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The Guidelines to Improve the Teachers' Research Ability of Rural Middle Schools in Guizhou Province

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ABSTRACT

The research objectives are as follows: 1) To study the current situation of the research ability of rural middle school teachers in Guizhou Province; 2) Design guidelines to promote the research ability of rural middle school teachers in Guizhou Province. The sample group of this study used Reliability Statistics and KMO and Bartlett's Test tables to conduct a stratified random sampling of 500 rural middle school teachers in Guizhou province. Research tools include questionnaires, and data analysis includes Descriptive Statistics and Correlations. Research results include: The research ability of rural middle school teachers in Guizhou Province is low ($\bar{x}$=2.716, S.D.=0.985) in seven aspects as follows: 1) the low level of innovation ability ($\bar{x}$=2.524, S.D.=1.016),2) the low level of language ability ($\bar{x}$=2.754, S.D.=1.078). 3) Low level of literature ability ($\bar{x}$=2.826, S.D.=1.157), 4) low level of investigation ability ($\bar{x}$=2.556, S.D.=1.063) ,5) low level of planning ability ($\bar{x}$=2.789, S.D.=1.048),5) low level of implementation ability ($\bar{x}$=2.633, S.D.=0.993) ,7) low level of documentation ability ($\bar{x}$=2.433, S.D.=0.898). The researchers proposed the following guidelines for improving the research ability of rural middle school teachers in Guizhou province; 1)Strengthen the professional development system of teachers: establish a systematic research ability training mechanism to provide continuous learning and development opportunities; 2)Improve the evaluation and incentive mechanism: Integrate the research results into the teacher evaluation system, provide professional title promotion, rewards and financial support, and improve the enthusiasm of research; 3) Strengthen government and community support: increase policy support and financial input, and encourage enterprises and social organizations to jointly support teachers' scientific research activities; 4)Improve teachers' awareness of research: strengthen the publicity of the importance of educational research, guide teachers to take the initiative to participate in research, and improve research interest

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and motivation; 5)Foster a culture of self-reflection, innovation and lifelong learning: Encourage teachers to use research methods in teaching, improve teaching quality, and promote interdisciplinary learning and innovation.

Keywords: Guide, Rural secondary school teacher, Research ability, Current situation analysis, Guizhou Province

INTRODUCTION

This study explores the countermeasures for improving the scientific research ability of rural middle school teachers in Guizhou Province. The current assessment reveals systemic challenges: rural teachers have a relatively weak research awareness, limited methodological expertise, and significant differences in resources and training between urban and rural areas. The main obstacles include institutional obstacles such as insufficient laboratory funds, outdated equipment, and excessive teaching workload. Seven comprehensive solutions have been proposed. It is hoped that through the proposal of these solutions, the educational research capabilities of rural middle school teachers in Guizhou Province can be effectively enhanced, and educational equity and high quality can be achieved.

Research Questions

1. What is the current situation regarding teachers' research ability in rural middle schools in Guizhou Province?

2. How can the guidelines improve Teachers' research ability in rural middle schools in Guizhou Province？

Research Objectives

(1)To study the current status of Teachers' research ability in rural middle schools in Guizhou Province.

(2)To investigate the Guidelines to improve Teachers' research ability in rural middle schools in Guizhou Province.

Theoretical Significance

The academic significance of this paper is that through the investigation and research on the educational research ability of rural middle school teachers in Guizhou Province, this paper reveals the

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important role of this ability in the improvement of education quality, teacher professional development, education reform, and education equity, proposes feasible improvement paths and methods, and provides a new perspective and empirical basis for the research field of education and the development of rural education. It provides a valuable reference for education policymakers and administrators and promotes education's overall development.

Practical Significance

In conclusion, through the investigation and research on the educational research ability of rural middle school teachers in Guizhou Province, this paper puts forward specific suggestions and measures for improvement, which provides not only strong support for teachers' teaching practice and professional development but also a scientific basis for education policymakers. It ultimately promotes the overall improvement of education quality and the realization of education equity.

Research Limitations

The survey subjects were exclusively rural middle school teachers, excluding educators from other educational stages (e.g., primary and high schools) or different educational categories (e.g., vocational and special education). Consequently, the study's findings are somewhat constrained in scope and may not offer a comprehensive reference for other relevant groups within the education system.

The interpretation of data analysis results may have subjective and explanatory limitations. Different researchers may have different understandings and interpretations of the same data results, and data analysis can only reveal the correlation between variables but cannot determine causation. Therefore, the interpretation and application of the research results need to be cautious.

The research mainly focuses on Guizhou Province, which has a large geographical area, and there are great differences in the level of economic development and the distribution of educational resources in different regions. Although teachers from different regions are covered as far as possible, regional differences can still have a complex impact on the research results, and such geographical differences need to be fully considered when extending research findings to other provinces or territories.

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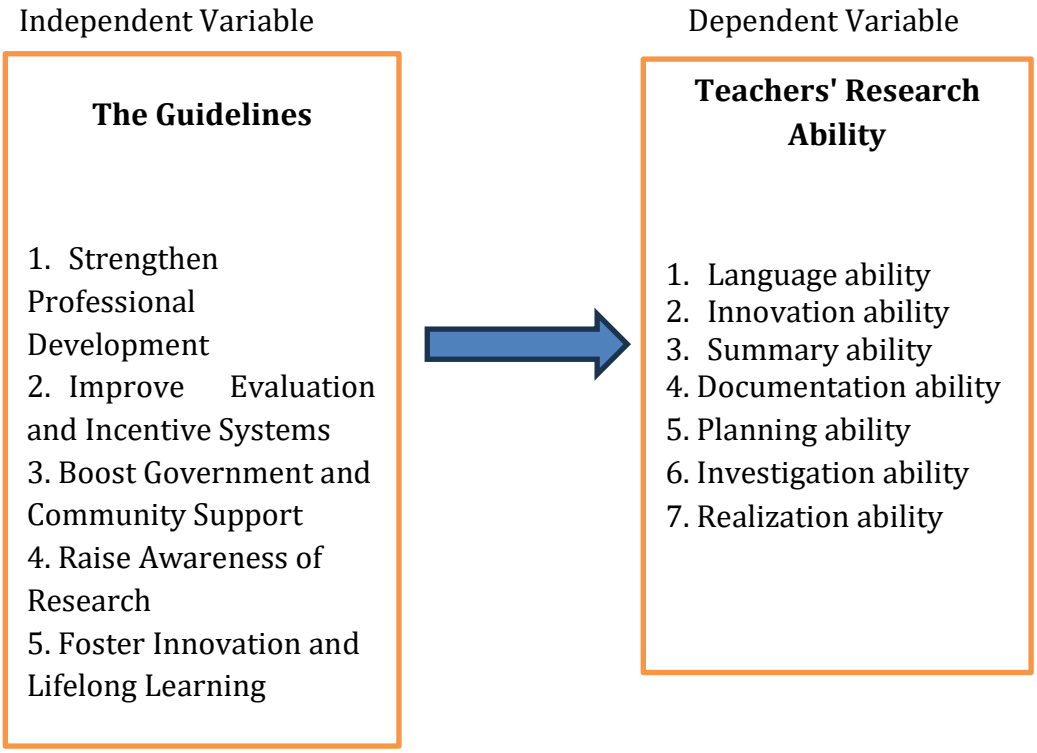
Research Framework



LITERATURE REVIEW

To sum up, both at home and abroad, from the perspective of teacher professional growth, put forward the view of "teacher as researcher". The government also regards improving teachers' learning and research ability of educational research methods as an important reform goal and combines theory with practice, but the effect is not satisfactory, especially for teachers in rural areas. First of all, from the research content analysis, it can be found that most studies take research literacy as the research object and do not combine the current situation with the strategy well, especially the reality in rural areas. Moreover, in the existing research fields, most scholars focus on high and secondary vocational colleges and pay little attention to rural areas, resulting in fewer research results on rural teacher education (See, 2025). Secondly, regarding research methods, the relevant content is mainly based on the theory of the literature itself, and it is not effectively combined with the actual research. This study combines theory with practice, conducts field visits and surveys on the education and research status of rural teachers in Guizhou Province, obtains detailed data and vivid stories, and enables rural teachers to establish a corresponding connection between their own situation and education research, thus generating

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certain interest, motivation, and awareness of scientific research, and improving their research literacy and knowledge accordingly (Hu, Ho, & Nguyen, 2025). Finally, we can take the initiative to correct the attitude of scientific research and continuously improve the quality of teaching and scientific research

RESEARCH METHODOLOGY

This paper adopts mixed method research (quantitative and qualitative), a kind of research method that organically combines two different research paradigms of quantitative and qualitative research. It is not simply a patchwork of two methods, but a comprehensive use of quantitative and qualitative research methods at different stages or at the same stage of the study to give full play to their respective advantages, more comprehensive and in-depth understanding and solution of research problems.

Population

The administrative region of Guizhou Province is divided into 6 prefecture-level cities and 3 autonomous prefectures, with a total of 9 municipal administrative districts. In this study, 5 most representative regions were selected from 9 municipal administrative regions, and 1 rural middle school was selected as the research object in each region.

The population in this study was divided into two groups:

1.495 rural middle school teachers in 5 rural middle schools in Guizhou Province.

2. 5 rural middle school teachers and administrators

3 Total of the teachers 500 teachers.

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Samples

Table 1 Table for Determining Sample Size of Known Population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.
Source: Krejcie & Morgan, 1970

Table 2 List of Schools and Sample Size

No	Guizhou Rural Middle School	Population	Sample
1	Tongren secondary	106	43
2	Xingyi Middle school	105	42
3	Bijie secondary	107	44
4	Zunyi Middle School	108	41
5	Anshun secondary	104	47
	Total	500	217

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Data Collection

The instrument to collect the data for objective 1:

A questionnaire survey was conducted on 217 rural middle school teachers in Guizhou province to understand their research ability and provide guidance for improving the research ability of rural middle school teachers in Guizhou. Based on the research ability of rural teachers in Guizhou Province, the questionnaire was designed from seven aspects: 1) Summary ability,2) language ability, 3)documentation ability, 4)planning ability, 5)investigation ability,6)realization ability,7)innovation ability1)

The questionnaire was based on the Training Guide for Improving the Scientific Research Ability of Teachers in Basic Education in Ethnic Minority Areas of China. Guizhou 2024 uses seven dimensions as the primary reference for compiling the questionnaire (see table). Using a five-point Likert scale, the sample group was asked to tick a table based on their state.

Table 3 Dimensions and Fields of Questionnaire

Variables	Item Number
Summary ability,	1-3
language ability	4-6
Documentation ability	7-10
Planning ability	11-13
Investigation ability	14-17
Realization ability	17-21
Total	21

Instruments to collect data for Objective 2:

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This paper conducted a semi-structured interview with administrators and teacher representatives from 5 rural middle schools based on the Training Guide for Improving the Scientific Research Ability of Teachers in Basic Education in Ethnic minority Areas of Guizhou Province, China, in 2024.

In semi-structured interviews, a series of topics or questions are predetermined and usually open-ended, allowing the interviewee to express their opinions and experiences freely. Unlike unstructured interviews, semi-structured interviews include fixed questions or topics to ensure researchers can obtain specific information and compare different respondents.

Five themes were presented to five representatives of secondary school administrators and teachers.

Table 4 Topics' Contents of Semi-Structured Interview

Item Number	Topics Contents
1	How do you evaluate the research ability of current rural middle school teachers? What are the main difficulties and challenges? What are the main factors affecting the development of teachers' research ability?
2	What incentives (such as professional title promotion, financial support, and honors) can encourage teachers to conduct research effectively? Regarding government and community support, what help would you like to have in promoting faculty research?
3	How do you think teachers perceive and attach importance to educational research? How can teachers improve' research awareness? Will you take the initiative to conduct educational research in your teaching process? If so, in what ways?
4	Is the application of information technology helpful in improving teachers' research ability? How can we better promote information-based education research? How do you see the role of interdisciplinary research in rural education?
5	Do you think policies such as the Implementation Plan for the Construction of Rural Schools (2020) have a practical effect on improving teachers' research ability? What other improvements should

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Target group for 5 teachers to interview. They have some characteristics as follows:

1. age：45 to 55 years of age
2. education： Bachelor's degree or above
3. teaching experience： More than 15 years of teaching and management experience
4. teach subjects： Chinese math, English
5. Managerial position： rector

Validity and Reliability Tests

Reliability Test

Reliability analysis, also known as reliability testing, examines measurement results' stability, consistency, and reliability. To ensure the accuracy of the measurement results, a reliability analysis of the valid data in the questionnaire needs to be conducted before the analysis. In social science research, Cronbach's α coefficient is usually used for analysis. Generally speaking, if the reliability coefficient is above 0.9, it indicates very good reliability; if it is between 0.8 and 0.9, it indicates good reliability; if it is between 0.7 and 0.8, it indicates relatively good reliability; if it is between 0.6 and 0.7, it indicates acceptable reliability; and if it is below 0.6, it indicates that revision is needed.

It can be seen from the table that the reliability coefficient of the scale questions is high, so the survey data is considered to be relatively reliable.

Table 5 Reliability Statistics

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
Total	0.88	0.88

Validity Analysis

Validity refers to the degree to which the desired psychological and behavioral characteristics can be accurately measured through tests or scale tools, that is, the accuracy and reliability of test results. The smaller the significance level of the Bartlett sphericity test ($P<0.05$), the more likely there is a meaningful relationship between the

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original variables. The KMO value is used to compare the simple correlation and partial correlation coefficients between items, and the value is between 0 and 1. If the KMO value is greater than 0.7, the significance of the Bartlett sphericity test is 0.000<0.01, and the validity of the data is considered good.

Table 6. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.85
Bartlett's Test of Sphericity	Approx. Chi-Square	5896.74
	df	231
	Sig.	0.00

RESULT

(1)To answer research objective 1:To study the current status of Teachers' research ability in rural middle schools in Guizhou Province.

Low overall level of research ability ($\bar{x}$=2.716, S.D.=0.985) is shown as follows:

Low innovation ability ($\bar{x}$=2.524, S.D.=1.016)

Low language skills ($\bar{x}$=2.754, S.D.=1.078)

Low literature reading ability ($\bar{x}$=2.826, S.D.=1.157)

Low research ability ($\bar{x}$=2.556, S.D.=1.063)

Low planning ability ($\bar{x}$=2.789, S.D.=1.048)

Low implementation capability ($\bar{x}$=2.633, S.D.=0.993)

Low summary ability ($\bar{x}$=2.433, S.D.=0.898)

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Table 7. Correlations

	Overall Level of Research Ability		**Language Ability**	**Literature Reading Ability**	**Research Ability**	**Planning Ability**	**Implementation Ability**	**Summary Ability**
Overall level of research ability	1							
Innovation ability	0.40**	1						
Language ability	0.20**	0.17**	1					
literature reading ability	0.44**	0.33**	0.14**	1				
Research ability	0.36**	0.40**	0.24**	0.30**	1			
planning ability	0.34**	0.30**	0.15**	0.29**	0.23**	1		
Implementation ability	0.40**	0.36**	0.18**	0.32**	0.28**	0.24**	1	
Summary ability	0.39**	0.36**	0.16**	0.25**	0.31**	0.27**	0.38**	1

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

(2) To answer research objective 2: To investigate the Guidelines to improve Teachers' research ability in rural middle schools in Guizhou Province.

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At present, the research ability of rural middle school teachers is limited by time pressure, insufficient resources, few training opportunities, weak research consciousness, and imperfect incentive mechanisms. The key to improving teachers' research ability is optimizing policy support, including promoting professional titles, funding, honors, and other incentive measures, and strengthening training and resource guarantees to create a good research atmosphere.

The application of information technology can effectively improve the research ability of teachers, and interdisciplinary research can help solve the multi-dimensional challenges of rural education. Although the Implementation Plan for the Construction of Rural Schools (2020) has made some contributions in terms of infrastructure and teacher training, the promotion of teachers' research capacity lies in strengthening targeted research training, building collaborative platforms, improving incentive mechanisms, and providing more academic resources to promote the in-depth development of rural education research.

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Table 8. Description of the Results of Semi-structured Interview Data

Interviewee	Education Background	Date	Time
Interviewee 1	Highest Education: Bachelor's Degree Major: Chinese Work experience: 15 years	August 20, 2024	9:00 am GMT +7 40 minutes
Interviewee 2	Highest education: Bachelor's degree Major: English Work experience: 17 years	August 20, 2024	10:00 am GMT +7 35 minutes
Interviewee 3	Highest Education: Bachelor's Degree Major: Education Management Work experience: 15years	August 20, 2024	11:00 am GMT +7 40 minutes
Interviewee 4	Highest Education: Bachelor's Degree Major:Chinese Work experience: 16 years	August 20, 2024	13:00 pm GMT +7 45minutes
Interviewee 5	Highest education: Master's degree Major: Mathematics Work experience: 19 years	August 20, 2024	15:00 pm GMT +7 45 minutes

Table 9. Summary of the Results of the Semi-structured Interview Contents

Topics	Summary of the Results of the Semi-structured Interview Content
1. How do you evaluate the research ability of current rural middle school teachers? What are the main difficulties and challenges? What are the main factors affecting the development of teachers' research ability?	1.Time limitation: the teaching task is heavy and there is a lack of special research time. 2.Insufficient resources: lack of academic materials, research funds and technical support. 3.Fewer training opportunities: There is less professional training for educational research, and the research methods are not systematic enough.

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	4.Weak research consciousness: Some teachers do not attach high importance to educational research and lack research motivation. 5.Imperfect incentive mechanism: Lack of effective incentive measures, such as professional title promotion, achievement
2.What incentives (such as professional title promotion, financial support, and honors) do you think can effectively encourage teachers to conduct research? In terms of government and community support, what help would you like to have in promoting faculty research?	1. Promotion of professional titles: The research results will be included in the evaluation criteria of professional titles to improve the enthusiasm of teachers to participate in research. 2. Financial support: Provide special research funds to reduce the economic burden of teachers' research. 3. Honor awards: Set up outstanding research achievement awards to enhance teachers' academic achievement and social recognition. 4. Policy guarantee: Formulate clear policies to encourage rural teachers to participate in research and provide institutionalized support. 5. Training and resources: Regularly organize educational research training, provide academic resources and professional guidance.
3. How do you think teachers perceive and attach importance to educational research? How to improve teachers' research awareness? In your teaching process, will you take the initiative to conduct educational research? If so, in what ways?	1. Strengthen training: carry out training on educational research methods to improve teachers' research ability. 2. Policy guidance: The research results should be included in the assessment to enhance teachers' attention to research. 3. Create culture: Encourage teachers to share research experience and form a research-oriented teaching atmosphere. 4. Classroom action research: experiment new methods in teaching and record the results.

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	5. Case analysis: Analyze students' learning situation and optimize teaching strategies.
4. Is the application of information technology helpful to the improvement of teachers' research ability? How to promote information-based education research better? How do you see the role of interdisciplinary research in rural education?	1.application of Information Technology in Teachers' Research Ability by providing access to vast digital resources. It facilitates efficient literature reviews, enabling teachers to gather academic materials quickly. 2.Use of Data Analysis Tools The availability of data analysis tools helps teachers to analyze research data more efficiently, improving the depth and accuracy of their finding 3.Collaboration through Digital Platforms, such as online research networks, allow teachers to exchange ideas, share resources, and collaborate on academic projects, promoting a wider academic exchange. 4.Promoting Information-Based Education Research To advance information-based education research, schools should invest in digital infrastructure. Additionally, providing training on research methodologies that incorporate technology will empower teachers to use these tools effectively in their research. 5.Fostering a Data-Driven Culture.Encouraging a culture of data-driven decision-making will significantly enhance the quality of research, as teachers are more likely to use data insights to refine teaching practices and make informed academic choices.
5.Do you think policies such as the Implementation Plan for the Construction of Rural Schools (2020) have a practical effect on the improvement of teachers' research ability? What other improvements should be made?	1.The Implementation Plan for the Construction of Rural Schools (2020) primarily focuses on improving infrastructure, educational resources, and teacher training in rural areas. While it may indirectly enhance teachers' research ability by providing better facilities and professional development opportunities, its direct impact

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	on research skills is limited.To further improve teachers' research ability, additional measures should be considered, such as: 2.Targeted Research Training Organizing workshops and courses on educational research methodologies. 3.Collaborative Research Platforms Encouraging rural teachers to collaborate with universities and research institutions. 4.Incentive Mechanisms Providing funding, recognition, and career

DISCUSSION

Objective 1: To Study the Current Status of Teachers' Research Ability in Rural Middle Schools in Guizhou Province

The study found that the status of teachers' research ability in rural middle schools in Guizhou Province was at a moderate level, with an average score ($\bar{x}$) of 3.85 and a standard deviation (S. D.) of 0.72.

In Guizhou Province, rural middle school teachers demonstrate varying levels of research ability in three key areas, with research awareness scoring the highest. This aligns with Zhao's (2022) perspective and is consistent with the data released in the 2023 "Three-Year Action Plan for Strengthening Educational Research in Guizhou Province (2023-2025)." The scores for research skills and application of research findings are similar but lower than those for research awareness, which corresponds with Liu's (2021) findings. Zhang (2020) emphasized that improving teachers' ability to conduct and apply research is one of the primary directions for enhancing the professional development of rural middle school teachers.

Wang (2022) pointed out that teacher resources in Guizhou's rural middle schools are relatively weak, characterized by insufficient research skills, limited exposure to academic research, and a lack of professional development opportunities. Regarding the composition of the teaching staff, Liang (2021) noted that rural middle school teachers in Guizhou generally have lower academic qualifications and weaker research capabilities, facing issues such as high workloads, a lack of research training, and limited access to academic networks. Song (2019) highlighted

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that low salaries and limited career advancement opportunities contribute to teachers' low motivation for engaging in research activities.

In summary, rural middle school teachers in Guizhou Province face several challenges, including insufficient research skills, limited application of research findings in teaching, a lack of professional training, and weak motivation for academic research. Addressing these issues will be key to improving the research ability of rural middle school teachers in Guizhou Province.

Objective 2 :To investigate the Guidelines to improve Teachers' research ability in rural middle school at Guizhou Province.

Based on the analysis of the current state of research ability among rural middle school teachers in Guizhou Province, researchers have proposed several recommendations to enhance their research skills. These include:

Strengthening the professional development system for teachers' research capacity.Improving evaluation and incentive mechanisms to encourage research activities.Increasing government and community support for teacher research initiatives.Enhancing teachers' awareness of educational research and its importance.Fostering a culture of self-reflection, innovation, and lifelong learning.

These recommendations align with the Ministry of Education of the People's Republic of China's "Professional Standards for Secondary School Teachers (Trial)" (2012), which outline the competencies required of middle school teachers. These standards emphasize professional ethics, research-based teaching practices, and continuous learning to adapt to educational advancements. Additionally, Liao, Tao, and Sheng (2010) highlighted the need for advancing the informatization of rural education, improving teacher training quality, and integrating research into teaching practice. Sheng (2010) further stressed the importance of cultivating a research mindset, enhancing cultural literacy, and promoting interdisciplinary learning.

In terms of policy support, these recommendations align with the Guizhou Provincial Government's "Implementation Plan for Strengthening the Construction of Rural Schools" (2020), which calls for innovative mechanisms to enhance teacher professional development and research skills. Similarly, Wang (2023) advocated for strengthening rural education

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infrastructure through policy, funding, and targeted incentives. Guo (2007) also proposed a multi-dimensional approach, suggesting that government policies should prioritize teacher research development, educators should enhance their own academic capabilities, schools should implement supportive measures, and teachers should actively engage in self-improvement and innovative research practices.

By implementing these guidelines, the research capacity of rural middle school teachers in Guizhou Province can be significantly improved, leading to higher-quality education and better learning outcomes for students.

CONCLUSION

Part 1: Present situation of research ability of rural middle school teachers in Guizhou Province.

The results showed that the overall level of scientific research ability of rural middle schools in Guizhou Province was low (x's =2.716, S.D.=0.985). According to the results of the questionnaire survey, it is mainly reflected in the following three aspects:

Lack of research skills: teachers lack systematic training in research methods, which makes it difficult to carry out high-quality educational research. Limited application of research results: research results can not be effectively transformed into teaching practice, which reduces the practical value of research.

Lack of professional development opportunities, teachers have fewer opportunities to contact academic research, it is difficult to improve research literacy and ability, academic resources in rural areas are limited, it is difficult for teachers to obtain the literature, data and technical support needed for research.

Limited salary and promotion space: Low salaries and limited career development opportunities reduce the motivation of faculty to participate in research.

Part 2: To investigate the Guidelines to improve Teachers' research ability in rural middle school at Guizhou Province.

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Through the analysis of questionnaire survey and interview results, the researchers proposed the following guidelines for improving the research ability of rural middle school teachers in Guizhou province:

Strengthen the professional development system of teachers: establish a systematic research ability training mechanism to provide continuous learning and development opportunities.

Improve the evaluation and incentive mechanism: Integrate the research results into the teacher evaluation system, provide professional title promotion, rewards and financial support, and improve the enthusiasm of research.

Strengthen government and community support: increase policy support and financial input, and encourage enterprises and social organizations to jointly support teachers' scientific research activities.

Improve teachers' awareness of research: strengthen the publicity of the importance of educational research, guide teachers to take the initiative to participate in research, and improve research interest and motivation.

Foster a culture of self-reflection, innovation, and lifelong learning: Encourage teachers to use research methods in teaching, improve teaching quality, and promote interdisciplinary learning and innovation.

FURTHER STUDY

Future research should explore the research framework across various China education. Comparative studies across different industries and countries could provide deeper insights into how cultural, economic, and regulatory differences influence these relationships. Additionally, investigating diverse education and teacher contexts could offer a broader understanding of teachers and students' motivation and performance. Longitudinal research could examine how changes in government policies and education conditions impact teacher attitudes and behaviors over time. Future studies should also integrate external mediating and moderating factors, such as government policies, economic downturns, or sustainability regulations, to understand their effects on teacher motivation and performance. While this is supported by research, extrinsic motivation, which involves external rewards or pressures, also plays a significant role in many contexts, such as in work or academic environments. Lastly, as

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business dynamics continue to evolve with digital transformation, remote work trends, and AI-driven personalization, future research should assess how these changes education fieldtowards providing deeper insights into evolving education strategies.

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