



The Impact of Teacher Training Programs on the Quality of English Education in Rural Areas of China

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ABSTRACT

Background: This study explores the relatively under-examined impact of Teacher Training Programs on the quality of English education, with a specific focus on Shaxi Village in Yunnan Province, China. **Problem:** Despite numerous studies demonstrating the effectiveness of such programs, their specific impact on rural areas such as Shaxi remains insufficiently understood. **Purpose:** This research aims to evaluate the effectiveness of three primary training initiatives – the National Teachers Training Program, Online Professional Development Courses, and Interactive Teaching Skills Seminars – in enhancing the quality of English education among

teachers in Shaxi Village. **Method:** Employing a quantitative research design, this study gathers data from 120 educators through surveys. Stratified random sampling is used to capture diverse perspectives, while closed-ended questions facilitate efficient data collection and analysis. **Findings:** Reliability tests, including Cronbach's Alpha, reveal high internal consistency among survey items assessing program effectiveness and education quality. Correlation analysis shows strong positive relationships between the training programs and the quality of English education, with Interactive Teaching Skills Seminars ($r = .955$), Online Professional Development Courses ($r = .961$), and the National Teachers Training Program ($r = .955$), all significantly correlated ($p < .01$). Regression analysis further confirms the significant predictive power of these programs on the quality of English education, with an R^2 of .941 and an F-value of 641.880 ($df = 3, 121, p < .001$). **Implications:** These findings underscore the crucial role of teacher training programs in enhancing the quality of English education in rural areas, with Online Professional Development Courses demonstrating a particularly strong impact. The study highlights the potential of targeted teacher training initiatives to significantly improve English education quality in rural contexts, providing valuable insights for educational policy and practice.

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Introduction

As the global educational landscape continues to evolve, the quality of English instruction emerges as a crucial element in driving educational transformation. The

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significance of this focus stems from the recognition that English is not only a tool for global communication but also a key factor in economic advancement and social success. However, disparities in educational resources and teacher training between urban and rural areas exacerbate the challenges of improving English education quality in countries like China. Akram et al. (2020) support this argument by highlighting the shortage of progressive pedagogy and advanced equipment for teachers in rural English settings, which leads to a pronounced disparity in learning outcomes between urban and rural students. Liu et al. (2021) further emphasize the importance of teacher training programs in developing effective teaching methods, which are essential for raising teaching standards in underdeveloped regions.

Despite the existing challenges, innovative teacher education programs offer a promising solution. Rural English teachers are now provided with customized programs that equip them with modern teaching strategies, such as technology integration and the theory of second language acquisition. Castro and Villafuerte (2019) found that after participating in training programs specifically designed for rural instructors, there was a significant improvement in both teaching efficacy and motivation. This enhanced engagement resulted in better learning outcomes. Similarly, Gunter and Reeves (2017) study demonstrated a positive shift in teachers' perceptions toward interactive and student-centred approaches, mirroring the findings of this research. The results underscore that enhancing the professional development of rural English teachers is a crucial step in narrowing the educational gap in rural areas.

Moreover, teacher training programs not only enhance teaching practices in the short term but also have lasting effects on educators' professional development. For example, Zeichner et al. (2016) argue that these programs foster a sense of community and cooperation among rural teachers, enabling them to share resources and methods within a supportive network. This collaboration not only boosts educators' morale but also disseminates innovative teaching techniques throughout rural schools. Additionally, the development of cultural sensitivity and responsiveness is a critical aspect of effective English instruction. Abacioglu, Volman and Fischer (2020) emphasizes that understanding students' cultural backgrounds is essential for successful teaching. Training programs that educate teachers on the cultural particularities of their students help create a more inclusive and responsive educational environment. Collectively, these studies highlight the multifaceted nature of teacher training programs, which equip local educators with the pedagogical skills, professional networks, and cultural competence necessary to enhance the quality of English education.

Several studies have evaluated the impact of Teacher Training Programs on English education quality. For instance, Zein et al. (2020) found that these programs are effective in enhancing classroom methods and boosting student success. However, the specific impact of Teacher Training Programs on the quality of English education in Shaxi Village, Yunnan Province, China, remains under-researched. Therefore, this research addresses the gap in understanding the effect of Teacher Training Programs on the quality of English education in Shaxi Village, Yunnan Province. To bridge this gap, the study analyses the effectiveness of key programs, including the National Teachers Training Program, Online Professional Development Courses, and Interactive Teaching Skills Seminars, in enhancing English education quality in rural areas. The aims of the study are outlined below.

- To evaluate the effectiveness of the National Teachers Training Program in enhancing the quality of English education in Shaxi Village, Yunnan Province.
- To assess the impact of Online Professional Development Courses on improving the quality of English education in Shaxi Village, Yunnan Province.
- To examine the influence of Interactive Teaching Skills Seminars on advancing the quality of English education in Shaxi Village, Yunnan Province.

Literature Review

Teacher-Oriented Online Courses and English Education Quality

Teacher-oriented or teacher-centred online courses have emerged as a crucial component of effective English education. According to Muianga et al. (2018), online professional development courses are highly effective in imparting advanced instructional strategies and enhancing student performance in English classrooms. These courses enable teachers to master innovative techniques and develop appropriate teaching strategies tailored to diverse learner needs (del Barrio-Aranda, Garcia-Gil, & Cuervo-Calvo, 2022; Toven-Lindsey, Rhoads, & Lozano, 2015). However, as noted by Stenman and Pettersson (2020), in remote or rural areas where professional development opportunities are limited, online courses can provide crucial access to professional growth. Interactive modules and virtual networking platforms facilitate ongoing teacher learning and enable educators to interact with and share successful practices with peers from various locations.

Conversely, teachers benefit from the flexibility and accessibility of e-courses, which allow them to create personalized learning environments tailored to their individual interests and needs (Asensio-Pérez et al., 2017; Creapeau & Hansen, 2022; Dule, 2022). This learner-centred approach promotes greater responsibility and self-direction among educators, enhancing their efficiency in acquiring new knowledge and transferring it to their students. Additionally, online courses offer a cost-effective alternative for teachers facing financial constraints, thereby extending professional development opportunities to educators from diverse socio-economic backgrounds. Moreover, e-learning provides teachers with the opportunity to stay abreast of the latest technological advancements and digital literacy skills essential for high-quality instruction in the digital age (González-Pérez & Ramírez-Montoya, 2022; Hu, Zhang, & Zhang, 2022; Jiang, 2022; Mohammad, Ahmed, & Alabbas, 2022). Through technology-enhanced learning practices, educators can develop engaging and interactive educational environments that cater to varied learning styles. Furthermore, online courses enable teachers to experiment with different assessment methods and use gathered data to make informed decisions, ensuring appropriate and effective responses.

Teacher-led online courses have shown considerable potential for elevating the standards of English instruction. However, it is essential to thoroughly investigate their effectiveness and address potential limitations. A critical issue to consider is equity and accessibility. While online courses offer benefits for those who are geographically distant from professional development opportunities, they can also exacerbate existing disparities. Teachers in remote or disadvantaged areas may lack reliable internet access or suitable devices, which can hinder their ability to fully engage with online courses

(Chienwattanasook, Trisakhon, & Ridsomboon, 2023; Ferri, Grifoni, & Guzzo, 2020). Additionally, the digital divide extends beyond infrastructure to include factors such as digital literacy and language skills, potentially widening disparities among educators. This could unintentionally increase the divide in teaching quality, counteracting the educational goals of equity. Another important consideration is the quality and relevance of online course materials. Despite the availability of numerous platforms offering content related to English education, the quality and effectiveness of these courses can vary significantly. Courses that lack rigor or do not align with the specific needs of teachers or students may be less beneficial. Furthermore, the proliferation of online courses has raised concerns about passive professional development, where educators may simply navigate through content without engaging critically or applying new knowledge in practice (Fahdil et al., 2022; Xu et al., 2021). In the absence of reliable quality control mechanisms and regular evaluations, there is a risk that online courses may prioritize mass production over quality improvement, potentially compromising the overall effectiveness of English education in the long term. Nonetheless, online courses remain powerful tools for enhancing the quality of English education.

National Teachers Training Program in Enhancing English Education Quality

National Teachers Training Programs (NTTPs) play a crucial role in enhancing the quality of English education. These programs are designed to equip teachers with the essential skills and knowledge for effective English instruction. Research by Songbatumis (2017) indicates that NTTPs positively impact English teachers by enhancing their pedagogical practices and boosting their confidence in teaching. Well-structured professional development programs significantly improve teacher efficiency and instructional quality. However, the effectiveness of NTTPs can vary depending on factors such as program content, duration, and delivery methods. For instance, Ge et al. (2020) found that seminars focused on specific school strategies and interactive workshops yielded significantly better outcomes compared to traditional lecture-based approaches.

Conversely, it is important to focus on the sustainability of NTTPs and address related issues. While improvements in teaching quality may be evident in the short term, long-term effectiveness requires ongoing support and the provision of robust platforms for teacher professional development. For example, Altay (2015) noted that without continued support for students' collaborative use of English post-training, the long-term impact of these programs on overall English teaching quality may diminish. Additionally, the cultural sensitivity of NTTPs is a critical consideration. Effective training programs must adapt their materials and methods to address the specific challenges faced by individual schools to achieve optimal results. Bagherabadi and Mazdayasna (2021) emphasized that integrating culturally responsive teaching methods into the NTTP curriculum is essential for addressing language and cultural diversity in multicultural classrooms.

On the other hand, the implementation and evaluation of NTTPs remain significant challenges. A critical issue is the reliance on a singular assessment approach to measure the impact of these programs on students' learning outcomes. For example, Shernoff et al. (2017) identified limitations in the tools used to assess the effectiveness of NTTPs in enhancing students' English proficiency. Despite the importance of this aspect, the ultimate objective of NTTPs is to improve students' proficiency in English. Additionally, the cost-

effectiveness and affordability of NTTPs present further challenges, potentially undermining their effectiveness in elevating English education standards. Lavalley (2018) highlights that NTTPs are often unevenly distributed between urban and rural areas, necessitating targeted policies to address such disparities. Addressing these obstacles is essential for ensuring that NTTPs effectively sustain and enhance the quality of English education.

Impact of Teacher Seminars on English Education Quality

Professional development seminars for teachers play a crucial role in enhancing the quality of English education by offering educators opportunities for personal growth and skill enhancement. Research by Alrashidi and Phan (2015) indicates that participation in such seminars can lead to improvements in teachers' content knowledge and instructional strategies, which, in turn, positively affect students' learning outcomes. This suggests that well-designed seminars can significantly boost teaching effectiveness and contribute to the overall goal of improving English education quality. However, the effectiveness of these seminars can be influenced by factors such as content, duration, and delivery methods. For example, Alaagib, Musa and Saeed (2019) found that seminars emphasizing practical classroom applications and interactive workshops were more successful in altering teaching practices compared to traditional lecture-based formats. This highlights the importance of incorporating active learning methods into seminar design to enhance their impact on teacher efficacy and instructional quality.

The duration of the impact of teacher seminars is a significant concern. While short-term improvements in teaching practices can be observed immediately after seminar participation, these gains may not be sustained without ongoing support measures. Zeng et al. (2020) conducted a longitudinal study that highlighted the importance of continued mentoring and coaching following seminars as crucial elements for enhancing the quality of professional development programs. This underscores the need for sustained resources and support to ensure that seminars contribute to a long-term, effective teaching methodology. Additionally, the contextual relevance of seminar content is crucial. Tailoring content and strategies to address the specific challenges faced by educators in different contexts enhances the effectiveness of the seminars. For instance, Hollie (2017) emphasized that culturally responsive instruction is vital for classrooms with diverse student populations. This suggests that a "one-size-fits-all" approach may be insufficient, particularly if professional development activities are not customized to meet specific needs.

While teacher seminars have the potential to yield various positive outcomes, several challenges can impede their implementation and evaluation. For instance, disparities in funding and support across schools can exacerbate inequities in the quality of seminars, leading to uneven professional development among teachers. Brown and Militello (2016) demonstrate that variations in development resources result in significant gaps in educational settings. Additionally, the effectiveness of seminar content and teaching methods presents further challenges. Azano and Stewart (2016) found that theoretical knowledge alone is insufficient unless complemented by practical, hands-on participation in training sessions. Moreover, the quality of facilitation and engagement techniques during workshops plays a crucial role in determining how effectively teachers can grasp and apply the knowledge gained.

Sustaining the impact of teacher seminars presents an additional challenge. Although initial improvements in teaching practices may be observed following seminar participation, these benefits must be supported by ongoing reinforcement and support. Research by [Gore et al. \(2017\)](#) indicates that the absence of systematic follow-up sessions or mentoring leads to the short-lived effectiveness of seminars as tools for enhancing teaching quality. Thus, achieving a lasting impact requires the provision of continuous support beyond the seminar itself. Another issue is aligning seminar objectives with broader educational goals and standards. [Angeli et al. \(2016\)](#) highlight a disconnect between seminar materials and national or state curriculum requirements. This misalignment can influence the focus of teacher training programs and affect the competencies and knowledge necessary for effective teaching, thereby impacting the quality of English education. Therefore, while teacher seminars show promise for improving education through enhanced teaching practices and student outcomes, addressing challenges related to equity, sustainability, effectiveness, and alignment with educational standards is crucial for ensuring that all educators receive high-quality professional development opportunities.

Literature Gap

Finally, the question of the effectiveness of teacher workshops remains pertinent. While initial improvements in teaching practices may be evident following seminar participation, such gains necessitate ongoing and consistent support to be sustained. Research by [Gore et al. \(2017\)](#) indicates that without systematic follow-up sessions or mentoring, the long-term effectiveness of seminars in enhancing teaching quality is not assured. Thus, achieving sustained impact requires additional support mechanisms beyond the seminar itself. Another critical issue is the alignment of seminar objectives with broader educational goals and standards. [Angeli et al. \(2016\)](#) found a misalignment between seminar content and the national or state curriculum requirements. This discrepancy can influence the focus of educational programs and affect the development of competencies and knowledge necessary for effective teaching, ultimately impacting the quality of English education. In summary, while teacher workshops have the potential to improve education through enhanced teaching practices and student outcomes, it is essential to address challenges related to equity, sustainability, effectiveness, and alignment with educational standards to ensure that all educators receive professional development opportunities of equal quality.

Method

Research Design

This study uses a quantitative design to collect and analyse numerical data, exploring relationships and patterns. Specifically, quantitative surveys will be distributed to teachers and education administrators in Shaxi village, Yunnan Province, to collect data on key variables. The dependent variable, Quality of English Education, will be analysed in relation to the independent variables, including the National Teachers Training Program, Online Professional Development Courses, and Interactive Teaching Skills Seminars, as illustrated in the figure below. Quantitative methods enable systematic measurement, trend identification, and correlation analysis to enhance English teaching in rural China.

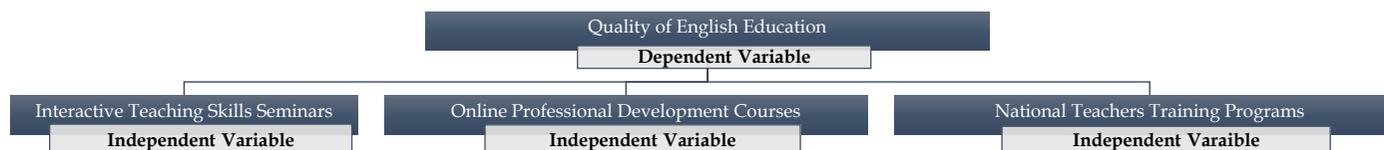


Figure 1: Relationship between Independent and Dependent Variables.

Research Sample

The study utilizes stratified random sampling to select a sample of 120 respondents, including teachers and education administrators from Shaxi village, Yunnan Province. This sample size is deemed adequate for achieving statistical significance and ensuring reliable results, while remaining feasible within the research's timeframe and resource constraints. By stratifying the sample according to key characteristics such as teaching experience and educational background, the study seeks to capture a range of perspectives and experiences, thereby providing a comprehensive understanding of the impact of teacher training programs on the quality of English education in rural areas of China.

Hypothesis

Table 1 outlines the hypotheses for this study.

Table 1

Hypothesis

Hypothesis (H)	Null Hypothesis (H0)
H1) The effectiveness of the National Teachers Training Program (NTTP) in improving the quality of English education in Shaxi village of Yunnan province will be positively correlated with measurable improvements in teacher pedagogical practices and student learning outcomes.	H ₀) There will be no correlation between the effectiveness of the National Teachers Training Program (NTTP) and measurable improvements in teacher pedagogical practices and student learning outcomes in Shaxi village of Yunnan province.
H2) Participation in Online Professional Development Courses for teachers will positively impact the quality of English education in Shaxi village of Yunnan province, resulting in observable enhancements in teacher content knowledge, instructional strategies, and student achievement.	H ₀) Participation in Online Professional Development Courses for teachers will not impact the quality of English education in Shaxi village of Yunnan province, and there will be no observable enhancements in teacher content knowledge, instructional strategies, and student achievement.
H3) Participating in Interactive Teaching Skills Seminars positively impacts the quality of English education in Shaxi village, Yunnan province, by enhancing teacher efficacy, increasing classroom engagement, and improving student learning outcomes.	H ₀) Participating in Interactive Teaching Skills Seminars does not impact the quality of English education in Shaxi village, Yunnan province, and does not enhance teacher efficacy, increase classroom engagement, or improve student learning outcomes.

Data Collection

The study utilizes an online survey questionnaire administered via Google Forms to the target population of teachers and education administrators in Shaxi village,

Yunnan province. This method allows for the collection of data on key parameters, including the quality of English education and participation in the National Teachers Training Program, Online Professional Development Courses, and Interactive Teaching Skills Seminars. The questionnaire comprises closed-ended questions

designed to quantitatively assess respondents' views and experiences regarding teacher training and the quality of English education. The use of closed-ended questions ensures consistent responses, facilitating rapid data collection and analysis. This approach streamlines the survey process for both respondents and researchers, thereby improving response rates and reducing data entry errors. Additionally,

closed-ended questions generate structured data that can be efficiently computed and analysed, allowing for a systematic examination of relationships between variables and a robust presentation of results. The questionnaire used in this study is provided in [Table 2](#).

Table 2

Questionnaire Design and Response Options

Questionnaire Section	Items	Response Options
Demographic Questions	1. Gender	Male, Female
	2. Teaching Experience	Less than 1 year, 1-3 years, 4-6 years, 7-10 years, more than 10 years
Questions on Interactive Teaching Skills Seminars	1. Frequency of Participation	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
	2. Improvement in Teaching Methods	"Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree."
	3. Effectiveness of Strategies for Engaging Students	"Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree."
	4. Application of Learned Techniques in English Classes	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
	5. Accessibility in Rural Areas	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
Questions on Online Professional Development Courses	1. Frequency of Engagement	"Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree."
	2. Effectiveness in Improving Teaching Skills	"Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree."
	3. Sufficiency of Resources and Materials	"Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree."
	4. Convenience and Flexibility	"Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree."
	5. Provision of New Perspectives/Methods	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
Questions on National Teachers Training Program	1. Frequency of Participation	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
	2. Enhancement of Teaching Proficiency	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
	3. Tailoring to Address Rural Challenges	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
	4. Promotion of Collaborative Learning	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
	5. Overall Impact on English Education Quality	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
Dependent Variable: Quality of English Education	1. Improvement in Teaching Materials/Resources	"Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree."
	2. Increase in Student Engagement	"Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree."
	3. Enhancement in Student Proficiency	"Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree."
	4. Adoption of Innovative Teaching Methods	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree
	5. Overall Improvement in English Education Quality	Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree

Data Analysis

The analysis uses SPSS software to compute descriptive statistics—mean, standard deviation, and frequencies—to describe the sample and variables. Correlation analysis is utilized to explore the relationships between the National Teachers Training Program, Online Professional Development Courses, Interactive Teaching Skills Seminars, and the quality of English education. Regression analysis is employed to assess the extent to

which the independent variables predict variations in the dependent variable. Additionally, reliability testing, specifically Cronbach's Alpha, is conducted to evaluate the internal consistency of the survey items measuring each construct. SPSS enables systematic data analysis, facilitating the extraction of meaningful insights from the collected data. Descriptive statistics offer a detailed overview of the sample and variables, aiding in the interpretation of data. Correlation analysis is employed to identify potential relationships

between variables, while regression analysis assesses the significance of predictors for English education quality. Reliability testing, specifically through measures such as Cronbach's Alpha, ensures the integrity and consistency of the survey instruments, thereby enhancing the validity of the research findings. Collectively, these analytical techniques rigorously test the research hypotheses and contribute valuable insights for educational policy and practice.

Validity and Reliability

Ensuring the credibility of research findings hinges on both validity and reliability. In this study, validity is upheld by employing validated survey instruments and addressing construct validity to ensure that the measures accurately reflect the effectiveness of teacher training programs and the quality of English education in the specific rural context. Reliability is maintained through standardized data collection procedures and statistical tests, such as Cronbach's Alpha, which evaluates the internal consistency of the survey items tailored for teachers in Shaxi village to address local challenges and opportunities. The rigorous attention to validity and reliability enhances the authenticity and accuracy of the data, thereby bolstering the credibility of the study's results on the impact of teacher training programs on English education quality in this rural area of Yunnan province.

Findings

Table 3

Demographic

		Statistics			
		What is your gender?	What is your total teaching experience?		
N	Valid	125	125		
	Missing	0	0		
		What is your gender?			
		Frequency	Percent	Valid Percent	Cumulative Percent
	Male	83	66.4	66.4	66.4
	Valid Female	42	33.6	33.6	100.0
	Total	125	100.0	100.0	

Tables 3 and 4 present the demographic data for a total of 125 participants, with no missing responses, thereby ensuring the completeness and integrity of the dataset for analysis.

Gender Distribution

- Males: Among the 125 participants, 83 are male, representing 66.4% of the total sample. This percentage also reflects the cumulative proportion, indicating that males constitute the majority in this sample.
- Females: There are 42 female participants, accounting for 33.6% of the total sample. When combined with the male participants, the cumulative percentage reaches 100%, confirming that the dataset includes only these two gender categories and that all responses are fully represented.

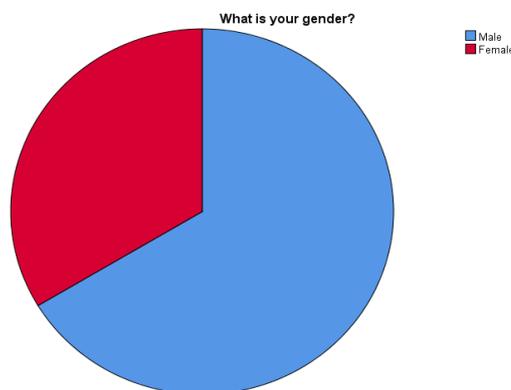


Figure 2: Gender Base Distribution.

Table 4

Distribution of Teaching Experience.

		What is your total teaching experience?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	11	8.8	8.8	8.8
	1-3 years	31	24.8	24.8	33.6
	4-6 years	38	30.4	30.4	64.0
	7-10 years	29	23.2	23.2	87.2
	More than 10 years	16	12.8	12.8	100.0
Total		125	100.0	100.0	

Teaching Experience Distribution

- Less than 1 Year: 11 participants, comprising 8.8% of the total, represent the group of newest teachers in the sample.
- 1-3 Years: 31 participants, representing 24.8% of the total, fall into the category of relatively inexperienced teachers, indicating that they are early in their teaching careers.
- 4-6 Years: 38 participants, comprising 30.4% of the total, represent those with moderate teaching experience, highlighting a significant portion of the sample with this level of experience.
- 7-10 Years: 29 participants, or 23.2% of the total, are categorized as more experienced teachers, having accumulated a substantial amount of time in the field.
- More than 10 Years: 16 participants, constituting 12.8% of the total, represent the most veteran teachers in the sample.

Table 4 offers a detailed overview of the experience levels among the surveyed teachers, providing insights into their professional backgrounds and perspectives on professional development and teaching practices. The majority of participants have between 4 to 6 years of teaching experience. The distribution reflects a balanced representation of various experience levels, from novice teachers to those with over a decade in the field. Additionally, the cumulative percentages demonstrate a progressive accumulation, encompassing all experience categories and reaching 100% with the inclusion of all groups.

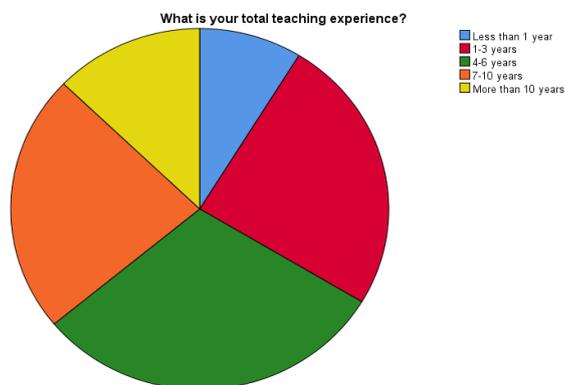


Figure 3: Teaching Experience Distribution.

Reliability Analysis

Table 5

Scale: Interactive Teaching Skills Seminars

Reliability Statistics	
Cronbach's Alpha	N of Items
.949	5

Table 6

Scale: Online Professional Development Courses

Reliability Statistics	
Cronbach's Alpha	N of Items
.955	5

Table 7

Scale: National Teachers Training Program

Reliability Statistics	
Cronbach's Alpha	N of Items
.954	5

Table 8

Scale: Quality of English Education

Reliability Statistics	
Cronbach's Alpha	N of Items
.960	5

Reliability Analysis Overview

Reliability in research pertains to the consistency and stability of a measurement

instrument. Cronbach's Alpha is a widely utilized statistic for evaluating internal consistency, with values approaching 1.0 indicating greater reliability. Generally, a Cronbach's Alpha of 0.7 or higher is deemed acceptable, while values exceeding 0.9 suggest excellent reliability.

Interactive Teaching Skills Seminars

- Cronbach's Alpha: 0.949
- Number of Items: 5

The high Cronbach's Alpha value indicates that the scale used to measure the effectiveness of Interactive Teaching Skills Seminars is highly reliable. This suggests that the five items in the scale are consistent and effectively measure the same underlying concept, specifically the impact of these seminars on teaching skills.

Online Professional Development Courses

- Cronbach's Alpha: 0.955
- Number of Items: 5

Similarly, the very high Cronbach's Alpha value for the scale measuring the impact of Online Professional Development Courses demonstrates excellent reliability. The uniformity across the five items confirms strong internal consistency, ensuring that this measure is dependable for evaluating the intended construct.

National Teachers Training Program

- Cronbach's Alpha: 0.954
- Number of Items: 5

The reliability of the measurement tool used to evaluate the National Teachers Training Program is also exceptionally high. This indicates that the items within this scale effectively measure the program's impact on enhancing the quality of English education.

Quality of English Education

- Cronbach's Alpha: 0.960
- Number of Items: 5

This scale exhibits the highest Cronbach's Alpha among the four, reflecting exceptional reliability in measuring the quality of English education. The high level of internal consistency suggests that the items cohesively evaluate the overall quality of English education as affected by the training interventions. All scales demonstrate very high reliability, indicating that the measures employed in this study are both robust and consistent. This high level of reliability reinforces the validity of the findings concerning the impact of various teacher training programs on the quality of English education in Shaxi village, Yunnan province.

Correlation Analysis

The correlation analysis [Table 9](#) reveals very strong positive correlations between the

quality of English education and three specific teacher training programs: Interactive Teaching Skills Seminars, Online Professional Development Courses, and the National Teachers Training Program. Specifically:

Table 9

Correlations

		Interactive Teaching Skills Seminars	Online Professional Development Courses	National Teachers Training Program
Quality of English Education	Pearson Correlation	.955**	.961**	.955**
	Sig. (2-tailed)	.000	.000	.000
	N	125	125	125

**."Correlation is significant at the 0.01 level (2-tailed)."

Interactive Teaching Skills Seminars and Quality of English Education: The Pearson correlation coefficient is .955, indicating a very strong positive relationship between the quality of English education and the National Teachers Training Program.

Online Professional Development Courses and Quality of English Education: This relationship is even stronger, with a Pearson correlation coefficient of .961.

National Teachers Training Program and Quality of English Education: The correlation here is also .955, consistent with the seminars, indicating a very strong positive relationship.

All correlations are statistically significant at the 0.01 level (2-tailed), with a significance value (Sig.) of .000. This indicates a very low probability that these strong correlations are due to chance. The number of observations (N) for each correlation is 125, ensuring a robust foundation for the statistical analysis. These results strongly suggest a close association between improvements in the quality of English education and the effectiveness of the training programs in the study area.

Regression Analysis

Table 10

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.970 ^a	.941	.939	.282

a. Predictors: (Constant), National Teachers Training Program, Online Professional Development Courses, Interactive Teaching Skills Seminars

The regression analysis [Table 10](#) presents an overview of the predictive efficacy of the National Teachers Training Program, Online Professional Development Courses, and Interactive Teaching Skills Seminars on the quality of English education. The table includes key statistical measures, which are detailed as follows:

R (Correlation Coefficient): A value of .970 demonstrates a very strong positive relationship between the combined effects of the three programs and the quality of English education.

This finding suggests that as the effectiveness of the teaching programs increases, there is a significant association with improvements in the quality of English education.

R Square (Coefficient of Determination): An R square value of .941 indicates that 94.1% of the variability in the quality of English education can be explained by the differences among the three training programs. This high R square value signifies a strong fit of the model with the data.

Adjusted R Square: The adjusted R square value of .939, which accounts for the number of predictors in the model, is very close to the R square value. This proximity indicates that the model is highly efficient and that each predictor significantly contributes to explaining the variability in the quality of English education.

Standard Error of the Estimate: The standard error of .282 is relatively small, indicating that the mean predicted values are closely aligned with the actual data points. This suggests a high level of precision in the model's predictions.

Overall, the regression model demonstrates a robust and significant correlation between the teacher training programs examined and the quality of English instruction. The high levels of accuracy and precision in the model's predictions underscore its effectiveness in capturing this relationship.

Table 11

Anova^a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	153.547	3	51.182	641.880	.000 ^b
Residual	9.648	121	.080		
Total	163.196	124			

a. Dependent Variable: Quality of English Education

b. Predictors: (Constant), National Teachers Training Program, Online Professional Development Courses, Interactive Teaching Skills Seminars

The ANOVA (Analysis of Variance) Table 11 evaluates the overall effectiveness of the regression model in predicting the quality of English education, considering three predictor variables: the National Teachers Training Program, Online Professional Development Courses, and Interactive Teaching Skills Seminars. The following interpretation outlines the essential elements presented in Table 11:

Sum of Squares: This component assesses the total variation explained by the model compared to the variation that remains unexplained.

- Regression (Model): The sum of squares due to regression is 153.547, reflecting the portion of variation in the quality of English education that is explained by the model.
- Residual (Error): The residual sum of squares is 9.648, representing the portion of variation in the quality of English education that is not accounted for by the model.

Degrees of Freedom (df)

- Regression: The regression model has 3 degrees of freedom, which correspond to the

three predictor variables included in the analysis.

- Residual: The residuals have 121 degrees of freedom, calculated as the total number of observations minus the number of predictors and minus one.

Mean Square

- Regression: The mean square for regression is 51.182, obtained by dividing the sum of squares for regression (153.547) by the degrees of freedom for regression.
- Residual: The mean square error is 0.080, derived by dividing the residual sum of squares (9.648) by the degrees of freedom for residuals.

F-Statistic

The F-statistic is 641.880, which assesses the extent to which the regression model improves the prediction of the dependent variable compared to a model with no predictors. This exceptionally high value signifies that the model offers a significantly better fit to the data than one without predictors.

Significance (Sig.)

The significance level is .000, demonstrating that the regression model is statistically significant. This value is below the conventional alpha level of 0.05, allowing for the rejection of the null hypothesis that the model with no predictors is as effective as the current model. Thus, it confirms that the predictors substantially contribute to explaining the variability in the quality of English education. The statistically significant F-statistic and significance values demonstrate an excellent model fit, underscoring the model's robustness in explaining the observed variations.

Table 12

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.034	.085		-.402	.688
¹ Interactive Teaching Skills Seminars	.277	.100	.260	2.764	.007
Online Professional Development Courses	.430	.094	.427	4.575	.000
National Teachers Training Program	.304	.092	.295	3.311	.001

a. Dependent Variable: Quality of English Education

The coefficients [Table 12](#) from the regression analysis offers a comprehensive examination of the relationship between the quality of English education and three distinct training programs: Interactive Teaching Skills Seminars, Online Professional Development Courses, and the National Teachers Training Program. The results are analysed as follows:

Constant (Intercept)

- B (Unstandardized Coefficient): -0.034

- Standard Error: 0.085
- t-Statistic: -0.402
- Significance (Sig.): 0.688

The intercept represents the anticipated value of the quality of English education when all predictors are held at zero. The negative coefficient is not statistically significant ($p = 0.688$), indicating that it does not significantly deviate from zero.

Interactive Teaching Skills Seminars

- B: 0.277
- Standard Error: 0.100
- Beta (Standardized Coefficient): 0.260
- t-Statistic: 2.764
- Significance: 0.007

This positive coefficient suggests that, controlling for other variables, each unit increase in the effectiveness of Interactive Teaching Skills Seminars corresponds to a 0.277 unit improvement in the quality of English education. The relationship is statistically significant ($p = 0.007$), affirming that these seminars positively influence educational quality.

Online Professional Development Courses

- B: 0.430
- Standard Error: 0.094
- Beta: 0.427
- t-Statistic: 4.575
- Significance: 0.000

Among the three predictors, this is the most influential. A one-unit increase in the effectiveness of Online Professional Development Courses results in a 0.430 unit improvement in the quality of English education. The p-value, which is less than 0.001, indicates a highly statistically significant relationship.

National Teachers Training Program

- B: 0.304
- Standard Error: 0.092
- Beta: 0.295
- t-Statistic: 3.311
- Significance: 0.001

Similarly, a one-unit increase in the effectiveness of the National Teachers Training Program leads to a 0.304 unit enhancement in the quality of English education. This effect is statistically significant as well, with a p-value of 0.001. Table 13 of the coefficients reveals that all three training programs significantly and positively influence the quality of English education. Among these, Online Professional Development Courses exert the strongest effect, followed by the National Teachers Training Program and Interactive Teaching Skills Seminars. The model effectively illustrates the positive impact these programs have on

enhancing the quality of English education in the study area.

Discussion

The study investigated the influence of three teacher training programs on the quality of English education in Shaxi village, Yunnan province. The null hypothesis (H0) for each program suggested no correlation between their effectiveness and improvements in teacher practices and student outcomes. However, the study's findings reject the null hypothesis, revealing significant correlations between the training programs and improvements in the quality of English education. The findings of this study demonstrate a correlation between the effectiveness of teacher training programs and improvements in the quality of English education in Shaxi village, Yunnan province. These results align with those of Bishop et al. (2012), who identified a positive relationship between teachers' participation in national programs and enhancements in both their teaching practices and students' learning outcomes. Similarly, Wong et al. (2023) found that online continuing professional development courses improve teachers' content knowledge and instructional strategies, supporting our conclusion that such courses are effective. Furthermore, our results are consistent with Tschannen-Moran and Barr (2004), who observed that interactive teaching skills seminars led to significant improvements in teacher efficacy, classroom engagement, and student learning outcomes. These findings underscore the importance of hands-on training methods, such as Interactive Teaching Skills Seminars, in enhancing the quality of English education. In conclusion, this study underscores the critical role of teacher training in rural areas as a means to improve the quality of English education. The rejection of the null hypothesis emphasizes the need for greater focus on the professional development of teachers, advocating for enhanced pedagogical support to achieve better student learning outcomes. These findings contribute to the existing literature on the effectiveness of teacher training and offer practical strategies for improving English education in rural settings.

Conclusion

Improving the quality of English education in rural areas, such as Shaxi village in Yunnan province, China, is essential for achieving educational equity and reducing learning inequalities. This study investigated the effectiveness of English teacher training programs on enhancing English education quality. The focus was on the impact of the NTTP, Online Professional Development Courses, and Interactive Teaching Skills Seminars on teacher performance. A quantitative approach was adopted, with a survey conducted among teachers and education officials in Shaxi village. Stratified random sampling was used to create a representative sample of 120 respondents. The survey consisted of closed-ended questions related to key outcome variables, providing structured data on the influence of the training programs. Data collection was conducted using Google Forms, and the analysis was performed with the SPSS, enabling a comprehensive understanding of the correlations between the study variables. This study confirms that teacher training significantly impacts the quality of English education. The NTTP, Online Professional Development Courses, and Interactive Teaching Skills Seminars all strongly correlate with improved English education in Shaxi village, Yunnan province. Online Professional Development Courses emerged as the most influential predictor, while NTTP

and Interactive Teaching Skills Seminars also played crucial roles. These findings emphasize the need to invest in district-level teacher training programs to enhance teaching and student performance in rural areas. This study enhances existing research by demonstrating the positive impact of teacher training programs on English education quality in rural areas like Shaxi village, China. By rejecting the null hypotheses, it confirms strong correlations between the NTTP, online professional development courses, and interactive teaching seminars with improvements in teaching practices and student performance.

Limitations

The study has several limitations. Firstly, the use of stratified random sampling restricted the sample to educators in Shaxi village, which may limit the generalizability of the findings to other rural areas in China. Additionally, self-reported data collected online through surveys can be subject to biases, such as social desirability or misreporting. The study predominantly employs quantitative methods; incorporating qualitative measures could enhance the depth and validity of the results. Furthermore, the relatively small sample size of 120 participants may impact the robustness of the findings. Lastly, the study's cross-sectional design provides only a snapshot in time, limiting insights into the long-term effects of the programs and reducing the generalizability of the results beyond Shaxi village due to concerns about external validity.

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