RESEARCH ARTICLE

DESIGNING AN AGRICULTURAL EDUCATION PROGRAM MODEL IN AGRICULTURAL MINISTRY, IRAN

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ABSTRACT

The purpose of this is to study a pattern for agriculture education program Agricultural ministry. A mixed method study (Quantitative + Qualitative) was used for this study. In qualitative section semi-structured interview, focus group and descriptive-analytical methods were used in the qualitative and quantitative sections, respectively. The quantitative research population included bt 1600 agents in the agricultural system, that393 people were driven by Cochran formula. Quantitative sampling was done as non-probabilistic purposive methods and quantitative sampling was done by random cluster sampling. Data was collected by interview in qualitative section and a researcher-made questionnaire in Quantitative section. Since the data analysis was exploratory, we therefore used systematic coding for the qualitative section and descriptive statistics (mean, standard deviation, coefficient of variation)and t-test, structural modeling, factor analysis were used in the quantitative part. Qualitative findings showed that primitive constituent aspects of rural educational planning pattern involved 8 components and 32 sub-components. The quantitative findings showed that there was a significant difference between the empirical mean and the desired in 0.01 level in all components and present rural education status was not Significant relationship with dependent variable of study. The results of two confirmatory factor analysis phases showed that the identified components and sub-components had fit and adequate factor loading to determine agricultural education program.

INTRODUCTION

The agricultural sector is a platform for creating wealth from the path of production and productive employment. At present, a significant and, at the same time, impressive part of the country's population is working in the agricultural sector. Statistics show that, despite the fact that farmers are responsible for about 90% of the value of food needed, 32.5% of the value added generated from the country's business, ¼ of GDP, 90% of the needs of the country's raw materials for transformation industries and productive employment of more than 19% of manpower in the country in 34,000 rural and agricultural settlements, (Program of Minister for Agricultural for the 12th government, 2017) they have always been accompanied by a reduction in the overall productivity of social factors, especially economic and productive factors, and the mean performance of their professional activities has a low level. As in recent years, to compensate for this issue, developmental policies for agriculture and farmers have been largely achieved through the continuous injection of subsidies and other factors of production, and due to their low attitude,

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knowledge and skills, the effect and yield of the value added of manpower of this sector in social and economic activities have always declined. (Economic Research Office of Agriculture, 2014).It is worth noting that theshare of human resources in the production and economic returns in agriculture of Japan is 80, Germany 78, Turkey 72 and Iran at most 34%. (BarimNejad, 2011). On the other hand, the essential topic of agricultural education in this study includes all the educational activities in the attitude, knowledge and skill dimensions that are carried out in the field of rural housing and agriculture in the country to improve the social and economic, especially professional performance. Among the topics of the agricultural sectordevelopment, educationshould be called as the basic principles and as the root of the development tree (Jomepour, 2010). For this reason, human resource investment and agricultural education and support for this sector to maintain and sustain the villagers and farmers to provide food security is a red line in most countries in the world, including in industrialized countries and even the United States. (Irvani, 2015). In the area of the effect of empowerment training on farmers' success, research shows that there is a significant difference between the knowledge of the two groups of farmers participating in the training course and those who did not participate. On the other

hand, having a desirable training model is considered as the most important requirement. (Abdolmali, Pezeshki Rad and Chizari, 2012). But today, due to the lack of attention of policymakers in our country, agricultural education is passing its decline period, and it may confirm the fact that attention has not been paid to rural and agricultural education in line with massive and unequal cultural and educational investment for the cities (Sha'ban Ali Fami,2014). Despite the fact that knowledge and information are the most basic needs of farmers, there is no specific place for education programs for farmers and people living in rural settlements in the education system of the country. (Karami Dehkordi, 2011).studies have shown that there is a significant relation between multiple components in the agricultural education field, for example: Chawang (2011), in examining the educational needs of villagers and farmers in Nagaland, showed that there was a significant relation between personal, social and economic characteristics and their educational needs. Padaria et al., (2009), in analyzing the educational needs of villagers and farmers in Carnota, showed that there was a significant relation between the source of information and their educational needs.

Mudukuti and Miller (2009), in examining the factors related to the educational needs of rural women in Zimbabwe, found that the most important factor affecting the educational needs of rural women was access to their apparent need. Findings from the research by Munt (2012) in Ohio showed that in the areas of education and empowerment of farmers, proper planning, learner behavior management, execution and educational assessment are the most important professional needs of educators. The results of study by William (2011) suggest that an optimal agricultural education program should be an ideal solution to better support for the diverse needs of its audiences. Over the past decades, the agricultural education system in Iran, as an activity and structure, rather than offering and benefiting from educational model, approaches and methods related to the characteristics of villagers and farmers, were mostly done based on the tastes and capabilities of managers and public administration actors. That is why (Swanson et al. 1990) consider a system and knowledge of agricultural education including developmental components and policies, socio-cultural factors, and ecology appropriate to the needs and problems of farmers, the effective and
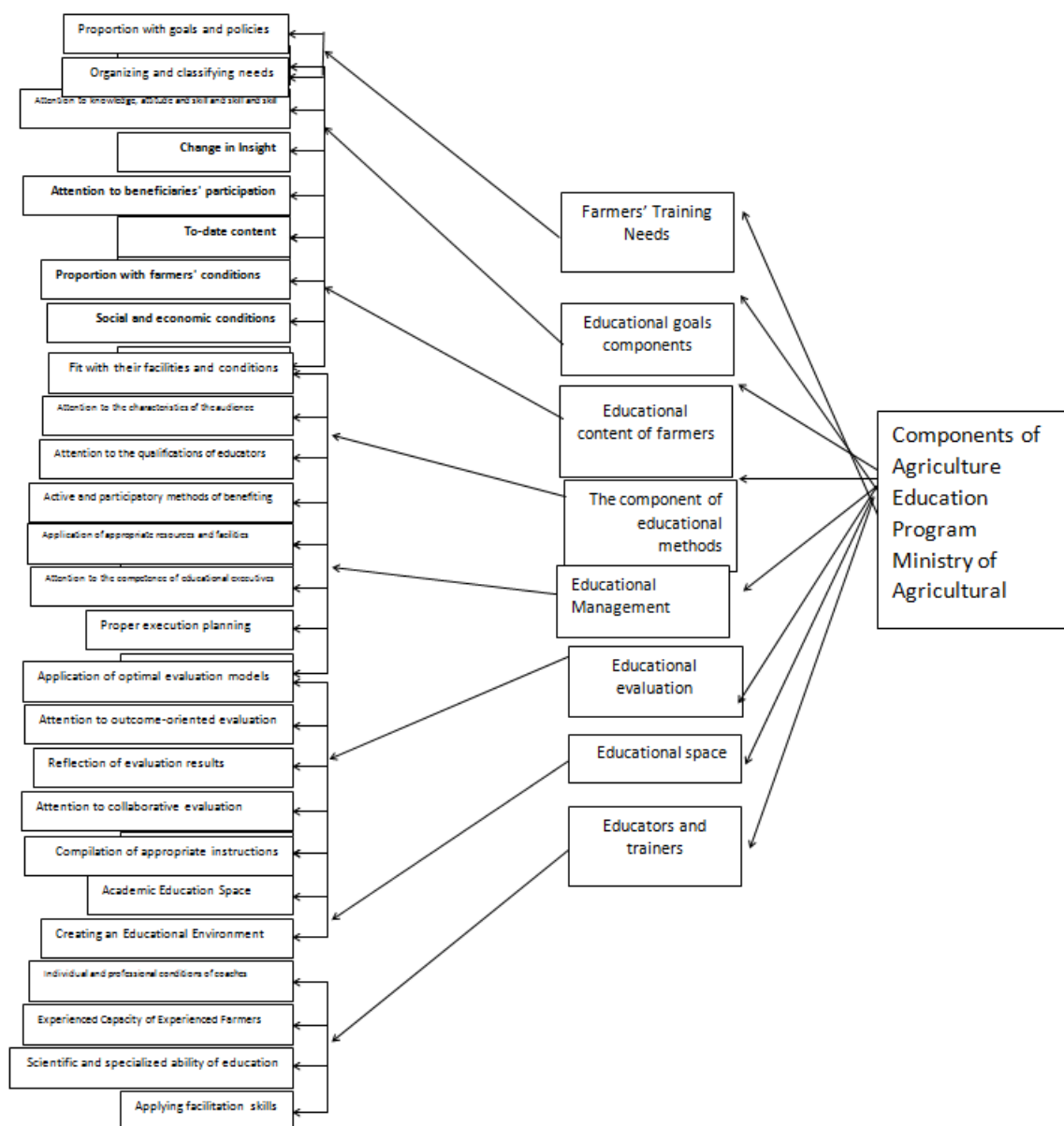

Figure 1. Theoretical model of agricultural education program components Ministry of Agriculture

institutional structure and factors, the process of empowerment and management of learning in each country, which are closely interconnected. The results of research by Foroushani et al., (2014) also showed that the lack of coordination of the farmers' education system of the country with the new patterns were the most important problem in this sector. Although the research results by Monfared (2013) indicated that the effects and benefits of existing education are not equal to their actual value and importance. A systemic model (Barnard 2007) as a comprehensive and systemic model states that a learning system must have a functional model including input, process, and output.

In agricultural education, factors such as educators, educational content, organization of the establishment, technology and methods, policies and strategies of farmers' training, political and economic structure of rural society, and changes in science and technology of education are components and factors influencing the education system (Hosseini, 2015). Suitable training is the most important factor in the economic, social and political development of villages (Jomepour, 2010). However, problems such as lack of access to educational centers, low adaptability of educational content to learners' needs, lack of experienced trainers, and lack of accountability of traditional methods to the audiences of the agricultural education system are the factors for the failure of this system. (Yordanova, 2013). Promoting the attitude and understanding of farmers to accept innovations and changes in its various dimensions requires using a model, knowledge system and considering the ecologic, economics, socio-cultural characteristics, as well as the technical aspects of educational planning and learning and empowerment management in each country (De Bourne and Morgan 2014). Because the results of a desirable model will quantitatively and qualitatively increase the factors affecting the education and training of manpower employed in the agricultural sector and improving the basic standards of living as well as the professional use of farmers. (Malek Mohammadi, 2016). On the other hand, due to economic and social changes in various fields, the necessity of designing a suitable model to meet the needs of the villagers and farmers is felt more and more (Scott, 2010). Thinking about the quality of education and the improvement of educational services in the form of a new educational model can be of special importance. (Bicket, 2012).

Based on the above mentioned points, and considering theoretical foundations and backgrounds of the subject, it can be admitted that having a developed and effective village in the country's development requires knowledgeable and skilled farmers, and this is also achieved with the training and empowerment tools (Shahbazi, 2016). Therefore, the main issue of this study is not just paying attention to agricultural education, since officials and planners have done considerable works to systematize and prioritize formal and focused education outside of agricultural environments and with the approach of government decision making and its generalization to rural and agricultural audiences, but it seems that to have an active, dynamic and productive agriculture, along with a developed villages and with the participatory people, beyond the measures taken, we need an effective model for active participation of farmers alongside educators in agricultural environments, and it is a subject that has been less concerned so far (Kalantari, 2004).

METHODOLOGY

The purpose of the research was to design a suitable model for the agricultural education program in the agricultural ministry, Iran. Thisstudy was carried out in a quantitative and qualitative method. Therefore, in the qualitative section, firstly, to identify the initial concepts and components of the agricultural education program, by using a non-probabilistic targeted method, 15 experts and knowledgeable individuals with scientific or executive background were selected and a semi-structured interview was performed. In the following, the data obtained from the initial interview after passing some stages (review of data, coding guide development, data organization, data classification, open coding, core coding, and compilation of the final report of the analysis) were classified, and related concepts were identified. Then, in the second stage of the qualitative section, in-person interviews and validation of the initial conceptual components were used to modify and refine the results of the analysis and, the number of 8 people of the key and homogeneous informants who participated in the first phase of the interview were selected and the initial conceptual model was modified and validated by using the focus group discussion method. In this way, the basic concepts that were common in the higher classes included eight main components such as: needs of farmers' education, component of educational objectives, agricultural education content, component of educational methods determination, agricultural education management, training assessment, training space, and trainers and educators of farmers training courses and 32 sub-components and 152 questions were identified and extracted.

In the quantitative section of this research, descriptive-analytic method was used to describe and test the proposed concepts and components from the perspective of the population to study the relations between concepts and the primary model. The statistical population of the study consisted of 1600 agents of agricultural education system including managers, heads of departments and offices, faculty members, executives and trainers who are responsible for educating and empowering farmers in 64 Agriculture Research and Training Centers throughout the country. The sample size was determined as 393 people using the Cochran formula. Regarding the fact that the statistical population consisted of five different categories of people, proportional stratified method was used to determine the share of each class of all samples. A random cluster sampling method was used to determine the samples. The data were collected using a researcher-made questionnaire based on the content of the primary data of the qualitative method. To determine the construct validity of the questionnaire, a convergent validity method and confirmatory factor analysis were used. To calculate the reliability of the questionnaire, a preliminary test was carried out on 30 related samples, which calculated the Cronbach's alpha coefficient at 94% level, indicating its reliability and internal consistency. For analyzing quantitative data, descriptive statistics, t-test, factor analysis, and structural equations were used.

RESULTS

The results of data analysis collection and analysis of the data and information obtained from the research are examined separately for each research question as follows.

Table 1. Identified components for the agricultural education program derived from semi-structured interviews

Agricultural education components)	Educational needs assessment	Educational goals	Educational methods	Educational content	Education Management	Educational assessment	Educational space	Agricultural education teachers
Identified concepts	8	10	14	9	15	5	6	18

Table 2. Results of the testing respondents' viewpoints on the desirable status quo of components

Component name	Levels	Mean	Standard deviation	Amount of tcalculated	Degrees of freedom	Significance level
The educational needs of farmers	Current situation	3.018	-0.48	25.89	386	0.000
	Desirable situation	3.984	-0.43			
Educational goals of farmers	Current situation	2.943	-0.57	24.15	392	0.000
	Desirable situation	3.917	-0.35			
Educational content	Current situation	2.917	-0.44	20.95	389	0.000
	Desirable situation	3.685	-0.35			
Educational methods	Current situation	2.651	-0.31	30.75	0.391	0.000
	Desirable situation	2.807	-0.36			
Educational management of farmers	Current situation	2.92	-0.39	34.35	388	0.000
	Desirable situation	3.95	-0.38			
Educational evaluation of beneficiaries	Current situation	2.53	-0.32	52.60	392	0.000
	desirable situation	3.90	-0.39			
Educational space	Current situation	2.93	-0.44	20.95	389	0.000
	Desirable situation	3.86	-0.51			
Trainers of training courses	Current situation	2.94	-0.36	34.90	0.388	0.000
	Desirable situation	3.86	-0.29			

Table 3. Results of the compliance rate of the research model with fitness indicators

Fitness indicators	Accepted domain	Value	Result
$\frac{x^2}{df}$ ( ) Relative chi-square	Less than 3	2.85	Acceptable
(RMSEA) the square root of the variance of the error of approximation	Less than or equal to 0.08	0.069	A good fit
(SRMR) Standardized Root Mean Square Residual	Greater than or equal to 0.90	0.91	very good
(CFI) Comparative fit index	Greater than or equal to 0.90	0.90	A good fit
(NFI) normed fit index	Greater than or equal to 0.90	0.91	very well
(NNFI) non-normedfit index	About 1	0.93	very well
(GFI) Goodness of fit index	Greater than or equal to 0.90	0.91	very well
(AGFI) Adjusted Goodness of Fit Index	Greater than or equal to 0.90	0.91	very well

In the first stage, the research sought to answer the question what the factors affecting the selection of the agricultural education program of the Ministry of Agriculture are. Qualitative research method was used to answer these questions. To this end, a semi-structured interview was done with the key informants in the field of agricultural education, who had research experiences, academic background, or work experience that the results of the verbal statements of each listener in relation to the components of the educational program was set in a primary table including 15 interview sections and 154 short-response interviews as well as 90 codes of identified concepts. In the second stage classification, the identified concepts were modulated in the form of 8 main categories and 85 identification concepts.

In the second stage, the research question was how the theoretical model of the agricultural education program of Ministry of Agricultural is. To answer this question, after identifying and codifying the concepts and components in the first phase of the interview, to determine the validity of the data obtained from the semi-structured interview and with the aim of completing the analysis and validating the identified components, modifying the items and agreeing on identified components, the focus group discussion was held by attending 8 key informants who participated in the in-person interviews. After recording and open and axial coding of data, the following conceptual model was developed in the form of 8 main components and 32 sub-components as described below.

Table 4. Values of loads extracted from confirmatory factor analysis

Agent name	Model sign	Standardized load factor	t-value	AVE	Combined reliability CR	Cronbach's alpha A
Educational need assessment	Q1	0.77	-			
	Q2	0.86	11.49	0.666	0.799	0.761
Educational goals	Q3	0.57	-			
	Q4	0.50	7.76			
	Q5	0.70	8.95	0.532	0.729	0.712
	Q6	0.61	8.34			
	Q7	0.57	7.78			
Educational content	Q8	0.64	-			
	Q9	0.57	8.12			
	Q10	0.65	9.47	0.536	0.758	0.710
	Q11	0.67	10.02			
Farmers' training methods	Q12	0.50	-			
	Q13	0.51	6.98			
	Q14	0.88	8.65	0.566	0.806	0.752
	Q15	0.65	7.79			
	Q16	0.79	8.44			
Farmers' training management	Q17	0.78	-			
	Q18	0.70	12.14			
	Q19	0.72	12.36	0.556	0.833	0.786
	Q20	0.78	14.14			
Educational evaluation	Q21	0.71	-			
	Q22	0.77	12.96			
	Q23	0.75	13.98	0.614	0.888	0.785
	Q24	0.84	13.93			
	Q25	0.84	13.00			
Educational environment	Q26	0.79	-			
	Q27	0.67	12.23			
	Q28	0.98	14.79	0.678	0.860	0.796
Educators of agricultural education	Q29	0.93	-			
				0.641	0.876	0.802
	Q30	0.78	13.99			
	Q31	0.81	14.22			
	Q32	0.66	10.60			

Table 5. Ranking of the first order construct effect in formation of second order construct, along with t-value and factor loads

Rank	First order construct on second order construct (agricultural education)	γ	T	Sig
1	Agricultural training need assessment	0.76	11.98	0.01
2	Educational goals	0.95	10.18	0.01
3	The content of agricultural education	0.91	10.18	0.01
4	Teaching methods	0.92	88.8	0.01
5	Educational management	0.83	13.44	0.01
6	Evaluation and educational assessment	0.88	13.68	0.01
7	Agricultural education space	0.88	14.30	0.01
8	Educators and education executors	0.86	14.91	0.01

In the following, the current and desired state of the agricultural education program was considered as the third question. To answer this question, a questionnaire containing components and sub-components obtained from the qualitative stage was designed and used as a tool. A questionnaire was distributed among 393 respondents and after collection, comments were extracted. After describing the demographic data, to study the desired status quo of prioritizing the obtained components and sub-components, the rank mean, standard deviation, coefficient of variation of components and sub-components were calculated. Then, t test was used to test the descriptive results as well as the comparison of the mean of the research components in the existing and desirable situation.

Considering that the observed t in all components was larger than the table t and there was a significant difference between the experimental and desired mean in all the components at 1% level, it can be said that from the perspective of studied population, the components of the research is very significant and in the present situation, the components of the agricultural education program were not suitable in terms of matching with the components of the research questionnaire. The fourth question of this study was to examine the validity of the proposed model for the agricultural education program. For construct validity of the questionnaire and fitness of the confirmatory measurement pattern of the agricultural education program, the data were analyzed using LISREL8.5,

confirmatory factor analysis and structural equations. To measure the fitness of the model, eight statistics and indicators were used. The results of the compliance rate of the research model with the indicators were presented in Table 3. Based on the results presented in Table 3, the fit indices indicate goodness of fit of the studied model with the observed data. The Chi-Square index on the degree of freedom with a value of 2.85 and t quantities (at the significant level 1%) indicates the desirable validity of the indices. Also, considering that the Goodness of Fit Index (GFI = 0.91) and the Adjusted Goodness of Fit Index (AGFI = 0.91) are closer to 1, it suggests goodness of fit of the model (Hooman, 2012). Also, the root mean score of residuals (RMSEA = 0.069), which is an indicator for measuring the mean residuals, was confirmed in this study. However the index is smaller, it indicates the better fitness of the model (Kalantari, 2009).

Also, the study of the effect of the latent factors of the observed variables with the underlying variable at the higher level as well as the level of validity, significance and goodness of fit of all the variables in the second-order construct was measured by using t-test. The results were analyzed in the table below. The results of the significance coefficients in Table 4 showed that the t-values for all studied variables were larger than 1.96, and as a result, the relations of these variables were significant with the relevant factors. Also, based on the results of Table 4, the average variance extracted (AVE) for structures is at an optimal level (higher than 0.5) and construct reliability (CR) for all latent variables (constructs) is more than 0.6; therefore, the results of measuring the second-order model of rural education program in the country provide acceptable evidence for the reliability of indicators for the operation of latent variables.
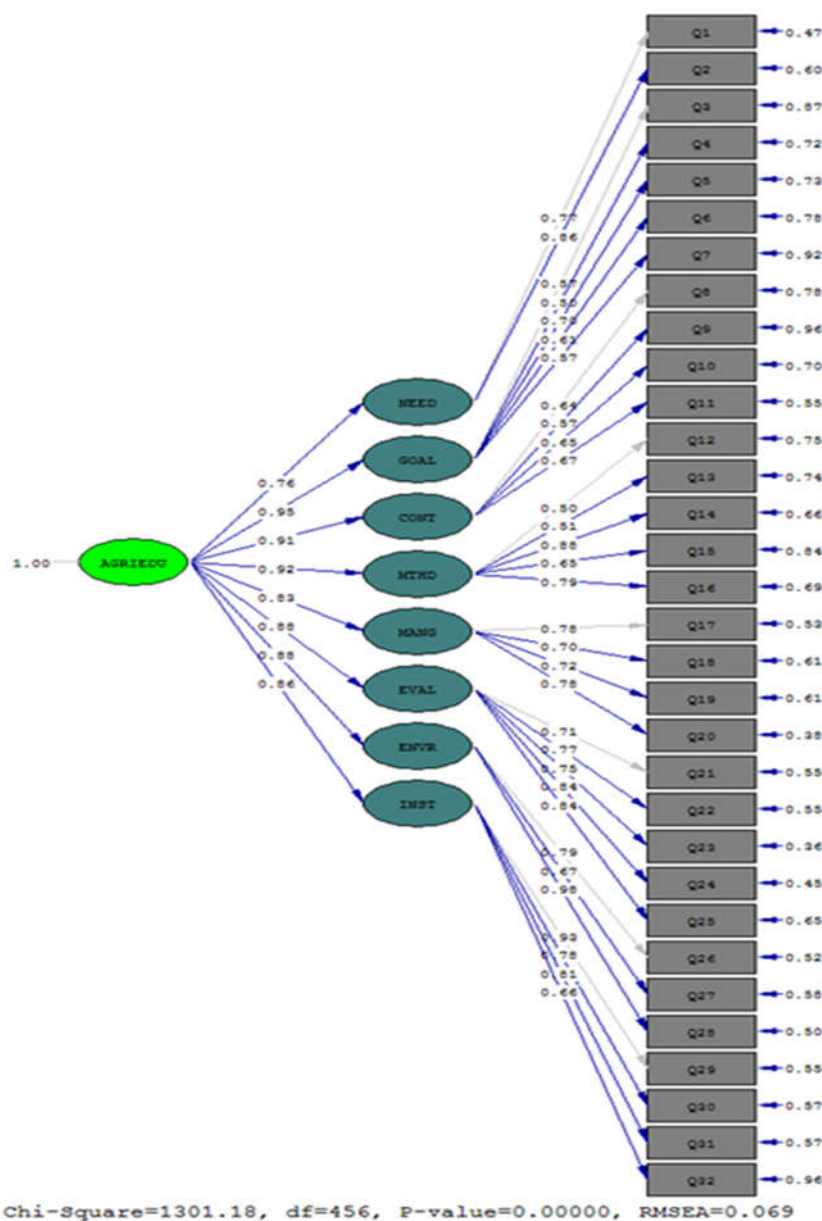

Chi-Square=1301.18, df=456, P-value=0.00000, RMSEA=0.069

Figure 2. Fitted model of agricultural education program of agricultural ministry of

As can be seen from the fitted model in Table (3), the standardized factor loadings of the items indicate that the instrument of measurement has appropriate construct validity.

To use the ranking and determining the factor load share (gamma coefficient) of each of the constructs effective in the formation of the patterns and the final construct of the training program model and empowerment of farmers in the country,

the coefficients and its significant value was calculated using t-values. (Table 5) Table 5 shows that the agricultural education program is a function of eight latent variables. It can also be said that the structural equations show the intensity of the relation between the first order and the second order factors. Table 5 shows that the agricultural education program is a function of eight latent variables. It can also be said that the structural equations show the intensity of the relation between the first-order and the second order factors. Based on the amount of gamma coefficient, educational goals (0.95) played the most important role in the second-order construct in rural education programs. After that, the educational methods latent variable (0.92) and educational content (0.91) were identified as the strongest related construct in this research. In addition, it should be acknowledged that the effect of all the latent variables on the formation of second order construct is statistically significant ($t > 1.96$).

DISCUSSION AND CONCLUSION

In this research, by focusing on the presentation of a suitable model for the agricultural education program, first 8 components and 32 sub-indices were identified in the qualitative stage using semi-structured interview and focal discussion. In the quantitative stage, the components were examined according to the present situation. Finally, a model for the agricultural education program of the Ministry of Agriculture was presented by analyzing the paths and relations derived from component interactions. Discussion and conclusion of interactions shows that:

The results of t-test, factor analysis and component fitness showed that educational needs of farmers were the basis for the process of each desirable educational program and was statistically at a significant level affecting the formation of the educational program model. Hodger (2014) also confirmed this result in his research entitled "Study and Modeling Educational Needs of Farmers in Mazandaran Province". The result of the study showed that 22.3% of the probability of successful farmers' empowerment training programs is due to proper diagnosis and determination of the variables of educational needs, if the need assessment is often based on the current state-owned programs. The results of the study by Barrick and Defort (2012) highlighted the importance of attention to the educational needs of farmers in the American educational program. Dahama and Sandhu (2013) also came to the conclusion that the real need for agricultural education is whenthey understand the real difference between the existing and desired status and seek to satisfy the motivated needs.

Also, the results of t-test and structural equation analysis showed that the component of the objectives of agricultural education program and its 5 sub-components (95%) had the most important role in the final construct of the farmers' training program model. Research by Ali Mirzaii et al., (2010), Fatemi Amin and Fooladian (2009) are consistent with the results of this research. They showed that one of the prerequisites for the success of farmers' training programs is to precisely determine the objectives of training programs and attempt to meet it. Henan studies (2003) have identified that the objectives of educating farmers should be tailored to the needs of the community. On the other hand, the results of gamma coefficient and structural equations of research showed that component of educational content and its 4 sub-

components with 91% was one of the most effective components in forming the construct of agricultural education model. This result is consistent with the studies by Kelsey and Hearen (2009) who believe that an appropriate content of the educational program for farmers is a proposition of the status, goals and problems and appropriate solutions for the needs of the villagers. Leagans(2010) also considers the content of a farmers' training program a set of conscious goals that can be determined on the basis of a careful analysis of the agricultural and farmers'self-analysisgiven the local community conditions, and is realized through the process of learning-training. Path analysis of research and structural equations showed that the component of rural teaching methods and its 5 sub-components with 92% were identified as the strongest component for the formation of structures. The results of the research by Fatemi Amin and Fooladian (2011), showed that considering the methods appropriate to the conditions and characteristics of the rural audience before the implementation, is one of the important and influential factors in the farmers' training program. In this regard, Mukherjee's(2011) Development Theory also states that the farmers' empowerment method must be selected by their viewpoints. Bower Pretiet al.,(2008) concluded that without using participatory approaches and the views of rural audiences in determining methods, achieving educational goals and empowerment and sustainable development of villagers is difficult. They emphasize that every educational method should provide villagers with the self-developmental ground while valuing their knowledge and skills. Also, according to Mikkelesn and Jamieson (2009), selecting the method for implementing rural empowerment programs should be considered and used according to their conditions, attitudes, values and knowledge.

One of the components which were involved in this research as a significant variable in the development of the model was the farmers' training management and its four sub-components. From the perspective of the subjects, the present situation of the component is far from the desired condition. Research by KhatibZanjani et al., (2011) showed that the farmers' training program management is an important factor and includes considering the use of appropriate resources and facilities, paying attention to the competence of the human resources of the training centers, the use of experienced staff in educational positions, adequate training program, optimal assessment of educational programs and motivation for educational human factors.

Also, the results of t-test showed that the evaluation of training is one of the components that have adirect effect on the formation of the farmers' education model in the country. Farahani(2012), in his research, showed that evaluation is an important step to improve the quality and educational activities. (Guba and Lincolin, 1990) showed that evaluation is the study of the process of the correct application of educational activities. FAO (1995) in his research showed that the main goal of evaluating farmers' education is to identify the effects of the training course on their performance and behaviors which is followed with their participation. The results of this research also indicate that farmers' education educators and its 4 sub-components have a significant effect on the success and development of the appropriate educational program. The result of the study by Koster et al., (2005), also showed that educators should have the expertise of specialized

knowledge, including having the necessary information in the field of specialized knowledge, development and keeping it up to date, communication including communication with audiences with different backgrounds, conducting tasks, analyzing and clarifying the organization's learners' perspectives including identifying the audience performance system, time management and setting the educational program in accordance with educational goals, pedagogy including helping learners and identifying learning needs, setting educational program based on the needs of different audiences, designing activities to facilitate learning and learners' development, using IT in teaching, behavioral competence including havinga democratic approach, the pre-action attitude, curious about new events and honesty and integrity. Investigating the path factor analysis of the present research and the 5 sub-components also showed that the component of educational environment was one of the important components of the educational model in forming farmers 'educational programs. This component is consistent with the results of the survey by Polkinen, Salmon, and Checkland(1999). They showed that the villagers 'educational situation, all acceptable behaviors, all expectations and specific affairs, the learning environment including all objects, areas and behaviors of actors that contribute to the development, implementation, and evaluation of the work processes of that environment and are manifested in both physical and cultural dimensions.

The executive suggestions arising from the research are as follows:

- The need assessment of the farmers 'educational program covers all behavioral aspects affecting the establishment and development of farmers, including the needs of feelings, problems, interests and priorities.
- It is suggested that the development of the objectives of agricultural educational programs should be able to develop the insight, skills, and knowledge in the field of social and economic activities, in particular their professional activities, while being comprehensive.
- Selection of educational and participatory methods appropriate to physical and mental characteristics, levels of past experiences, farmers' cultural characteristics include additional motivational conditions, and facilitating the transmission of content to the audience.
- The evaluation of agricultural educations includes the realization of academic achievement, the improvement of the teaching - learning and objective process and based on the facts and the knowledge existing on the resources, facilities, trainer status, and level of learner, and doesn't cause their disappointment and failure and unwillingness to attend the training courses.
- Based on the results of the research, in the present situation, educators of the farmers' training program have a low level of skill and ability; therefore, it is suggested to use the practitioners to improve their communication and scientific skills.
- According to research findings on the educational environment, it is suggested to plan the educational activities of farmers by considering the potential of their living and work environment and active and group participation.
- Qualifying periodic training for farmers, providing incentive packages for farmers to attend in empowerment training courses and providing appropriate materials and training resources for farmers.
- Finally, managers and officials of rural empowerment education are suggested to provide theground for the approved model in the future educational program.

Limitations of this research include the inherent limitations of the questionnaire as the measurement of personal perception from reality, the limitation of research in the humanities, the multidimensional nature of the subject of agricultural education as well as the scope of research in the whole country and the issues arising from the quality of data collection that the researchers are suggested to examine the external dimensions affecting the agricultural education program in the future and do comprehensive studies at the provincial level to investigate in this field.

REFERENCES

Abbasi Rostami, A. A., Zabihollahnejad, Naserand Charmchian Langroudi, Mehdi 2014. Modeling the Educational Needs of Supervisors of Rice Cultivation and Production of Mazandaran Agricultural Consultancy Service Companies, *Journal of Agricultural Educational Management,* No. 32, pp. 41-57

Abdolmaleki, Pezeshki Rad, and Chizari, 2012. Effectiveness of In-Service Courses for Trainers in Agricultural Education Centers in Enhancing Their Technical Knowledge. *Journal of Agricultural Promotion and Education Science,* Vol. 3, No. 2, pp. 97-104.

Abedi, B. Baradaran, M. Khosravi Pour, B. Yaqubi, J. YazdanPanah, M. 2017. Formation of Agricultural Entrepreneurship and Natural Resources University Model from the Viewpoint of Education Management, *Agricultural Education Management Research*, No. 38, pp. 124-139

Alavian, Jaber and Noori, Hedayatollah 2015. Analysis of Factors Affecting Farmers 'and Villagers' Behavior in the Application of Educational Services in Guilan Province. Year 4, Issue 4, (2015), Serial No. 12, pp. 163-176.

Alavian, Jaber and Nouri, Hedayatollah, 2015. An Analysis of Factors Affecting the Rural Behavior in the Application of Educational Services in Guilan Province. Year 4, No. 4, (2015), Serial No. 12, pp. 163-176.

Fami, Sha'ban Ali. GholiBeigi, Hossein, Sharif Zadeh, Abolqasem 2005. Approaches and techniques of participation in promoting agriculture and rural development. Publication of Rural Development Institute, pp. 1-354.

Fami, Sha'ban Ali. Kalantari, Khalil,Asadi Ali 2008. New Issues in Agricultural Promotion and Education, Agricultural Education, Research and Promotion Organization publication, 1-303

Fardanesh, Hashem. 2007. Classification of constructive design patterns based on learning and teaching approaches. Ferdowsi University Press, pp. 1-195

Ghanbari, Yousef and Barqi, Hamid 2009. Investigating the Factors Affecting Rural Education Productivity Enhancement. RahbordYas Journal. No. 18

Hosseini, Zahra. 2015. Using the constructivism model to increase the knowledge of technology integration. Scientific – Research Journal of Technology Education, Vol. 10, Issue 2. Pp. 155-164.

Irvani, Houshang. Behravan, Jaleh 2015. Human Resource Development Management (New Educational Approaches). Tehran University Press, pp. 78-195

Jomepour, M. 2010. An Introduction to Planning for Rural Development (Perspectives and Methods). SAMT Publications, pp. 1-254.

Kalantari, K. 2004. Rural Sociology. Publications of Payame Noor University, pp. 1-230.

Karami, M. 2008. Designing an Optimal Model for Educational Design in Organizations. Second Conference on Iranian Human Resources Empowerment.

KaramiDehkordi, Esmaeil. 2011. Farmer Training in Rural Public Schools, Jihad Monthly, No. 204, 40-61.

Kaufman and Herman 2005. Strategic Planning in the Educational System (translated by Abbas Bazargan, FaridehMashayekhi), Madrese Publications, pp. 1-85

Krsul.Plano Clarke 2012. Combined research methods (translated by AlirezaKiamanesh, Maryam DanaeiTusi), Jahad University Press - AllamehTabatabaeeBranch, pp. 1-162

MalekMohammadi, Iraj 2016. Agricultural and Natural Resources Promotion and Education: Fundamentals, NashrDaneshgahi Publications, pp. 1-438

Mohobzadegan, Yousef 2013. Designing the Faculty Development Model in Tehran Universities. Doctoral dissertation, Department of Educational Management, ShahidBeheshti University: Faculty of Education and Psychology.

Naeimi, Amir,Najaflou, Parisa,Sobhani, Seyyed Mohammad 2015. the role of education, promotion and information in the development of biotechnology from the perspective of experts, No. 33, pp. 97-110.

NavehEbrahim, Abdol-Rahim and Pourkarimi, Javad 2014. Presentation of a conceptual model for the improvement of faculty members of universities and higher education institutions. Quarterly Journal of Educational Systems (2) (5) 101-121

Qaemi, Alaleh. Larijani, Harim. Shobeiri, Seyyed Mohammad Sarmad, Mohammad Reza 2016. Development of an Environmental Education Model for Strengthening the Sustainability of Agricultural Primary Resources, Journal of Urban Management, No. 44, pp. 77-96.

Sarmad, Gholam Reza. 2015. Adult Education and Continuing Education. SAMT Publication, pp. 1-352

Shah Pasand, Mohammad Reza, 2009. Determining the Components of the Professional Development of Coaches in Education Centers in the Ministry of Jihad-e-Agriculture. Iranian Journal of Agricultural Economics and Research, No. 40, pp. 139-148.

Shahbazi, Esmaeil 2016. Rural development and promotion. Tehran University Press, pp. 1-804

Websites

B., Morgan, M., and Price, L. 2015. The theory of planned behavior as a model for predicting public opposition to win farm developments. *Journal of environmental psychology*, 36(1),70-76

Barrick, R. K. and D. L. Doefort 2014. Assessing performance and planning in-service needs of first - year vocational agricultural teacher, *The Journal of the AATEA*, (31)3:10-19

Barrin, K.R. and Ladewig, H.W. 2007. "Development of a systematic approach to identify technicalin service needs of teachers", *The Journal of American Association*. 21(1):13 - 20

Barro, G. D. 2012. A needs assessment model for conducting follow-up studies. The Journal of Teacher Education, 31 (3): 39-42

Becket, N and Brooks, quality management in higher education: what quality are we actually

Bernard, G. D. 2013. A needs assessment model for conducting follow-up studies. The Journal of Teacher Education, 31 (3): 39-42

Koster, Bob and Mieke, Brekelmans and Fred, Korthagen and Theo, Wubbels, 2005. Quality requirements for teacher educators,Teaching and Teacher Education Vol. 21, Issues 2

Legans L. 2010. Embedding quality: the challenges for higher education. Quality Assurance in Education. 12(4): 157-65

Mudukuti, A. E. and Miller, L. 2013. Factors Related to Zimbabwe Women's Educational Needs in Agriculture. Proceedings of the 18th Annual Conference. Retrieved from http://www.AIAEE.org

Padaria, R. N. Baldeo Singh, N. Sivaramane, Yaswant K. Naik, Ravi Modi and S. Surya, 2009. ALogit Analysis of Bt Cotton Adoption and Assessment of Farmers' Training Need

Poleklinte, S. Land, G. 2013. Company based life-long learning. Journal of high technologymanagement research. 11(2), 259-319

Viliamez‹-Peter 2012. A model for facilitating curriculum development in higher education: a faculty-driven‹data-informed‹ and educational developer- supported approach. In www.interscience.wiley.com. (2009- 11-16)

W. E. 2013. Analyzing Agricultural Technology Systems: some methodological Tools.in R. Methods for Diagnosing Research Systemic constraints and Assessing the Impact of Rural Research: VoI. I. The Hague: ISNAR

Website of Iranian Agricultural Information and Scientific Documents www.agrisis.areo.ir

Website of the Ministry of Agriculture Jihad www.maj.ir

Website of the Office of Farming Jobs www.heraf.areo.ir

Website of the Office of Investigation and Coordination of Research Projects of the Ministry of Jihad-e-Agriculture WWW.hamahangi.areo.ir

Website of the Office of Scientific Relations and International Cooperation of the Ministry of Jihad-e-Agriculture www.disr.areo.ir

Website of the Organization for the Agricultural Study and Promotion in Iran http://www.areo.ir

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