflection of their latent variable characteristics by the measurement items. The √AVE values for each variable are greater than their correlation coefficients with other variables, demonstrating good discriminant validity for the model, i.e., the latent variables are statistically significant and independent, effectively distinguishing different concepts.

Table 3. Results of Pearson's Correlation Analysis for Each Variable

| | √AVE | PU | PEU | PV | LP | LI |
|---|---|---|---|---|---|---|
| PU | 0.763 | 0.763 | | | | |
| PEU | 0.763 | .207** | 0.763 | | | |
| PV | 0.769 | .279** | .242** | 0.769 | | |
| LP | 0.783 | .430** | .364** | .406** | 0.783 | |
| LI | 0.759 | .549** | .314** | .365** | .624** | 0.759 |

NOTE: * p<0.05 ** p<0.01 *** p<0.001, PU means Perceived Usefulness; PEU means Perceived Ease of Use; PV means Perceived Value; LP means Learning Practice; LI means Literacy and Interaction

The various indices of model fit reflect the adequacy of the Structural Equation Modeling (SEM). A Chi-square/df value of 1.719, below the recommended threshold of 3, suggests a commendable alignment between the model and the data. The GFI (0.889) and AGFI (0.870), though slightly under 0.9, reside within an acceptable range, indicating a solid overall fit of the model. The CFI value of 0.952, surpassing 0.9, exemplifies an excellent fit of the model. The RMSEA value 0.045, far beneath 0.08, underscores a minimal model error and an ideal fit. All indices fall within reasonable parameters, demonstrating a robust match between the model and the data and highlighting a superior degree of fit.

Table4. Results of Structural Equation Modeling

| Path relationship | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| PV | <--- | PEU | 0.241 | 0.064 | 3.786 | *** |
| PV | <--- | Pu | 0.281 | 0.056 | 5.052 | *** |
| LI | <--- | PV | 0.528 | 0.066 | 8.017 | *** |
| LP | <--- | PV | 0.347 | 0.066 | 5.26 | *** |

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The Structural Equation Modeling (SEM) reveals path analysis results, demonstrating direct influential relationships among latent variables and their significance levels. The path coefficient between Perceived Ease of Use (PEU) and Perceived Value (PV) is 0.241 (S.E. = 0.064, C.R. = 3.786, $p < 0.001$), indicating a significant positive impact of PEU on PV. Similarly, the path coefficient between Perceived Usefulness (PU) and PV is 0.281 (S.E. = 0.056, C.R. = 5.052, $p < 0.001$), showing PU's significant positive influence on PV. The path coefficient between PV and Digital Literacy and Interaction (LI) is 0.528 (S.E. = 0.066, C.R. = 8.017, $p < 0.001$), signifying that a stronger perception of value in modern educational technology fosters greater student capability in technology-mediated interaction and information exchange. Furthermore, the path coefficient between PV and Learning Practices (LP) is 0.347 (S.E. = 0.066, C.R. = 5.260, $p < 0.001$), indicating that PV significantly positively impacts LP, with higher value recognition corresponding to greater student enthusiasm for technology-enabled exploration and practice.

According to the SEM findings, the primary factors influencing the effectiveness of modern educational technology encompass the following: Perceived Ease of Use (PEU): Teachers' perception of modern educational technology as user-friendly enhances their recognition of its actual value, thereby promoting its effective application in teaching. Perceived Usefulness (PU): Teachers' recognition of modern educational technology in improving teaching efficiency, classroom management, and data tracking directly influences their perception of its value, further driving its effectiveness. Perceived Value (PV): PV serves as a pivotal mediator in facilitating the effective application of technology, notably enhancing students' digital literacy and interaction capabilities (LI) and fostering their enthusiasm for using technology for learning and practice both in and out of the classroom (LP).

### *The Challenges of Modern Educational Technology in The Teaching Reform of Chinese Rural Schools*

The focus group interview involved six teachers from Zhaoming Rural School in Xiangyang, China. They were carefully selected based on many criteria, including teaching experience, subject matter, school resources, and administrative roles, to present an authentic portrayal of the realities and core issues surrounding the application of modern educational technology in rural schools. The participating teachers comprised novice educators, middle-aged teachers, and veterans with teaching experiences ranging from 3 to 22 years. They represented a diverse array of subjects, including Chinese language, mathematics, physics, chemistry, politics, and information technology, ensuring that the disparities and commonalities in the application of educational technology across different disciplines were adequately showcased.

The results of the focus group talks highlight significant obstacles to adopting contemporary instructional technologies in rural Chinese schools. The thematic analysis identifies four main issues: insufficient infrastructure, differences in teachers' technical competence, unequal student access, and ineffective policy execution. A thorough section on the research findings is provided below, which includes real interview transcripts to bolster these theme revelations.

In rural schools, technology-driven teaching methods are severely limited by a lack of suitable hardware and internet connectivity. Many educators voiced dissatisfaction with antiquated technology and erratic connections, making integrating digital resources into the classroom difficult.

Interview Excerpt 1:

Interviewer: Could you describe the technological infrastructure in your school? Teacher A (Physics, 12 years of experience): *"The projectors frequently break down, and the school only has two smartboards. Even if we wanted to incorporate technology, it would be hard because many classes lack computers. Lessons are taught via textbooks, and pupils rarely engage with digital content."*

Despite the potential advantages of educational technology, this response highlights the acute scarcity of digital resources, which forces teachers to return to conventional teaching methods.

Teachers' varying levels of digital literacy factor in their uneven embrace of technology. While older teachers struggle because of their lack of formal training and limited experience, younger teachers exhibit greater confidence.

Interview Excerpt 2:

Interviewer: How confident are you in using modern educational technology in your lessons? Teacher B (History, 20 years of experience): *"Honestly, I do not feel at ease using smart classrooms. The system is complicated, and I have never had the right training. I previously experimented with an online platform, but it was unclear. I eventually returned to teaching the way I always do."*

This supports the claim that teacher training is essential to the use of technology by highlighting the training gap and the necessity of structured professional development. Access to personal digital devices and internet connectivity is difficult for students in remote locations, which results in educational disparities that impact learning outcomes and student engagement.

Interview Excerpt 3:

Interviewer: Do students have access to personal devices or internet at home? Teacher C (Chinese Language, 8 years of experience): *"Most of my students' homes lack computers and reliable internet. Half of the students in my class cannot finish the online research assignments I set because they cannot access them. While some students borrow devices from their peers, this is not a sustainable option."*

This remark highlights how educational differences are exacerbated by technology inequality, which restricts students' capacity to use digital learning platforms properly. Despite government efforts to foster digital learning, sustaining educational technology systems is difficult due to uneven policy implementation and a lack of professional assistance.

Interview Excerpt 4:

Interviewer: How does policy implementation influence technology adoption in your school? Teacher D (Mathematics, 15 years of experience): *"We hear about laws that support online learning, but little is changing. Rural schools do not receive the financing, and no assistance is available when there are technological problems. We lose class time when the system crashes because no one can fix it."*

This illustrates how policy frameworks must be implemented practically and with sufficient resources so that teachers may get technical support when needed.

## Discussion

The study's deductions highlight the possibilities and difficulties of incorporating contemporary educational technology into teaching reform in rural Chinese schools. Although

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teachers know how digital tools can improve student engagement and instructional efficiency, infrastructure constraints, differences in technology competency, and socioeconomic disparities restrict their efficacy. According to the quantitative statistics, most instructors see the value of educational technology, indicating a moderate to high level of acceptability. However, adoption is severely hampered by complaints about out-of-date materials, a lack of training, and erratic internet connectivity, according to qualitative observations [22]. These results imply that although there has been improvement in the use of technology, structural obstacles still exist, preventing it from reaching its full potential in rural education.

This study supports earlier findings that demonstrate the beneficial effects of instructional technology in closing learning gaps and raising engagement compared to existing literature [23]. However, by concentrating on issues peculiar to rural schools—a setting frequently overlooked in more general studies on educational technology—this research offers a distinctive viewpoint [15]. Previous studies have focused on urban environments, where training programs and infrastructure are more developed [24]. In contrast to other research focusing on developing students' digital literacy, this study shows a significant gap in teacher preparedness, indicating that institutional support is still dispersed in rural areas [24]. This research contributes nuanced insights to the continuing discussion on equitable educational technology deployment by examining real-world restrictions [25].

In the future, the report identifies viable avenues for resolving these issues, including as focused infrastructure spending, extensive teacher preparation initiatives, and improved policy implementation [26], [27], [28]. This study offers useful information for educational policymakers, school administrators, and technology developers by pinpointing unique barriers, allowing them to customize solutions for rural settings. In order to make up for resource shortfalls in rural areas, further research should look into scalable alternatives like mobile-based educational tools and AI-assisted learning systems [29], [30], [31]. Ultimately, this study contributes to the discourse on technological fairness by promoting comprehensive changes that guarantee digital innovations genuinely benefit all educational environments.

## 5. Conclusion

With an emphasis on Zhaoming Middle School in Xiangyang City, this study investigated the adoption of contemporary educational technology in Chinese rural schools, including its current status, contributing factors, and obstacles. According to the findings, despite teachers' recognition of the advantages of digital tools in improving student engagement and instructional efficiency, systemic obstacles such as infrastructure constraints, differences in technological proficiency, and socioeconomic disparities still prevent widespread adoption. Positive survey responses show that most teachers see the benefits of technology. However, problems, including inadequate training, erratic internet, and out-of-date materials, make integration difficult. Furthermore, policy initiatives that encourage digital education frequently fail to be implemented effectively, depriving teachers of the required funds and technical assistance. Therefore, optimizing the use of educational technology in rural teaching reform still requires equal access, real-world implementation, and ongoing training.

These findings highlight the necessity of focused initiatives in teacher preparation and rural education policy. First, infrastructure upgrades are crucial to closing the technological divide between rural and urban schools. Second, professional development programs ought to be extended to guarantee that teachers have the digital skills necessary for successful classroom integration. Policies should also be strategically implemented to ensure that funds and resources go to underprivileged schools rather than being disproportionately given to wealthy urban institutions. This study also draws attention to the shortcomings of earlier research, which mainly concentrated on urban educational contexts while ignoring rural schools' particular difficulties. By filling in these gaps, this study offers fresh perspectives on the workable and legislatively motivated solutions required to advance technology fairness in rural educational settings.

This study theoretically contributes to the conversation on Technology Acceptance Models (TAM) in education by providing contextualized viewpoints on the adoption of digital tools in rural settings. It highlights the significance of perceived value, utility, and ease of use in determining educators' readiness to incorporate technology while pointing out fresh obstacles to settings with limited resources. Practically speaking, this study offers insightful recommendations for legislators, school officials, and tech developers, assisting in developing successful plans for reforming rural digital education. Future research should investigate cutting-edge technical alternatives, including mobile-based digital tools and AI-driven adaptive learning systems, to get beyond resource constraints in remote locations. This study establishes the foundation for long-lasting educational reforms by promoting systemic changes, guaranteeing that contemporary technology realizes its revolutionary potential in closing the educational gaps between rural and urban areas.

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