A Study on Influencing Factors of Participation Behavior of Chinese Agricultural Engineering and Technical Personnel in Continuing Education in the New Era

Chun Yang[1], Linben Wang[1], Shufeng Zhou[2],*

[1]College of Management, Sichuan Agricultural University, Chengdu, China
[2]Maize Research Institute, Sichuan Agricultural University, Chengdu, China
*Corresponding author

Abstract: With the implementation of China's rural revitalization strategy, the reserve of high-quality agricultural talents has become an important part of agriculture. Continuing education of agricultural engineering and technical talents, as a channel to continuously cultivate outstanding talents, provides strong support for rural revitalization. This paper takes agricultural engineering and technical talents in five provinces of southwest China as the research objects, collects data in the form of questionnaire survey, and uses Logistic and Ordered Probit models to analyze the influencing factors of whether agricultural engineering and technical talents participate in continuing education and the influencing factors of their participation in continuing education. The results show that the behavioral direction and participation degree of agricultural talents in continuing education are mainly affected by the incentive mechanism, external educational safeguard measures and conditions, and to a certain extent are also affected by environmental variables. Therefore, in order to further promote the continuing education of agricultural engineering and technical talents, we should improve the relevant legal system, improve the relevant incentive mechanism and assessment system, and optimize the macro learning environment.

1. Introduction

According to the classical theories of Western behaviorism, people's behaviors and modes are generated from motivation, which is not only derived from people's internal needs, but also produced by external material and non-material incentives [1]. In these incentives, the degree of subjective cognition and their own characteristics affect individuals' behavioral orientation towards a certain activity, as well as the breadth and depth of people's participation. As implementers of relevant policies, the degree of participation in behaviors will be affected by subjective and objective factors that restrict their own decision-making, and the execution effect of behaviors will also be restricted by external conditions and environment [2].

In the continuing education of agricultural engineering and technical talents, the main reason for

agricultural engineering and technical talents to participate in the continuing education is the development needs of themselves and their units [3], as well as the influence of social environment changes and realistic pressure [4]. Although there are different factors influencing the behavior of professional personnel to participate in continuing education [5], the common factors mainly include the following aspects: The objective needs of social and economic development at the macro level, the invisible pressure imposed by the institutional unit, and the need for self-realization, among which external pressure and self-realization can be regarded as the basic driving force for participation in continuing education [6]. Therefore, a number of internal and external influencing factors such as laws, regulations, funds, education platform, individual job promotion and ability to do the job should be comprehensively considered when discussing the participation behavior of agricultural engineering and technical talents in continuing education [7].

This study applies the classical theory of behaviorism to the study of the continuing education of agricultural engineering and technical personnel, and proposes that the behavior of agricultural engineering and technical personnel to participate in the continuing education is affected by internal and external factors, including internal needs and external institutional environment and platform.

2. Materials and Methods

2.1. Research Hypothesis

This paper basically classified the factors and variables related to the participation of agricultural engineering technical personnel in continuing education, mainly from the perspective of agricultural engineering technical personnel's subjective cognitive attitude towards continuing education, subjective characteristics, material conditions and guarantee for participation in continuing education and external environment for participation in continuing education, and initially proposed the following research hypothesis:

Hypothesis 1: If participants believe that the benefits brought by continuing education are considerable and realistic, they are more inclined to participate in the continuing education of agricultural engineering and technical talents.

The participation consciousness of agricultural engineering and technical talents means that the higher their cognition of relevant national regulations, the more positive their attitude towards the necessity of establishing the system, and the more conducive to their participation in the continuing education of agricultural talents [8]. This is mainly because the state has a series of mandatory regulations for agricultural engineering and technical talents to participate in agricultural continuing education. Therefore, understanding of relevant laws and policies is conducive to improving the ideological consciousness of agricultural engineering and technical talents [9]. At the same time, the higher their evaluation of the efficacy of continuing education, the greater the incentive effect generated by continuing education, and the more conducive to their participation in education [10].

Hypothesis 2: Affected by their own characteristic factors, agricultural engineering technicians will make different participation decisions, including the direction and degree of participation.

Generally speaking, the greater the individual driving force, the more inclined to participate in the continuing education of agricultural engineering and technical talents, and the higher the degree of participation, while the variables involved include individual education, professional title, job type and subjective cognitive degree [11]. The greater the internal incentive effect generated by these variables, the more significant the influence on the participation behavior of the continuing education of agricultural engineering and technical talents [12].

Hypothesis 3: The more complete the external guarantee conditions and measures for the participation in the continuing education of agricultural engineering and technical personnel, the more active agricultural engineering and technical personnel to participate in the continuing education.

Specific indicators affecting the availability of continuing education include the input of educational funds, the completeness of educational facilities and the popularization of modern educational means, as well as the amount of time available to participate in the continuing education of agricultural talents each year [13].

Hypothesis 4: The better the external educational environment of the region where the educated people live, the more conducive to the participation of agricultural talents in continuing education.

The external macro environment of agricultural engineering and technical talents involved in continuing education includes the nature of their units, the influence of surrounding people and the types of regions[14]. The more positive factors in the educational environment, for example, the more developed the economy is and the better the educational atmosphere is, the more conducive it is to the participation in continuing education [15].

2.2. Data

In this paper, a combination of offline and online survey methods were adopted in five provinces in southwest China. A total of 700 questionnaires were sent out and 687 questionnaires were collected, among which 632 were valid, with an effective rate of 92%. There were 215 valid questionnaires from Sichuan Province, accounting for 34.04%, 89 from Chongqing (14.09%), 98 from Guizhou (18.62%), 105 from Yunnan (19.95%) and 70 from Tibet (13.30%). The content of the questionnaire involved the participation behavior and duration of agricultural engineering and technical talents in the continuing education of agricultural talents from 2018 to 2020. At the same time, variables related to the research were selected to conduct an empirical study.

2.3. Model Setting

In this study, the Logistic regression model was used to analyze the influencing factors of whether agricultural talents participated in continuing education or not, and the ordered probit model was used to study the influencing factors of the annual participation time of agricultural talents.

(1) Logistic regression model

The Logistic probability function is

$$p = \frac{1}{1 + \exp\left[-\left(\beta_0 + \sum \beta_i x_i\right)\right]} \qquad (1)$$

After deformation, the linear expression between the probability function and the independent variable is

$$\ln \frac{P}{1-P} = \beta_0 + \sum \beta_i x_i \qquad (2)$$

(2) Ordered probit model

The time and y of agricultural engineers' participation in continuing education studied in this paper can be regarded as a latent variable, because its specific value cannot be predicted. The influence equation of the time of agricultural engineers' participation in continuing education is expressed in linear form as follows:

$$y_i^* = x_i'\beta + \varepsilon_i \quad i = 1, 2, \cdots, N \qquad (3)$$

x_i is the observed value of a set of explanatory variables that may influence the duration of participation in continuing education by agricultural engineers, β is the corresponding set of unknowns, ε_i is the distribution function for F error term. Although y_i^* here cannot be observed,

another observable variable, y_i^* is related to it as follows:

$$y_i = \begin{cases} 1, & IF\ y_i^* < a_1 \\ 2, & IF\ a_1 \le y_i^* < a_2 \\ \vdots \\ J, & IF\ a_{J-1} \le y_i^* \end{cases} \tag{4}$$

y_i is the discrete variable ,which is scope for $\{i = 1,2,\cdots,J\}$. It represents the time that sample i spent in continuing education. a_i is a new set of variables and $a_1 < a_2 < \cdots < a_J$. In this way, y_i^* is thoroughly divided into J non-overlapping intervals, with y indicating that a specific observation falls into that interval. The probability that y takes a particular value j is:

$$\Pr[y_i = j] = \begin{cases} F(a_1 - x_i^{'}\beta) & j = 1 \\ F(a_j - x_i^{'}\beta) - F(a_{j-1} - x_i^{'}\beta) & 2 \le j \le J - 1 \end{cases} \tag{5}$$

Next, put the y as explanatory variables, the establishment of the ordered probit model. Then the logarithmic likelihood function of this model is:

$$\ln L = \sum_i^N \sum_{j=1}^J \ln\left[F(a_j - x_i^{'}\beta) - \ln a_{j-1} - x_i^{'}\beta \right] \tag{6}$$

By maximizing logarithmic likelihood function (3), the coefficients β and a in ordered probit model can be estimated. It can be seen from the above derivation that the estimated β is the coefficient affecting the time influencing factors of the participation of agricultural engineering and technical personnel in continuing education.

2.4. Variable Settings

According to the attributes and characteristics of each independent variable, and combined with the theoretical analysis framework of this study, the corresponding variables are divided into four categories. The correlation analysis of the subjective cognitive attitude variable, the subjective characteristic variable, the external educational facilities and support condition variable, the educational region and the environment characteristic variable of the agricultural engineering and technical talents will be carried out in Table 1.

Table 1: Description of model variables

variable	instructions	expected
	Dependent variable	
Y1 Whether to participate in continuing education	yes=1,no=0	
Y2 Time to attend continuing education	1-5 days =1,6-11 days =2,12-20 days =3,More than 20 days =4	
	Subjective cognitive attitude	
X1 Personal perception of the basic provisions of the state system	correct=1,wrong=0	+
X2 Willingness to participate in continuing education	yes=1,no=0	+
X3 Willingness to pay to attend at one's own expense	yes=1,no=0	+

X4 Attitudes towards further education as a condition for promotion	very necessary =4,necessary =3,not to matter =2,no need=1	+
X5 Evaluation of the positive impact of continuing agricultural education on individuals	impact=1,no impact=0	+
Characteristic of subjectivity		
X6 Gender	Male=1,Female=0	+
X7Age	Age 51 and above =5,41-50 years old=4,31-40 years old =3,21-30 years old =2,Age 20 and under =1	-
X8 Level of education	Master degree and above =5,Bachelor degree =4,College degree =3,Technical secondary school education =2,High school and below =1	+
X9 Length of service	40 years and above =5,31-40 years=4,21-30 years=3,11-20 years=2,less than 10 years =1	+
X10 Professional title	Senior title =5,Associate Senior Title =4,Intermediate professional title =3,Junior professional title =2,No title=1	+
External education conditions and facilities guarantee		
X11 Whether the unit has established a continuing education system	yes=1,no=0	+
X12 Whether the organization supports individual participation in continuing education	yes=1,no=0	+
X13 Sources of funds to participate in continuing agricultural education	Investment by the unit and the state =1,The state, units and individuals share the burden =2,Both units and individuals bear the burden =3,Personal burden mainly =4	-
X14 The availability of modern educational means	Use regularly =3,Use occasionally =2,Never use =1	+
X15 Time per year available for continuing education	1-5 days=1,6-11 days=2,More than 12 days =3	+
X16 Whether there are various channels for knowledge updating	yes=1,no=0	+
Educational area and environmental characteristics		
X17 Whether the surrounding knowledge structure is reasonable	Reasonable structure =4,Unreasonable structure =3,Lag in knowledge =2,It does not meet the requirements of industrial development =1	+
X18 Nature of unit	Scientific research institution =1,Unit of Teaching =2,Promotion unit =3,Administrative unit =4,Enterprise =5,Social organization =6	-
X19 Type of area	Provincial capital city =4,Municipal city =3,The county =2,The villages and towns =1	+

According to previous research experience, variable X7 (age), variable X9 (length of service) and variable X10 (professional title) will be correlated. Considering the realistic influence of the three variables comprehensively, only X10 (professional title) is selected to be introduced into the model in this study.

3. Results and Analysis

3.1. Logistic Regression Results and Analysis

Table 2: Logistic model statistics

	variables	coefficient	standard error	significance level
Initial model: Step 1	X1 Personal perception of the basic provisions of the state system	.289	.394	.463
	X2 Willingness to participate in continuing education	1.426	1.439	.322
	X3 Willingness to pay to attend at one's own expense	1.444	.323	.000
	X4 Attitudes towards further education as a condition for promotion	1.186	.340	.000
	X5 Evaluation of the positive impact of continuing agricultural education on individuals	.655	.589	.266
	X6 gender	.083	.321	.797
	X8 Level of education	-.237	.190	.213
	X10 Professional title	-.044	.168	.796
	X11 Whether the unit has established a continuing education system	.412	.273	.132
	X12 Whether the organization supports individual participation in continuing education	.851	.479	.076
	X13 Sources of funds to participate in continuing agricultural education	-.310	.150	.039
	X14 The availability of modern educational means	.386	.415	.353
	X15 Time per year available for continuing education	.386	.202	.056
	X16 Whether there are various channels for knowledge updating	.017	.157	.915
	X17 Whether the surrounding knowledge structure is reasonable	.375	.205	.068
	X18 Nature of unit	-.153	.183	.401
	X19 Type of area	.595	.222	.007
	constant	5.913	2.152	.006
Final model: Step 2	X3 Willingness to pay to attend at one's own expense ***	1.304	.309	.000
	X4 Attitudes towards further education as a condition for promotion ***	1.130	.321	.000
	X12 Whether the organization supports individual participation in continuing education **	.929	.447	.038
	X13 Sources of funds to participate in continuing agricultural education **	-.291	.145	.044
	X15 Time per year available for continuing education **	.393	.190	.039
	X17 Whether the surrounding knowledge structure is reasonable *	.481	.186	.051
	X19 Type of area ***	.559	.187	.003
	constant	2.106	.932	.024

* represents significance at the 10% level, ** represents significance at the 5% level, *** represents significance at the 1% level.

For the analysis of the participation of agricultural engineers and technicians, the paper adopts Backward: Conditional method to carry on the regression. In this paper, the initial model and the final model of regression method are analyzed. From the initial model, the basic situation of the influence of all independent variables on the dependent variables can be examined, and the situation of the

independent variable with the most significant influence can be seen in the final model, as shown in Table 2.

3.1.1. Subjective Cognition and Attitude

X3's willingness to pay at its own expense is 1%, which has a significant positive effect. This is mainly because in many cases, the continuing education of agricultural engineering and technical talents in China requires individual funding in addition to funding provided by the state and units, so the individual's willingness to pay will affect their participation. Individuals who are willing to pay for continuing education are generally considered to be more motivated to participate. If they are not willing to bear the cost of continuing education at their own expense, the participation behavior will be greatly affected in the case of insufficient funding.

X4's attitude towards continuing education as a condition for promotion is 1%, which has a significant positive effect. The more individuals recognize continuing education as one of the evaluation criteria for promotion, the more favorable it will be for them to participate in continuing education under the incentive mechanism. This also proves the respondents' acceptance of continuing education as the assessment standard for the performance of unit leaders in a disguised way, which is conducive to their participation in continuing education.

The X1, X2, X5 variables are not significant, but they have a positive effect. This is consistent with the descriptive analysis to some extent. X1 is to investigate the individual's understanding of the latest national system, but their lack of accurate understanding of the system does not affect the technical personnel's participation in continuing education under the supervision of the unit and the individual incentive mechanism. However, X2's willingness to participate in continuing education and X5's evaluation of the impact of continuing agricultural education on individuals both reached more than 90% recognition among respondents, indicating that the vast majority of Chinese agricultural engineers and technicians have the ideological awareness and enthusiasm to actively participate in continuing education.

3.1.2. Characteristic Variable of Subjectivity

X6 is not significant, but has a positive effect, while X8 and X10 are not significant and have a negative effect. In general, the subjective characteristic variables of respondents had no significant influence on the participation of agricultural engineering technicians in continuing education. The three variables introduced into the model include X6 gender is not significant, X8 education level is not significant, and the effect is negative. X10 title is not significant, negative effect. The reason why the gender factor is not significant is that the duration of participation in continuing education for agricultural engineering and technical personnel is mandatory and relatively short, while the influence of educational background is not obvious, which may be because one of the purposes of continuing education is to obtain higher educational background and update knowledge. Although individuals with higher educational background are generally considered to have higher learning enthusiasm and ideological consciousness, their knowledge structure is relatively reasonable. And they don't use further education as a means to get a higher degree. The reason for the insignificant and negative effect of professional title is similar to that of educational background. Respondents will regard promotion of personal title as one of the driving forces for participating in continuing education. Therefore, agricultural engineering and technical personnel with higher professional title may not be more active in participating in continuing education.

3.1.3. External Educational Facilities and Security Conditions

Relatively speaking, the variables of external educational facilities and security conditions are the

most significant. This shows that few agricultural engineers will seriously affect their choice of whether to participate in continuing education because of insufficient ideological consciousness or subjectivity. Most of the respondents, more because of the lack of external educational facilities and security conditions, and affected their participation in continuing agricultural education. In particular, the funding for continuing agricultural education and the time available each year are guaranteed.

X12 units whether individuals were supported to participate in continuing education had a significant, positive effect at 10%. The units' support for agricultural engineering and technical personnel to participate in continuing education can be called the actual guarantee conditions, including time, funds and personnel, and more than 90% of the units expressed support for individuals to participate in continuing education of agriculture.

X13 The source of funding for participation in continuing agricultural education is significant at 5% and has a negative effect. In terms of funds, the larger the proportion of the state and units to bear, the more conducive to the participation of agricultural engineers and technicians in continuing education. Accordingly, the need for individuals, countries and units to undertake the case, it will not be conducive to their participation in agricultural continuing education. It also proves the influence of self-payment willingness on participation in continuing agricultural education in a disguised way.

X15 can participate in continuing education activities for 5% of the time each year, which has a significant positive effect. In terms of the time available to spend on continuing education each year, the more disposable time individuals have, the more conducive to their participation in continuing education. If they do not have enough time, they cannot participate in continuing education.

X11, X14 and X16 were not significant and had positive effects. These three variables can be regarded as basic educational facilities to some extent. As the popularity of modern educational facilities such as network equipment is relatively high, and most units have established the continuing education system for agricultural engineering and technical talents, and knowledge learning channels are increasingly diversified, the influence of these three variables is not significant.

3.1.4. Educational Area and Environmental Characteristics

X17 Knowledge structure is reasonable in 10% significant, positive effect. If the system and the knowledge structure of the people around the agricultural engineering and technical talents are relatively reasonable, they will have more enthusiasm to participate in the continuing education and have a good learning atmosphere. If the knowledge structure of agricultural engineering and technical talents themselves and their surrounding groups is aging stubbornly, it means that they are in a poor learning environment, which leads to the participation of continuing education is not active enough.

The X19 region type was significant in 1% and had a positive effect. In this study, regional types are divided into four types: provincial capital city, municipal city, county-level city and township. The results show that the enthusiasm of agricultural engineering and technical talents to participate in continuing education is higher in provincial capital cities and municipal cities, while the enthusiasm of agricultural engineering and technical talents is lower the closer they are to the township and other grass-roots units. On the one hand, it is because more senior talents are concentrated in urban areas, so urban areas have better learning atmosphere and more perfect assessment mechanism; on the other hand, it may be because provincial capitals and municipal cities have better educational facilities and conditions.

The unit type of X18 is not significant and the effect is negative. The type of unit has a certain randomness, and whether individuals participate in continuing education is mainly based on a certain motivation. Although technical staff in research and teaching units are generally considered to have a stronger learning atmosphere, the nature of the unit was found to have little effect. According to the descriptive analysis, it is found that scientific research institutions and educational institutions have relatively high learning enthusiasm, while enterprises and social groups have poor participation

enthusiasm, so the influence is negative.

3.2. Ordered Probit Regression Results and Analysis

Table 3: Analysis of ordered probit model

	Length of year	coefficient	Standard error	Significance
Subjective cognitive attitude	X1 Personal perception of the basic provisions of the state system	.1139295	.1275254	0.372
	X2 Willingness to participate in continuing education	.1604516	.3769074	0.670
	X3 Willingness to pay to attend at one's own expense ***	.3442085	.1054598	0.001
	X4 Attitudes towards further education as a condition for promotion ***	.4605829	.1109423	0.000
	X5 Evaluation of the positive impact of continuing agricultural education on individuals	.0598768	.1572902	0.703
Characteristic of subjectivity	X6 gender	.076365	.1002649	0.446
	X8 Level of education	-.0479691	.0625377	0.443
	X10 Professional title	.0203313	.0549631	0.711
	X11 Whether the unit has established a continuing education system	.1823414	.1462449	0.212
Educational facilities and security conditions	X12 Whether the organization supports individual participation in continuing education ***	.546016	.1990053	0.006
	X13 Sources of funds to participate in continuing agricultural education ***	-.25701	.527119	0.000
	X14 The availability of modern educational means	.1635107	.1246672	0.190
	X15 Time per year available for continuing education ***	.5715729	.0698749	0.000
The educational environment	X16 Whether there are various channels for knowledge updating	.0078313	.0520344	0.880
	X17 Whether the surrounding knowledge structure is reasonable ***	.2608503	.0667149	0.000
	X18 Nature of unit	-.0220505	.0604207	0.715
	X19 Type of area *	.1050369	.0628139	0.094
	/cut1	1.82512	.614665	
	/cut2	2.678863	.6156254	
	/cut3	3.49873	.6233133	
	/cut4	4.337984	.6312878	

Sample observed value = 632

LR chi2(17) = 164.36

Prob>chi2 = 0.0000

Log likelihood = -698.79665

Pseudo R2 = 0.4052

* represents significance at the 10% level, ** represents significance at the 5% level, *** represents significance at the 1% level.

As for the influence analysis of the time of agricultural engineers participating in continuing education, this paper adopts ordered probit regression method to carry out regression. In the model, the actual time of annual participation: 1=1-6 days, 2=6-11 days, 3=12-20 days, 4= more than 20 days. The regression results are shown in Table 3.

As can be seen from the results of ordered probit model analysis in Table 3, the sample size explained is 632. LR chi2 (17) =164.36 is the likelihood ratio test corresponding to the invalid hypothesis of the model, and its value is Chi-square with the number of independent variables as the number of degrees of freedom. Prob>chi2=0.0000 is p value corresponding to the model invalid hypothesis test, Log likelihood=-698.79665 is logarithm likelihood ratio. Pseudo R2=0.4052 was the pseudo determination coefficient, indicating that the model had high fitting accuracy.

By comparing the results of this model with those of the previous model, it is found that the factors affecting the duration of participation in continuing education of agricultural engineering technicians and whether they participate in continuing education are almost the same, but the influence levels of individual factors are different. X3, X4 and X12, X13, X15 and X17 all reach a significance level of 1%. The X19 region type reached a significant level of 10%.

It is generally believed that if individuals actively participate in continuing education, they will generally fulfill the annual length requirements of the state in accordance with the requirements unless there is a conflict of irreconcilable units that do not support the disposable time. In particular, the more ideal the influencing factors are, the more likely they are to participate in continuing agricultural education. Of course, individuals will also consider whether their knowledge structure will take longer to learn. Therefore, in terms of whether to participate in continuing education or not and the average annual length of participation, the working principle of other influencing factors should be basically similar except for the different influencing degrees of disposable time, actual support of units and reasonable degree of knowledge structure.

Although the influence of the title factor is not obvious, the sign direction here becomes positive. The reason for the change may be that the state requires agricultural engineering and technical talents with intermediate titles or above to participate in continuing education for more than 15 days every year. Therefore, the participation time is different from whether or not to participate, and the symbol becomes positive.

Based on the above analysis, the duration of agricultural engineering talents' participation in continuing education is still subjectively influenced by their own payment and promotion intention, while objectively it is mainly subject to the support of the unit, the funds and time limit of participation. Generally speaking, the more the unit supports agricultural engineering talents to participate in continuing education, the longer their participation time will be. The rationality of knowledge structure also affects the duration of participation in continuing education of agricultural engineering and technical personnel to a large extent. The more unreasonable the knowledge structure is, the worse the learning atmosphere is, the shorter the participation in continuing education will be; while the more reasonable and perfect the knowledge structure of the personnel and the population, the longer the participation in continuing education will be. In terms of regional distribution, agricultural engineering and technical talents in provincial capitals and municipal cities have a longer time to participate in continuing education, which may be because scientific research institutions and educational units are generally located in provincial capitals and municipal areas, so it is more convenient to participate in continuing education, while agricultural engineering and technical talents at county level and township level are more likely to work in extension units or grassroots. As a result, the convenience of participating in continuing education is poor.

4. Conclusions

4.1. The Participation Behaviour of Agricultural Engineers in Continuing Education was Significantly Affected by Objective Factors

According to the empirical results and analysis of the research, the direction and degree of the participation behavior of agricultural engineering technical personnel in continuing education are

mainly affected by external and objective factors such as incentive mechanism, external educational safeguard measures and conditions, and environmental characteristics, while the subjective characteristics have no significant influence. In reality, the vast majority of agricultural engineers hold a positive attitude towards the importance of continuing education. Therefore, we should start from the objective factors, optimize the environment, improve the system, formulate measures, so as to promote the participation of Chinese agricultural engineering and technical personnel in the continuing education.

4.2. The External Guarantee Conditions for the Continuing Education of Agricultural Engineering and Technical Personnel Need to be Improved

Agricultural engineering and technical personnel with no professional title and low professional title have the problems of insufficient training time and less training time. Although about half of the agricultural engineering talents participate in continuing education for more than 12 days a year, more than 40 percent of those without professional titles participate in continuing education for less than 5 days. More than 60 percent of agricultural engineers and technicians are willing to pay for their own continuing education, but the amount of willing to pay is less. Therefore, the government should improve the financial support for the continuing education of agricultural engineering and technical talents, and the units should also give enough time to support participation in the continuing education, so as to improve the external guarantee conditions for the continuing education of agricultural engineering and technical talents.

4.3. The Participation Degree of Agricultural Engineering and Technical Personnel in the Continuing Education is not High and There is Utility

Although most agricultural engineers are aware of the policies and regulations of continuing education, the actual level of participation is not high and the duration of participation is low. The motivation of some agricultural engineering and technical personnel to participate in continuing education is not to update knowledge, but for their own promotion and assessment, which is utilitarian. This phenomenon reflects that the implementation of relevant policies and systems by the government is not high, and it is necessary to further strengthen the publicity and enhance the implementation. At the same time, relevant departments should also design education courses that meet the needs of personnel of different ranks, professional types and business scopes, so as to mobilize the enthusiasm of talents to participate in continuing education.

4.4. The Macro Environment for the Continuing Education of Agricultural Engineering and Technical Talents Still Needs to be Optimized

Good learning atmosphere and learning environment has a significant positive effect on the participation of agricultural engineering technical personnel in continuing education, but the regional differences are still large. On the one hand, the government should encourage and guide high-end talents to move from cities to towns and villages to the front lines of agricultural production, which can not only realize the combination of theory and practice, but also optimize the learning environment at the grassroots level. On the other hand, we should continue to improve the relevant laws and regulations, improve the assessment system for the continuing education of agricultural engineering and technical talents, implement the corresponding incentive system, and build a complete agricultural engineering and technical continuing education system.

Acknowledgements

References

[1] Thi Tam Duong, Tom Brewer, Jo Luck, Kerstin Zander. (2019) A Global Review of Farmers' Perceptions of Agricultural Risks and Risk Management Strategies. Agriculture, 1, 10.

[2] Deak Brooke P., Ostendorf Bertram, Bardsley Douglas K., Taggart David A., Peacock David E. (2021) The Influence of Land Use and Location on Landholder Attitudes Towards Feral Cat (Felis catus) Management in South-eastern Australia. Human Ecology, 6, 843-857.

[3] Simon J. Fielke and Geoff A. Wilson. (2017) Multifunctional intervention and market rationality in agricultural governance: a comparative study of England and South Australia. GeoJournal, 5, 1067-1083.

[4] Yibin Ying, Jinming Ban, Huirong Xu and el. (2021) Some thoughts on the construction and personnel training of agricultural engineering in China. Transactions of the Chinese Society of Agricultural Engineering, 10, 284-292.

[5] Lu Zhang. (2021) Research on the Cultivation System of modern Agricultural Talents under the background of scientific and technological innovation. Agricultural Economy, 11, 125-127.

[6] Xiuhui Li, Chaoqun He. (2019) Exploring the cultivation path of senior professional farmers in the new era. Adult Education, 9, 38-44.

[7] Hui Chen, Shuhe Zheng. (2019) Research and practice on Talent Cultivation System of "One body and two wings" Agricultural engineering specialty. Journal of Chinese Agricultural Mechanization, 10, 226-231.

[8] Agrawal RC. (2022) New Paradigms in Agricultural Education in India. Indian Journal of Plant Genetic Resources, 3, 50-52.

[9] Simon J F, Douglas K B. (2014) The importance of farmer education in South Australia. Land Use Policy, 39, 301-312.

[10] Yingying Yang. (2016) Reflection on the development of farmer's continuing education in the process of agricultural modernization. Continuing Education Research, 8, 36-38.

[11] Mengming Lv. (2022) Innovation and Practical Application of Teaching Management in Agricultural Continuing Education: A Review of Theory and Practice of Continuing/Adult Education in Agricultural Colleges. Chinese Journal of Agrometeorology, 3, 248.

[12] Jinhong Bao, Hongyu Zeng (2020) Cultivation of new professional farmers in minority areas under the background of agricultural informatization: Based on the investigation of nine villages in three places. Journal of South-Central Minzu University (Humanities and Social Sciences), 6, 101-106.

[13] Shengnan Huang, Tengfei Li, Zhigang Wang. (2013) An analysis of Continuing Education Participation Behavior of agricultural professionals: Based on survey data from Fujian, Anhui, Shandong and Heilongjiang provinces. China Rural Survey, 2, 11-20.

[14] Yadi Wang. (2022) Research on the Cultivation Mode of Agricultural Talents under the background of Rural Revitalization. Agricultural Economy, 7, 112-113.

[15] Martin M, Angela P. (2011) How agricultural is agricultural education and extension? The Journal of Agricultural Education and Extension, 3, 219-222.