

DONG, Yuanli, BO-QIN, Liao, ABBAS, Safdar, HOON PEOW, See & ZHANG, Jian. The Factors Influencing Teachers' Willingness to Remain in Rural Areas After the Expiration of Their Compulsory Service Contract: A Case Study in Enshi Prefecture, Hubei Province, China. Quality in Sport. 2023;9(2):44-58. eISSN 2450-3118. DOI <https://dx.doi.org/10.12775/QS.2023.09.02.006> <https://apcz.umk.pl/QS/article/view/42265>

The journal has had 20 points in Ministry of Education and Science of Poland parametric evaluation. Annex to the announcement of the Minister of Education and Science of December 21, 2021. No. 32582. Has a Journal's Unique Identifier: 201398. Scientific disciplines assigned: Economics and finance (Field of social sciences); Management and Quality Sciences (Field of social sciences). Punkty Ministerialne z 2019 - aktualny rok 20 punktów. Załącznik do komunikatu Ministra Edukacji i Nauki z dnia 21 grudnia 2021 r. Lp. 32582. Posiada Unikatowy Identyfikator Czasopisma: 201398. Przypisane dyscypliny naukowe: Ekonomia i finanse (Dziedzina nauk społecznych); Nauki o zarządzaniu i jakości (Dziedzina nauk społecznych).

© The Authors 2023;

This article is published with open access at Licensee Open Journal Systems of Nicolaus Copernicus University in Torun, Poland

Open Access. This article is distributed under the terms of the Creative Commons Attribution Noncommercial License which permits any noncommercial use, distribution, and reproduction in any medium, provided the original author (s) and source are credited. This is an open access article licensed under the terms of the Creative Commons Attribution Non commercial license Share alike. (<http://creativecommons.org/licenses/by-nc-sa/4.0/>) which permits unrestricted, non commercial use, distribution and reproduction in any medium, provided the work is properly cited.

The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 01.02.2023. Revised: 18.02.2023. Accepted: 18.02.2023.

The Factors Influencing Teachers' Willingness to Remain in Rural Areas After the Expiration of Their Compulsory Service Contract: A Case Study in Enshi Prefecture, Hubei Province, China

Ms. Yuanli Dong^{1,2†}, Liao Bo-qin^{3†}, Dr. Safdar Abbas^{1†}, Dr. See Hoon Peow⁴, Dr. Jian Zhang^{1*}

Yuanli Dong – <https://orcid.org/0000-0003-3340-3749>, 416372599@qq.com

Liao Bo-qin – <https://orcid.org/0000-0003-2034-4057>, 851015143@qq.com

Safdar Abbas – <https://orcid.org/0000-0003-4040-9305>, safdarbloch1986@yahoo.com

See Hoon Peow – <https://orcid.org/0000-0001-7726-2891>, hoonpeow@gmail.com

Jian Zhang* – <https://orcid.org/0000-0002-2310-3884>, 50533828@qq.com

¹ Center for Studies of Education and Psychology of Ethnic Minorities in southwest China of Southwest University, Chongqing, China.

² School of Humanities Education of Enshi Polytechnic, Hubei, China.

³ The College of Teacher Education at Southwest University, Chongqing, China.

⁴ Berjaya University College, Kuala Lumpur, Malaysia.

† These authors contributed equally as first author

***Corresponding Author:**

Dr. Jian Zhang is an associate professor at Center for Studies of Education and Psychology of Ethnic Minorities in southwest China of Southwest University Chongqing, China. Email: 50533828@qq.com

Abstract

Quality education can only be achieved with the assistance of experienced and qualified teachers. In order to ensure quality education in disadvantaged areas in China, it is necessary to keep experienced teachers in rural areas. This paper investigates factors that could influence rural teachers' decision to stay or not on teaching at the expiry of their service contract. As a part of project, "Research on rural Teacher Training Mode in Minority Areas of Hubei Province in post-poverty Era" data from 1193 rural teachers who had qualified from a government teacher training programme from selected villages under the jurisdiction of the Enshi Prefecture, Hubei province was collected. As part of the survey, a number of factors are examined that influence a teacher's willingness to stay or leave, as well as remedial measures that are deemed necessary to prevent teachers from leaving. For the analysis of the data, SPSS 25 and AMOS 24 were used. The study found that the teachers have a high willingness to stay on the job after the contract expires. Among the factors contributing to their willingness are the local cultural environment, the local infrastructure attachment to the area, and the school's working environment. Wage income, professional identity, professional development, and school working conditions also play an important role as maintenance factors. There

is a direct relationship between the rural infrastructure and a person's willingness to continue working after the expiration of a contract, and there is indirect relationship between the local attachment and the cultural atmosphere of the local community. Local attachment is the dominant factor, the local infrastructure is a secondary improvement area, and salary, promotion of opportunities, respect for teachers and education are in the priority improvement area. Finally, the paper proposes that the retention of rural teachers should be based on the cultivation of local attachment, rural revitalization, improvement of health factors and construction of "UGSR-P" cultivation of community.

Keywords: Local feeling, Quality education, Teachers retention, Teachers Training, Teachers professional development

1. Introduction

It is widely recognized that teacher development in rural areas has become a hot topic in recent years, especially in areas of deep poverty in China (Li, Shi, & Xue, 2020; Tang, 2018). As China's economy and society have grown rapidly over the past forty years, rural education has consistently been accelerated (Hallinger & Liu, 2016; 2018; Hu, 2016; Lei et al., 2018; Siebert, Wong, Wei, & Zhou, 2018; Kim, 2018). (Hallinger & Liu, 2016; Kim & Lerman, 2018; Li et al., 2020) Due to the limited political and financial support provided by the government, the number of rural teachers has significantly decreased. As of 2017, China had 2.81 million full-time teachers in rural areas, down from 3.23 million in 2012. This represents an annual decrease of 2.754 percent. Teacher development is one of the keys to rural education's development (Li et al., 2020). In order to construct a rural education system, advocacy for the development of rural teachers is given priority (Guo, Zhou, & Liu, 2020; Wang, 2011) The gradual acceleration of urbanization in China has caused rural residents to be motivated to move to cities due to the acceleration of urbanization in China. In some village schools located in deep poverty areas, there is also an imbalance of teacher-student ratio due to active mass migration and a dramatic decrease in school-age population in rural areas in china (Li & Xue, 2021).

Teachers are key to the development of a nation, especially teachers in rural area. China aims to modernize its education in general by 2035, but quality of education in the central and western regions, especially in ethnic minority areas, remains a weak link in development (General Office of CPC Central Committee, 2019). To develop education in the rural region, we must give priority to the development of teachers in the rural areas (General Office of the State Council, 2015). In August 2015, the Decision of the State Council on Accelerating the Development of Ethnic Education pointed out that "local governments at all levels are responsible for promoting the development of education of ethnic minorities" (General Office of the State Council, 2015). In November of the same year, the People's Government of Hubei Province issued the first local implementation measures in China, encouraging local governments and teacher training institutions to strengthen the localized training according to the contact of the area (General Office of Hubei Provincial People's Government).

In April 2016, the government of Enshi Tujia and Miao Autonomous Prefecture of Hubei Province (Enshi Prefecture for short) issued a targeted training plan for teachers. Together with the targeted poverty alleviation target, Enshi Polytechnic was entrusted to organize a "government order-based training" for teachers; recruiting local young people from poor families; to be trained to be primary school teachers and public kindergarten teachers in towns. In September of the same year, the first class of trainees was enrolled. By 2021, more than 1,700 trainees have been enrolled, and three consecutive batches of teachers had been sent to teach in rural schools. The program has explored different training modes such as "index to the district assigned to the school's designated recruitment, teachers from a poor background, open recruitment, select the best, enter the school to sign up, directional training, qualified employment", they effectively solve the problems of "not reaching the bottom, unable to keep teach poorly" in Enshi Prefecture (Tang, 2020). Some of the principals who graduated from Secondary Normal School in their early years clearly stated, "The outlook and attitude of the trainees remind us of the model of Secondary Normal Schools in the late 1980s, which were lively and professional, willing to go to rural areas and teaching well" (Mao, 2019).

However, there is a dearth of study on exploring the factors influencing teachers' willingness to remain in rural areas after the expiration of their compulsory service contracts in rural areas in China through insider stakeholder perspectives. The research questions are offered as follows:

After the expiration of their service agreements, will the current batch of government contract rural teachers remain in the rural areas?

What factors influence the willingness of teachers to remain in rural areas after the expiration of their compulsory service contracts?

What is the internal mechanism to make them stay to remain in rural areas after the expiration of their compulsory service contracts?

What measures can be taken to improve their willingness to remain in rural areas after the expiration of their compulsory service contracts?

2. Literature Review

Suggest to strengthen the conceptual framework with discussion on human satisfaction levels from material and non-material rewards). Reviewers of English language SSCI journals normally expect more works from Western authors. Many scholars at home and abroad have researched the problem of rural teachers' retention and the influencing factors. It mainly involves factors such as teachers' circumstances, salary, condition of the school and the rural environment. At the level of individual teachers Studies have found that variables such as gender, age, educational level, professional title and personal monthly income significantly affect the willingness of rural teachers to move on (Xiao, 2018). Wei Shuhua et al. believe that teachers' professional identity is significantly negatively correlated with school transfer intention and job change intention (Wei & Song, 2012) and teachers' professional identity consist of professional values, role values, professional belonging and professional behavior tendency (Wei, 2008). However, Li Ye et al. excluded the cognition of professional ability and behavior from teachers' professional identity (Boyce et al, 2013). Zhang Liping et al. believe that among the many emotions of rural teachers, local attachment (local awareness, local identity, adaptation and local reconstruction) are the inner power for them to adhere to and devote to rural education (Zhang & Cheng, 2021). Man Zhongkun believes that rural students are forced to choose to receive public teacher training due to the severe employment pressure, rather than out of their love for rural life and teaching (Man, 2019). Li Jingmei believes that the agreement constraint and local emotion are the important reasons for government-funded normal university students to return to their hometown to teach and stay in their posts (within the contractual period) (Li, 2019).

2.1 Wages and salaries

According to B.R.S. Kivore, pay, benefits and related working conditions are important factors in the attractiveness of teaching in Zimbabwe (Chivore, 1988). American scholar Cassandra M. Guarino and others believe that salary, working conditions and intrinsic motivation are the most important factors for American teachers' willingness to stay on (Guarino, Santibaez & Daley, 2006). Du Ping, Zhao Zhongping and others believe that the salary level is the primary factor for the loss of rural teachers (Du & Xie. 2019: 103-115 &169; Zhao & Qin, 2016). Fan Xianzuo and others believe that the key to developing rural education is to improve the economic remuneration of teachers (Fan, 2015). Zhang Ying et al. believe that although salary is the key to the retention rate of teachers, the effect of the increase of salary level is limited in enhancing the willingness of teachers to stay on (Zhang, Lu & Li, 2021).

2.2 School teaching and professional development

Brill et al. believe that moderate salary increases have little effect on teachers' retention while improving teachers' working environment and professional development is more cost-effective and influential in teacher retention (Brill & McCartney, 2010). Data released by northwest Alaska Education Research Center in 2019 confirmed that psychological support provided by principals enhanced teachers' sense of belonging and motivated teachers to stay (Junior High School Teacher Turnover, 2019:6). Zhang Ying et al. believe that school retention strategies (career development, school decision-making participation, teachers' work pressure, etc.) and school education quality have a significant impact on urban and rural teachers' retention intention (Zhang, Lu & Li, 2021).

2.3 The rural environment

Wu Zhihui et al. believe that to comprehensively answer the question of "attractiveness of teaching career in rural areas," four dimensions, i.e. social recognition, career advancement, personal interest and rural environment must be considered. It covers the characteristics of people who are willing to teach in rural areas, the job satisfaction of rural teachers, and the professional, social and professional status of rural teachers (Wu & Qin, 2015). He Shuhu et al. considered multiple factors comprehensively and believed that career advancement, rural environment and personal interests were the main factors influencing rural teacher mobility (He & Wu, 2021).

Specific studies are needed to understand a group of teachers in a specific time and contract to understand their retention. The premise that we're going to start with is some real individuals, their activities and their living conditions so that these premises can be confirmed in a purely empirical way (Marx, 2018:10,18). This study is guided by empirical methodology, problem-oriented and centered on rural teachers. Indicators are constructed from the perspectives of five different educational subjects (teachers, government, villages, universities and rural schools) and their different perspectives (productivity and production relations).

3. Research design and method

3.1 Research design

The term "Willingness to Stay after Expiration of Contract (WILL for short)" in this study is the willingness of Contract rural teachers to continue to teach in targeted schools after the expiration of the contract based on their experience in the rural area for a certain number of years.

3.2 Research Instrument

After literature review and two rounds of Delphi expert consultations (theoretical experts and practical experts), a questionnaire with 9 first-level indicators and 33 second-level indicators, in Likert 7-point scale is constructed. Then one class of 55 students in Enshi Polytechnic was randomly selected for the pre-test. SPSS 25 was used for exploratory factor analysis and reliability and validity tests to revise and improve the index system and questionnaire. Four second-level indicators were deleted, and finally 8 first-level indicators and 29 second-level indicators were accepted, and 1 to 2 observation items were set for each second-level indicator: career identity /CAR (professional value, self-actualization, role recognition and professional pride,q1-q4) Wei, 2008; Boyce et al, 2013) homeland feelings /HOM (Local awareness, local identity, local adaptation and Rural revitalization,q5—q8) (Zhang, & Cheng, 2021) professional development/PRO (Training and Research, Promotion System, opportunities for further study and Growth Plan, q9—q12),salary income/SAL (Total salary, relative salary of urban teachers, relative salary of civil servants and relative salary of relatives and friends,q13—q16),rural physical environment/RURp (convenience of life, educational resources and medical services, q17—q19),rural cultural environment/RURc (student conduct, family interference, respect for teachers and education, q20—q22),school working conditions/SCHc (teaching facilities, office conditions, dormitory housing and food conditions, q23—q26),school working atmosphere/SCHa (leadership style, colleague relationship and management system,q27—q29).In addition, demographic variables such as gender, major, teaching years, county and city, type of school, political status, annual income, teaching subject, training and awards are also involved.

The present study investigated all the graduates of the training program of Enshi government, namely the three classes of directional normal university students who started to teach in 2018, 2019 and 2020 respectively, with a total of 1193 teachers (including 763 primary school teachers and 430 pre-school teachers), which distributed in eight counties or cities throughout the prefecture (namely Enshi, Lichuan, Jianshi, Badong, Xuanen, Xianfeng, Laifeng and Hefeng).

In this study, the original class directors of each class were entrusted to distribute online questionnaires to the original class groups, with anonymity, confidentiality and emphasis on truthful filling. For the collected original data, SPSS 25 and other software were comprehensively used to conduct reliability and validity analysis, independent sample T-test, analysis of variance, multiple linear regression, group comparison of split files, and other methods to study the current situation of "retention intention after expiration of the contract" and its influencing factors. AMOS 24 was used to construct a structural model diagram to analyze the internal mechanism of the influencing factors.

3.3 Research sample characteristics

A total of 1138 teachers (excluding 55 pre-test teachers) were surveyed with a recovery rate of 88.93% (1012) from September 2022 to November 2022. By using the logical mutual verification among major, discipline, class and other items, 33 questionnaires were eliminated, and 979 were valid, with an effective rate of 96.74%. The distribution of teachers surveyed in Enshi prefecture's eight counties and towns is between 7% - 20%; 98% of the surveyed teachers are teaching in the level below township or schools, including 561 teachers in village primary schools and teaching points, accounting for 58.37%; Primary education teachers are about 27% more than preschool education teachers; gender ratio (females' vs males) is 4.7. The Communist Party members account for

about 5%; The number of teachers increased year by year;83.55% of the teachers participated in the training, and 55.77% participated in teaching competitions and won prizes (see Table 1 for details).

Table 1: Sample distribution

category	option	frequency	ratio %	category	option	frequency	ratio%
Sex	man	172	17.57	Teaching time	one year	207	21.14
	woman	807	82.43		two years	361	36.87
major	primary education	621	63.43		three years	411	41.98
	preschool education	358	36.57	Training level	County level	687	83.99
status	League Member	931	95.10		State	183	22.37
	Party Member	48	4.90		Provincial	226	27.63
School	Teaching point	72	7.49	National level	National level	112	13.69
	Village primary school	489	50.88		Award-winning	Township level	446
	Township central primary school	184	19.15	County level		153	28.02
	Township central kindergarten	197	18.63	State level		13	2.38
	The villages and towns junior high school	18	1.87	Provincial level	29	5.31	

3.4 Testing of validity and reliability

Reliability analysis with SPSS 25 showed that Cronbach's α of eight first-level indexes ranged from 0.766 to 0.958. The Pearson correlation coefficient between the second-level indexes in the first-level index group ranged from 0.417 to 0.913, and the correlation of corrected items and total score were all greater than 0.5. According to the factor load of each secondary index, the combined reliability (CR) of each corresponding primary index is greater than 0.912. It can be seen that all the eight first-level indicators have sufficient reliability.

4. Results

According to the validity analysis, the average variation extraction (AVE) of each first-level indicator was calculated according to the factor load of each second-level indicator, which was all greater than 0.6, indicating that each first-level indicator had good convergence validity. Pearson correlation coefficients of eight first-level indicators were significantly correlated ($p < 0.01$). The AVE square root of each first-level index is greater than the Pearson correlation coefficient between the first-level index and other indexes. It can be seen that the first-level indicators have sufficient discriminant validity among each other (see Table 2 for details).

Table 2: Summary table of confirmatory factor analysis for reliability and validity of first-level indicators

dimension	reliability;		Convergent validity								Discrimination validity		Descriptive statistics	
	Cronbach's α	AVE	CAR	HOM	PRO	SAL	RURp	RURc	SCHc	SCHa	mean	standard deviation		
CAR	.879	.735	.857								5.960	.853		
HOM	.882	.745	.676**	.86	3						5.891	.804		
PRO	.843	.683	.511**	.554**	.918						5.321	.911		
SAL	.958	.890	.310**	.291**	.566**	.943					4.709	1.155		
RURp	.766	.691	.366**	.368**	.552**	.534**	.831				4.685	1.174		
RURc	.781	.730	.444**	.480**	.589**	.503**	.714**	.854			4.990	1.070		
SCHc	.869	.699	.342**	.372**	.582**	.555**	.690**	.648**	.836		4.833	1.043		
SCHa	.871	.797	.491**	.502**	.630**	.438**	.536**	.648**	.592**	.893	5.566	.947		

The median and mode of WILL of all surveyed teachers were 5 and 6, and the mean value was 5.11 (the mean values of "retention intention" of teachers who have been teaching for one year, two years and three years were 5.12, 5.09 and 5.14 respectively). It can be seen that the surveyed teachers on the whole have a high willingness to stay after the expiry of the term. 11 people, accounting for 1.1%, chose "strongly disagree" in the question of WILL; 127 people, accounting for 13.0%, said they strongly agree, with a gap of about 12 percentage points, accounting for 14.1% in total. Among the surveyed teachers, 61 (6.2%) were willing to leave their posts after their service (i.e., they chose "strongly disagree", "disagree" and "relatively disagree"); 277, 28.3% were not sure (choose "general"); A total of 641 people, accounting for 65.5%, have a strong intention to stay in office (choose "relatively agree", "agree", "very agree"). It can be seen that up to 94% of the surveyed teachers have the intention to stay on after the expiry of the contract.

The score range of each second-level index was 1-7, with the lowest score of 4.35 (educational resources) and the highest score of 6.18 (occupational value). The average value of all questions was 5.27, indicating a high overall score. In addition, with the increase of teaching years, except for local feelings (which is particularly noteworthy), the scores of surveyed teachers generally showed a slight increase and gradually tended to be stable (see Figure 1).

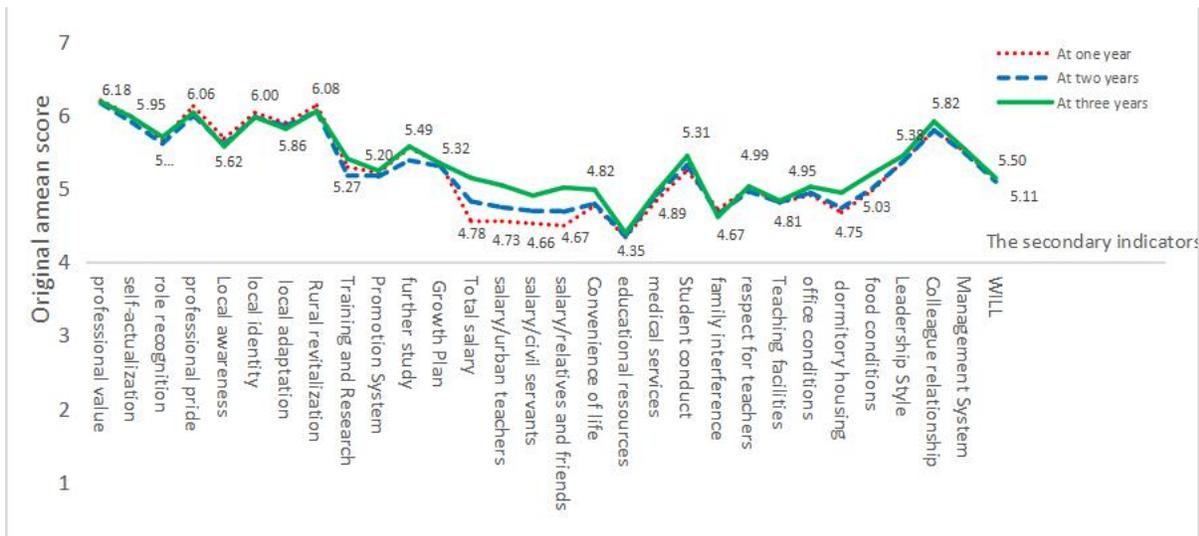


Figure 1: Original mean score of the secondary indicators

According to the mean value of eight first-level indicators, professional identity (5.96), local feelings (5.89), school work atmosphere (5.57), professional development (5.32), and rural cultural environment (4.99) scored relatively high in five first-level indicators and their questions related to spiritual culture. However, in rural infrastructure (4.69), income (4.71) and school working conditions (4.83), the scores of the three primary indicators and their items related to material benefits are generally low.

Independent samples T-test and ANOVA find that there is no significant difference across major, working years, political affiliation, and awards. And different school classes, whether be trained can significantly affect WILL. As shown in Table 3, the mean value of the retention intention of trained teachers is 5.20, which is significantly higher than that of untrained teachers (4.98), $p < 0.05$.

Table 3: Group statistics of the significant influence of training on WILL

		The case number	mean	standard deviation	value
Training	yes	818	5.20	1.252	2.125*
	no	191	4.98	1.397	

* $p < .05$ ** $p < .01$

As shown in Table 4, the mean value of WILL of primary school teachers in township centers is 5.44, which is significantly higher than that in teaching points (4.91) and village primary schools (5.10), $p < 0.01$.

Table 4: Summary table of variance analysis of school types on will

* $p < .05$

	quadratic sum	degree of freedom	of mean square	F	Post hoc comparison of LSD
among groups	24.467	6	4.078	2.500*	Township Central Primary School >
within groups	1634.201	1002	1.631		teaching point
total	1658.668	1008			and village primary school

4.1 The influencing factors of WILL

Statistical analysis shows that the Pearson correlation coefficients of eight first-level indicators and WILL are all 0.01 significant levels. The absolute value of the Pearson correlation coefficient between eight first-level indicators was between 0.3 and 0.7, indicating a significant medium-high correlation ($p < 0.01$). From the test statistics of the global regression model, it can be seen that the collinearity statistics VIF values are all less than 3, that is, there is no collinearity problem between variables, and multiple regression analysis can be carried out.

In this study, taking eight first-level indicators, i.e. professional identity, localism, career development, income, rural infrastructure, rural cultural and work environment, school conditions, and school atmosphere as prediction variables (independent variables), and taking WILL as the dependent variable, we can get a multiple linear regression model by forcing input method. The multivariate R^2 of the model is 0.30, and the adjusted R^2 is 0.24, that is, the eight independent variables can explain 30.0% variation of the dependent variables, indicating that the overall explanatory variables of the eight independent variables have reached a significant level ($F = 51.907$, $p < 0.001$), and have moderate explanatory power to the dependent variables.

The regression analysis results are shown in Table 5. In the regression coefficient significance test of the eight predictors, the two indexes of rural feelings and rural cultural environment reached the significance level of 0.001. The conditions and school working atmosphere reached 0.01 significance in the locality level. However, the regression coefficients of professional identity, professional development, salary and school working conditions did not reach the significant level of 0.05.

Table 5: Summary table of multiple regression analysis of eight first-level indicators on Will

model		Un-normalized	standard	normalized	t	Collinear statistics VIF
		coefficient B		error		
1	(constant)	.319	.279		1.142	
	CAR	.068	.056	.046	1.207 n.s.	1.998
	HOM	.239	.062	.153	3.884 ***	2.145
	PRO	.003	.058	.002	.047 n.s.	2.413
	SAL	.002	.039	.002	.052 n.s.	1.731
	RURp	.149	.046	.139	3.227 **	2.583
	RURc	.186	.053	.158	3.539 ***	2.758
	SCHc	.077	.051	.064	1.521 n.s.	2.437
	SCHa	.172	.053	.129	3.215 **	2.238

n.s. $p > .05$ * $p < .05$ ** $p < .01$ *** $p < .001$

The significance of the unstandardized B and its T value of the regression model was tested, and the multiple linear regression model of "retention intention after expiration" was obtained, namely:

$$\text{Will} = 0.319 + 0.239 \cdot \text{HOM} + 0.149 \cdot \text{RURp} + 0.186 \cdot \text{RURc} + 0.172 \cdot \text{SCHa}$$

The model is consistent with the normalized coefficient β . In other words, the four factors that significantly affected the "intention to stay in office after the contract expired" were rural cultural environment RURc ($\beta=0.158$, $t=3.539$, $p<0.001$), local feelings HOM ($\beta=0.153$, $t=3.884$, $p<0.001$), and rural infrastructure RURo ($\beta=0.139$, $t=3.227$, $p<0.01$) and school work atmosphere SCHa ($\beta=0.129$, $t=3.215$, $p<0.01$). Among them, except "rural infrastructure" is a physical factor, the other three are social-cultural factors. The regression coefficients of income, professional identity, professional development and school working conditions were positive but did not reach the significance level ($p>0.05$). It is worth noting that "predictive variables that fail to reach the significance level in the regression analysis do not necessarily have no relationship with the criterion variables" (Wu, 2010) because significant positive correlation has been achieved in the early correlation test.

Based on the above multiple linear regression model, this study divides the factors that affect rural teachers' "retention intention" into two categories: "critical factors" and "health factors". "Critical factors significantly affect rural teachers' stay on after the expiry of contract intention directly and is the key and core determinant of rural teachers willing to stay on. Satisfying the basic social life of the rural teachers and achieving the demand of the social value will promote a positive intent to stay on. This mainly includes the rural cultural environment, local feelings, rural infrastructure and school working atmosphere, etc. "Health factors" positively but not significantly affect the "retention intention" of rural teachers; they help to avoid the unpleasant emotional experience of rural teachers, which prevent rural teachers from leaving their jobs to meet their needs and to eliminate the hidden danger that harms rural teachers' willingness to stay on, and to produce "preventive influence." They mainly include school working conditions, professional identity, professional development and income. "Key factors" and "health factors" have an impact on rural teachers' willingness to stay on in their posts in different degrees and through different mechanisms.

4.2 The mechanism of the key influencing factors of Will

Based on the above SPSS 25 analysis results, in the form of mathematical modeling through AMOS 24. This study is to explore the "will" of rural teachers and four key factors affecting the internal mechanism, i.e. localism, rural physical environment, rural socio-cultural environment and school environment as a potential variable, using them as measurement variables. Exploring their relationship, using the structural equation model to establish the causal model of "retention intention after expiration of the contract" (See Figure 2). There were four observational variables (q5—q8) for rural feelings, physical environment, socio-cultural environment, and school environment have three observational variables each (q17—q19; q20—q22; q27—q29). The students, colleagues, parents, villagers and other rural schools in the rural communities, their various social activities, the main body of rural teachers' support and degree of cooperation, i.e. using a second-order latent variable "culture" instead of two first-order latent variables "rural human environment" and "school environment." There are three path assumptions of the structural equation model, namely: Hypothesis 1: local feelings, rural material environment and cultural atmosphere all have a direct impact on the intention to stay in office after the expiration of contract; Hypothesis 2:

Rural material environment has a direct impact on local feelings and cultural atmosphere; Hypothesis 3: Local feelings have a direct impact on the humanistic atmosphere.

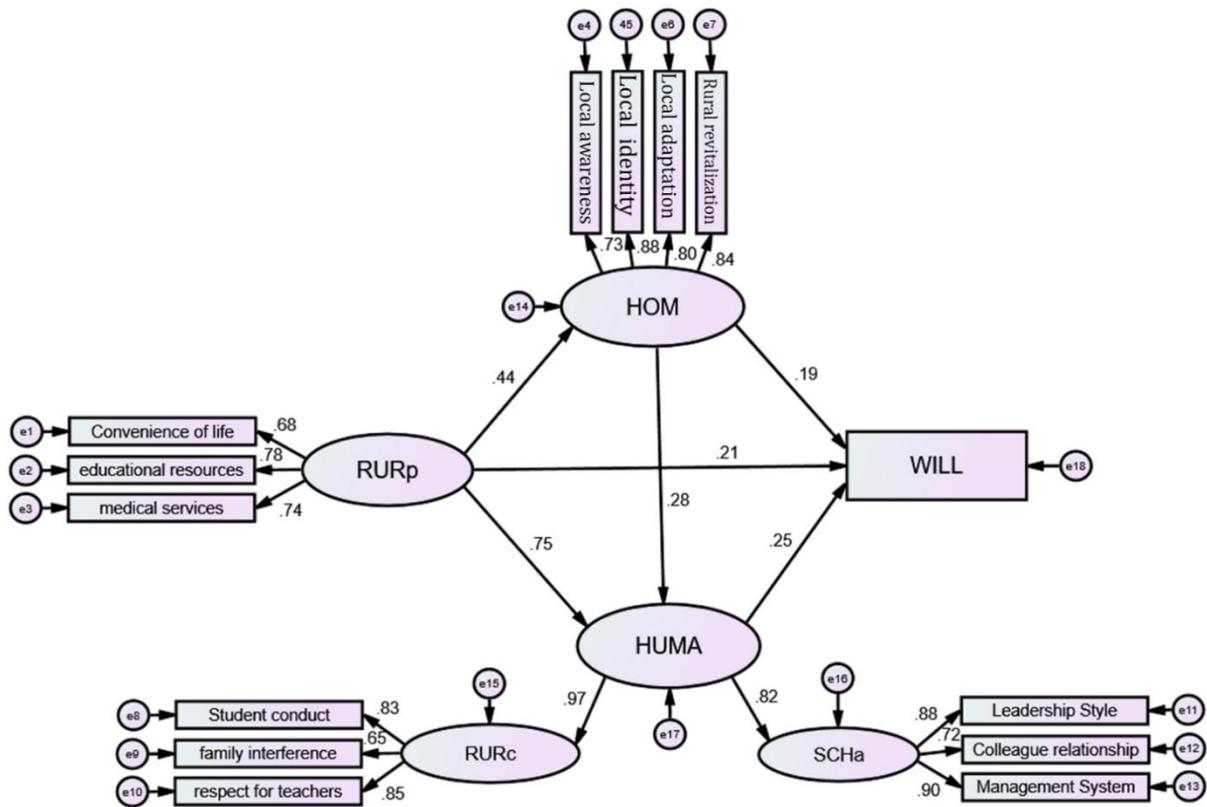


Figure 2: Structure model diagram of key influencing factors of Willingness to Stay after Expiration (standardized coefficient)

To test the fitness of the structural equation model of WILL. The absolute fitness index is RMSEA=0.070, and is less than 0.08; $\chi^2/df=5.827$; and is less than 6; GFI, AGFI and CFI were greater than 0.9; The CFI, NFI and IFI values were all greater than 0.95, which were all good fit standards. It can be seen that model fits well (see Table 6 for details).

Table 6: Fitting parameters of the structural model of Willingness to Stay at Contract Expiry

χ^2 value	degree of freedom (df)	χ^2/df	GFI	AGFI	CFI	RMSEA	NFI	IFI
407.918	70.000	5.827	.943	.914	.957	.070	.950	.957

AMOS 24 was used to conduct regression analysis on the structural model. As shown in Figure 2 and Table 7, the rural material environment, local feelings and cultural atmosphere all had direct effects on the intention to stay after the expiry of the contract, with the direct effect values of 0.21, 0.19 and 0.25 ($p < 0.05$) respectively. The direct effect accounted for 22.04% 19.94% and 26.23% of the total effect.

AMOS 24 was used to analyze the mediating effect of the structural model, and the deviation corrected percentile Bootstrap test was adopted. 1000 iterations were set and 95% confidence interval was estimated. As

shown in table 7, the results showed that local feelings, cultural atmosphere and the two together showed a mediating effect on the rural physical environment and the intention to stay at the expiry of the term, with effect values of 0.08, 0.19 and 0.03, respectively. The 95% confidence interval did not contain 0, that is, all reached a significant level of $p < 0.001$, and the mediating effect accounted for 8.81%, 19.73% and 3.25% of the less total effect. It can be seen that the total direct and indirect effects of the six paths in the structural model are 0.95.

Table 7: Mediating effect and effect quantity of the chain mediation model of Willingness to Stay after Expiration

effect	Mediation path	effect value	effect ratio
direct effect	RURp—WILL	0.21	22.04%
	HOM—WILL	0.19	19.94%
	HUNA—WILL	0.25	26.23%
indirect effect	RURp—HOM—WILL	0.08	8.81%
	RURp—HOM—HUMA—WILL	0.03	3.25%
	RURp—HUMA—WILL	0.19	19.73%
total effect		0.95	

It can be seen from the above that path assumptions of the key influencing factors structure model of "retention intention at the expiration of the contract" are all valid and consistent with the multiple linear regression analysis results of SPSS 25. Cultural atmosphere, local feelings and rural material environment all have a significant direct influence on "retention intention at the expiration of the contract". In line with Marxist dialectical historical materialism, social existence determines social consciousness, and rural material environment has a significant indirect effect on "willingness to stay in office after the expiration of the contract" through local feelings and a humanistic atmosphere. Rural teachers, as active subjects, their local feelings affect the humanistic atmosphere of the rural area and the school, which has a significant indirect effect on the "intention to stay after expiration of the contract".

4.3 Improvement opportunities for influencing factors of WILL

Which indicators affecting rural teachers' WILL have a greater chance of improvement? The factor load of each variable analyzed in the corresponding common level index was taken as the horizontal axis, the unweighted original equalization of each variable was taken as the vertical axis, and the factor load and the median of the original equalization were taken as the coordinate origin to make the improvement opportunity matrix diagram of each variable (see Figure 3). It can be seen that local feelings, professional identity, professional development and school work atmosphere are only maintenance variables, thus there is less chance for improvement. Rural physical environment, school accommodation conditions, teaching equipment and so on are secondary improvement areas, thus, there is a greater opportunity for improvement. Salary, respect for teachers and education, office conditions and promotion system are priority areas for improvement, that is, the greatest opportunity for improvement.

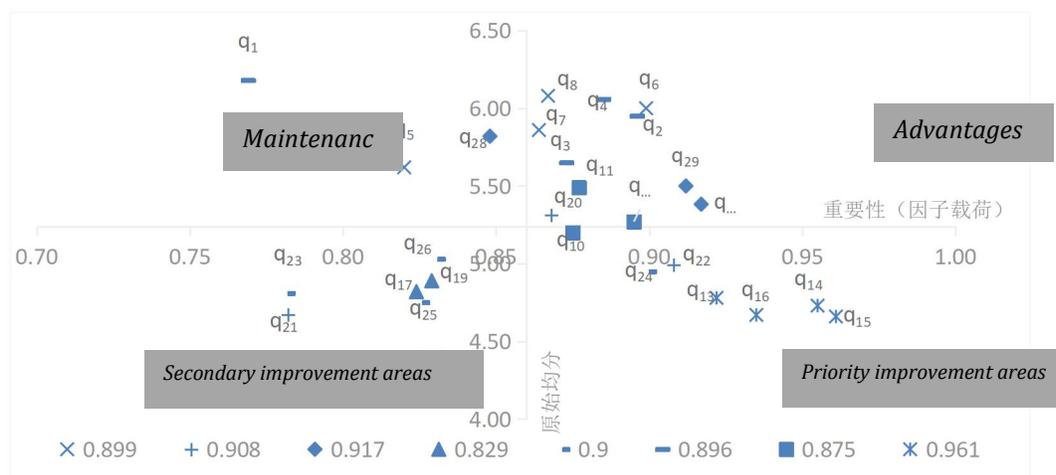


Figure 3: Improvement opportunity matrix of each item

It is worth noting that the importance of the improvement opportunity of each item is different from that of the influencing factor of WILL, and there is no strict corresponding relationship between the two. For example, in priority improvement areas and secondary improvement areas, in addition to the rural material environment, respect for teachers and education and other key factors that have a significant impact on the WILL, there are also health care factors such as school working conditions, i.e. salary and promotion system. Further research found that these maintenance factors would have a significant impact on the corresponding part of the teacher group, for example, the salary level has a significant positive impact on the intention of preschool teachers to stay, so it must be paid close attention to.

5. Research discussion and prospect

Based on the above analysis on the influencing factors of rural teachers' WILL, the following conclusions can be drawn:

5.1 Local feelings 地方感情?? are the intrinsic value that promotes rural teachers' retention

In terms of the local feeling, it refers to the feeling of being in an environment that is compatible with one's nature. The results show that: "rural feelings" is a positive and significant key factor affecting rural teachers' intention to stay on; And was the direct variable and intermediary variable of the internal mechanism of key factors, with a total effect value of 0.30. And this index item is in the advantage area of the improved opportunity matrix. It can be seen that the overall higher WILL of rural teachers appointed by order derives from the advantage of "local feelings" as a key factor.

"I want to keep my hometown away from poverty. This is my obligation, and also my responsibility. I want to bring the confidence on the faces of those children in the city to the children in my hometown..." (Xiang, Tang & Pang, 2019). These simple words from the Enshi government order class graduates are full of mellow local feelings. They were born in, grow up in and devote themselves to ethnic minority areas. They return to their hometown, with the spirit of the master in the familiar tender atmosphere of the countryside to pursue their own educational value, the achievement of their own educational life. Just as Tao Xingzhi believed that in order to accomplish the mission of rural education, plans and methods are secondary, and the overriding condition is whether comrades are willing to devote their whole hearts to the rural people and children. The viewpoints of many scholars are consistent with this (Tao & Tao, 2005:363). For example, only those who truly love the countryside and love rural education can do rural education well (Zhu, 2021). To cultivate local talents and improve the quality of rural basic education (Chan, 2021). Local education should be established in suitable village communities so that returning to the countryside and engaging in rural education becomes a dignified job and the pursuit of a better life (Li & Wen et al, 2021). Compared with "special gang students" of "flying pigeon", directional normal university students are "permanent brand". "Directional training" is the most effective measure to train new rural teachers in large quantities at present, which is worthy of widespread promotion (Fan & Guo, 2017). Education research on ethnic minorities should enhance localization and systematization consciousness (Qi

& Hou, 2021). Schools recruit and affirm indigenous teachers who better reflect the cultural heritage of their students, have life experience in, and are in touch with the community, enabling them to understand the needs, aspirations and cultural patterns that are of great value in creating a just and equitable educational future (United Nations Educational, Scientific and Cultural Organization: 201,11,10).

This study agrees with the viewpoints of the above scholars and holds that "local feelings" are the key emotional qualities for rural teachers in ethnic minority areas to retain their posts. Rural teachers appointed by local orders are familiar with the local culture, which is more conducive to inheriting their ethnic culture and customs, and are more willing to retain their posts. Therefore, it is worthy of further exploration to further improve the "order training mode" of rural teachers in ethnic minority areas, combine it with the long-term mechanism of poverty prevention and control, the comprehensive revitalization of rural areas and the endogenous development capacity of rural areas, and cultivate the rural feelings of rural teachers in an all-round and three-dimensional way.

5.2 Rural revitalization is the basic material prerequisite for rural teachers' retention

The results show that "rural material environment" is also a key factor affecting rural teachers' WILL. The total effect value of direct and indirect action of its internal mechanism was as high as 0.51. The WILL of primary school teachers in township centers was significantly higher than that in teaching sites and villages. And the item corresponding to this indicator is located in the second improvement area of the "Improvement opportunity matrix".

Rural teachers' intent to stay is affected much by their living conditions such as traffic, education, medical care, shopping environment (Marx, 2020:2) As such some scholars believe that most of the current rural educational problems cannot be resolved by educational research (Ye, 2021). Rural areas in ethnic minority areas have unique and rich natural and cultural resources, but the influence of industrialization, urbanization, modernization and other economic development factors have caused urban-rural "dual structure" or "three-way social structure." The retention of rural teachers is inseparable from the economic development and material environment of rural areas. The comprehensive revitalization strategy of urban-rural integration and development at the national level brings the hope to fundamentally solve the problem of retention of rural teachers in ethnic areas. Conscientious implementation of the rural comprehensive revitalization of the ethnic minority areas; the overall planning for the county, improve rural transportation infrastructure; promoting urban and rural equal basic public services such as education, health care; leading to solving rural teachers' work, life difficult; and finally close the gaps of China's urban education and rural education to promote balanced development in education modernization with Chinese characteristics (Hao, 2021).

5.3 Maintenance factors are important to direct warnings of rural teachers' retention

The results showed that although the effects of maintenance factors such as salary, professional development, school office conditions and occupational identity were less significant, the standardization coefficients were positively correlated. The willingness of rural teachers who had participated in training was significantly higher than that of teachers who had not participated in the training. In particular, except for professional identity, the items corresponding to these indicators are all in the "priority improvement area" of the "Improvement opportunity matrix".

Therefore, maintenances play a direct warning role in the "retention" of rural teachers in ethnic minority areas, and are the key to the "quality" of rural teachers "teaching well", which is worthy of great attention. Effective teacher education must address the factors contributing to teacher turnover, and urgent measures are needed to retain the most qualified teachers, as stated in the global announcement at UNESCO's 41st General Assembly (United Nations Educational, Scientific and Cultural Organization: 201,11,10). It is necessary to give further priority to improving salary, effectively implementing ethnic and rural policies, and focusing on performance pay towards rural schools in ethnic minority areas (The Government of Hubei Province) to make rural teachers in ethnic minority areas an attractive career. We will give higher priority to improving school working conditions, and solve the worries of office, bus and revolving houses for rural teachers in ethnic minority areas. More effectively priority support rural teachers' professional development in national regions, to provide diversified targeted training study, title appraisal, such as opportunity, give full play to each rural teacher's ability and wisdom and recognized by society, build high-quality rural teacher professional learning community, strengthen the rural teachers' education in national regions for feeling and happiness.

5.4 Government, University, School, Rural Authority–Teacher (GUSR–T) cultivation community is a long-term mechanism guarantee for rural teachers to stay in the office

The results show that "rural cultural environment" and "school working atmosphere" are two positive and significant key factors for rural teachers' WILL. The variable "cultural atmosphere" is a direct variable of rural teachers' WILL, and also one of the important mediating variables of the rural material environment, local feelings and intention to stay at the expiry of the term, with a total effect value of 0.47. It is worth noting that the item corresponding to the secondary index "Respect teachers and attach importance to education" is in the priority improvement area of the "Improvement opportunity matrix".

From the perspective of other symbiosis education, rural teachers' willingness to stay in their posts is inseparable from the two main bodies and functions of rural schools and rural communities where they work and live every day. Of course, it also needs the joint efforts of universities, governments and individual teachers. Through a new social contract for education, members of the society can reach tacit agreements of shared interests (United Nations Educational, Scientific and Cultural Organization: 201,11,10), jointly reimagine the future of our rural education, and jointly rebuild a new rural teacher education ecology. Therefore, it is necessary to build a "five-in-one" "UGSR–P Cultivation community" centering on the education life growth of rural teachers. That is the collaborative education mechanism constructed by the local government, local universities, local primary and secondary schools, Rural communities and teachers. In this community, we should pay special attention to the emotional motivational factors of rural teachers. The core goals are rural teachers' professional identity, local feelings and professional development. In building respect from the concrete practice of the local custom civilization in ethnic minority areas, each kind of subject of self-discipline and consciousness is indispensable, and government's leading role needs to be highlighted even more (Jiang, 2021). Besides supporting the role of the village as governin bodies, paying attention to village autonomy, carry forward the excellent traditional culture, inherit regional culture, strengthen the rural teacher identity and professional identity are important to promote the two-way construction and harmonious development of education and national unity and progress (Wu, 2021). Based on the law of teacher education life growth, the rural teacher UGSR–P cultivation community is the institutional guarantee for rural teacher retention and high-quality education and teaching.

5.5 Conclusion

This study is a quantitative empirical study that has ironed out the important issues in the practice of rural teachers' appointment in ethnic minority areas, hoping to provide a reference for the study on "staying and teaching" and "teaching well" of rural teachers in ethnic minority areas in China. The study found that the teachers have a high willingness to stay on the job after the contract expires. Among the factors contributing to their willingness are the local cultural environment, the local infrastructure attachment to the area, and the school's working environment. Wage income, professional identity, professional development, and school working conditions also play an important role as maintenance factors. There is a direct relationship between the rural infrastructure and a person's willingness to continue working after the expiration of a contract, and there is an indirect relationship between the local attachment and the cultural atmosphere of the local community. Local attachment is the dominant factor, the local infrastructure is a secondary improvement area, and salary, promotion of opportunities, respect for teachers and education are in the priority improvement area. Finally, the paper proposes that the retention of rural teachers should be based on the cultivation of local attachment, rural revitalization, improvement of health factors and construction of "UGSR–P" cultivation of community.

6. Author Contributions

YD presented the main idea, collected data and wrote the first draft of the manuscript. LB analysed the data. AS contributed to revising, proofreading & submitting the manuscript. SH gave valuable suggestions to improve manuscript. This article was supervised by JZ. All authors contributed to the article and approved the submitted version.

7. Informed Consent Statement

Informed consent was obtained from all subjects involved in the study

8. Data Availability Statement

Data will be provided according to demand

9. Acknowledgments

The authors are grateful to the participants in this study for their valuable time and informative responses.

Conflicts of Interest

The authors declare no conflict of interest.

10. Funding

This paper is based on phased research results of Hubei Provincial Education Science Plan ,2020 (general project). This work was partially supported by "Research on rural Teacher Training Mode in Minority Areas of Hubei Province in post-poverty Era" (project Number: 2020GB167).

References

- Boyce et al. 2013. Factors and Measurement of Primary and Secondary School Teachers' Professional Identity. *Psychological Research Journal*, (1).
- Brill, S. and McCartney, A. 2010. Stopping the Revolving Record of Students with Revolving Records: A Case Study of Students with Revolving Records. *Politics & Policy Journal*, (5).
- Chan. The National People's Congress. 2021. The Country Revitalization of the Promotion Law of the People's Republic of China. <http://www.npc.gov.cn/npc/c30834/202104/8777a961929c4757935ed2826ba967fd.shtml>, 2021-04-30.
- Chivore, BRSF. 1988. Such A Recognition of the Climate of Zimbabwe. *International Review of Education Journal*, (1).
- Du Ping, XIE Yao. Research on the Relationship between Teachers' Salary and Turnover Intention in Rural Primary and Secondary Schools. *Journal of East China Normal University (Education Science)*, 2019,37 (1): 103-115,169.
- Fan, Xianzuo. 2015. Fundamental Issues of Rural Education Development. *Journal of Central China Normal University (Humanities and Social Sciences Edition)*, (9).
- Fan, Xianzuo. and Guo, Qingyang. 2017. How to Change the "Flying Pigeon" to "Permanent" Rural Newly Subsidized Teachers. *People's Education Journal*, (7).
- General Office of CPC Central Committee, General Office of the State Council. 2019. Accelerate the Modernization of Education Implementation Plan, 2018-2022. http://www.gov.cn/xinwen/2019-02/23/content_5367988.htm, 2019-02-23.
- General Office of Hubei Provincial People's Government. On Strengthening the Province's Rural Teachers Team Construction Measures. http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jyzt_2015nztzl/2015_zt17/
- General Office of the State Council, 2015. Accelerating the Development of National Education Decision. http://www.gov.cn/zhengce/content/2015-08/17/content_10097.htm, 2015-08-17.
- General Office of the State Council. 2015. Rural Teacher Support Plan (2015-2020). <http://www.gov.cn>
- Guarino, CM. and Santibaez, L. and Daley. GA. 2006. Retention and Recruitment of Retention: A Review of the Recent Literature. *Review of Educational Research Journal*, (2).
- Guo, Y.-z., Zhou, Y., & Liu, Y.-s. (2020). The inequality of educational resources and its countermeasures for rural revitalization in southwest China. *Journal of Mountain Science*, 17(2), 304-315.
- Hallinger, P., & Liu, S. (2016). Leadership and teacher learning in urban and rural schools in China: Meeting the dual challenges of equity and effectiveness. *International Journal of Educational Development*, 51, 163-173. doi: <https://doi.org/10.1016/j.ijedudev.2016.10.001>
- Hao, Wenwu. 2021. Promoting the Revitalization of Rural Education and the Modernization of Rural Education with the Characteristic and Integrated Development of Urban and Rural Education. *Educational Science Journal*, (3).
- He, Shuhu. and Wu, Zihui. 2021. An Empirical Study on the Occupational Attraction of Rural Teachers —Based on the Comparison of "Leaving" and "Staying". *Teacher Education Research Journal*, (1).
- Jiang, Yihua. 2021. Social Support for Rural Teacher Policy Implementation: Composition and Formation Path. *Education Science Journal*, (3).
- Junior High School Teacher Turnover. 2019. *Journal of Education science and Technology Educational Administration*, 6 (57).
- Kim, S. R., & Lerman, L. O. (2018). Diagnostic imaging in the management of patients with metabolic syndrome. *Translational Research*, 194, 1-18. doi: <https://doi.org/10.1016/j.trsl.2017.10.009>
- Li, Jingmei. 2019. The Internal Logic of "Getting Down and Staying" for Rural Government-Funded Directed Normal University Students. *China Education Journal*, (12).
- Li, J., Shi, Z., & Xue, E. (2020). The problems, needs and strategies of rural teacher development at deep poverty areas in China: Rural schooling stakeholder perspectives. *International Journal of Educational Research*, 99, 101496. doi: <https://doi.org/10.1016/j.ijer.2019.101496>

- Li, J., & Xue, E. (2021). "Teach to adapt or adapt to teach": qualitative study on the new "special-post teachers" in China's rural schools. *Educational philosophy and theory*, 53(12), 1295-1305.
- Li, Zhou. and Wen, Tiejun et al. 2021. Accelerating Agricultural and Rural Modernization: An In-Depth Interpretation of the Spirit of the First Document of the CPC Central Committee by Experts on Agriculture, Rural Areas and Farmers. *Chinese Rural Economy Journal*, (4).
- Man, ZK. 2019. "Need of Time" and "Pursuit of excellence": The Differentiation between Name and Reality of Rural Primary School Teachers. *Teacher Education Research Journal*, (5).
- Mao, Kun. 2019. Research on the Implementation of the Policy of Directional Appointment and Training for General Subject Teachers in Rural Primary Schools of Enshi Prefecture. Wuhan: South-Central University for Nationalities.
- Marx, Engels. *German Ideology*. Beijing: People's Publishing House, 2018:10,18.
- Marx. 2020. *Selected Works of Marx and Engels (Volume 2)*. Beijing: People's Publishing House, 2020:2
- Qi, Jinyu. and Hou, Xinru. 2021. Review and prospect of Chinese Ethnic Education Research in the Past Century. *Ethnic Education Research Journal*, (3).
- Tang, Wenxian. 2020. A Study on the Mode of Training Rural Teachers with Government Orders — A Case Study of Enshi Vocational College "Government Orders Class." *Scientific Consulting Journal (Education and Research)*, (1).
- Tao, Xingzhi. and Tao, Xingzhi. 2005. *Complete Works (Vol. 2)*. Chengdu: Sichuan Education Press, 2005:363.
- The Government of Hubei Province. The Implementation of the Province of the People's Government to Accelerate the Development of National Education Opinion. <http://www.hubei.gov.cn/zfwj/ezf/201610/>
- United Nations Educational, Scientific and Cultural Organization. Reimagining our Future together: A New Social Contract for Education. 201,11,10
- Wang, D. (2011). The dilemma of time: Student-centered teaching in the rural classroom in China. *Teaching and teacher education*, 27(1), 157-164.
- Wei, Shuhua. 2008. *Research on Teachers' Professional Identity*. Chongqing: Southwest University.
- Wei, Shuhua. and Song, Guangwen. 2012. Teachers' Professional Identity and Turnover Intention: The Mediating Role of Job Satisfaction. *Psychological Exploration Journal*, (6).
- Wu, Minghai. 2021. Research on the Interactive Mechanism of The CPC's Ethnic Education Theory, Policy and Practice. *Ethnic Education Research Journal*, (3).
- Wu, ML. 2010. *Practice of Questionnaire Statistical Analysis: SPSS Operation and Application*. Chongqing: Chongqing University Press.
- Wu, Zhihui. and Qin, Yuyou. 2015. *China's Rural Education Development Report 2013-2014*. Beijing: Beijing Normal University Press.
- Xiang, L., Tang, WX. and Pang, XF. 2019. Study on the Model of "School-Local Cooperation" Combined with Targeted Poverty Alleviation for Public Kindergarten Teachers in Weipei Township. *Modern Vocational Education*, (21).
- Xiao, Qingye. 2018. Rural Teachers' Occupational Mobility and its Influencing Factors: An Empirical Study Based on Binary Logistic Regression Model. *Basic Education Journal*, (5).
- Ye, Lan. 2021. Transformation and Integration in Cooperative Research: The Relationship Between Educational Theory and Educational Practice. *Educational Research Journal*, (1).
- Zhang, Liping. and Cheng, Jiaojiao. 2021. The Implication and Cultivation Path of Rural Teachers' Local Feelings. *Educational Academic Monthly Journal*, (1).
- Zhang, Ying., Lu, Sha. and Li, Tingzhou. 2021. The Influence of Selection Methods and School Retention Strategies on the Retention Intention of Urban and Rural Teachers — Based on the Questionnaire Survey of 16,787 Primary and Secondary School Teachers in Five Provinces of Central and Western China. *Journal of Education Science*, Hunan Normal University, (2).
- Zhao, Zhongping. and Qin. Yuyou. 2016. Who Wants To Leave More? — An Empirical Study on Opportunity cost and Compulsory Education Teachers' Mobility Intention. *Education and Economy Journal*, (1).
- Zhu Yongxin. 2021. The Way Out of Rural Education Lies in Courses and Reading, and People Who Love Rural Education are Needed. *New Campus Journal*, (6).