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Barriers of Entrepreneurship Education Courses Delivering in Agricultural Applied Scientific Education Centers (AASECs); Case of Fars Province, Iran

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ABSTRACT.

Entrepreneurship courses had a tremendous potential to improve the knowledge and skills of the students in Agricultural Applied-Scientific Education Centers (AASECs) to make a business after graduating. This study was designed to analyze barriers of entrepreneurship education courses delivering in AASECs in Fars Province. The population of the study consisted of all 1018 students in four AASECs in Fars province (Shiraz, Jahrom, Aliabad Kamin & Marvdasht) in 2010-11 academic year. A multi-stage stratified random sampling was applied to select 178 students as samples research. The instrument for collecting data was a questionnaire, which its validity was confirmed by a panel of experts. In addition, the Cronbach's alpha coefficient was calculated (α= 0.89) that confirmed the reliability of the scale used in the study. The factor analysis results showed that, weakness in supportive and counseling services (*19.50%*), inadequate of applied education (*17.89%*), inadequate of recognizing of financial and management regulation (*11.94%*) and weakness in educational planning (*11.67%*) were the main obstacles in delivering of entrepreneurship education courses in AASECs in the Fars province. These four factors could explain 61.1% variance of the obstacle variable.

Keywords: Entrepreneurship, Entrepreneurship Obstacles, Entrepreneurship Education Courses, Agricultural Applied - Scientific Education Center, Fars Province.

INTRODUCTION

During the past decade, many developing countries including Iran have been faced with various problems such as: population growth, lack of improvement in economy, excessive number of graduates, and inability of the private sector (Karimi *et al*., 2010) to employ the graduates due to traditional structure of production and livelihood exploiting system (Azizi*et al*., 2010). There is the same scenario regarding the unemployment in agricultural higher education system in Iran. Since 1990, there has been an increase in students number and it is estimated that there are currently over hundred thousand students studying at the agricultural colleges in Iran (MSRT, 2009).

All these challenges and crisis has caused to pay more attention to entrepreneurship as a fundamental issue and caused an increasing demand in entrepreneurship education in recent years. Entrepreneurship is generally considered as a source of innovation and provides job opportunities for students (Onstenk, 2003). Studies conducted indicate that entrepreneurship education can foster the mentioned consequences (Harris & Gibson, 2008; Mitra & Matalay, 2004), which has led to a dramatic rise in the number and status of entrepreneurship programs at colleges and universities (Matlay, 2005; Finkle & Deeds, 2001). Hence, the entrepreneurship education programmers' (EPP) respond on the one hand to increase interest in students about entrepreneurial careers (Kolvereid, 1996) and on the other hand to increase awareness in public authorities about the importance of entrepreneurship as a contributor to economic development (Hytti & Kuopusjarvi, 2004). In fact, the evidences suggests (Peterman & Kennedy, 2003; Fayolle*et al*., 2006) a positive impact of entrepreneurship education courses or program at universities on perceived attractiveness and feasibility of new venture initiation or oven on actual startup activity. Therefore, that UNESCO (2004), in its global prospect of higher education for 21st century, has described the new universities as: "A place in which the entrepreneurial skills delivered in order to facility gradates capabilities and promotes them to create and develop their jobs". Therefore, entrepreneurial education can play an important role in changing students' views towards self-employment and empower them to manage a business (Nelson, 1986). In fact, integrating entrepreneurship development in vocational education is viewed as an effective way to enhance enterprising behavior at the economic and labor market (Biessen *et al*., 2005).

Today's, the process of development in higher education has proved that focusing on practical educations, instead of theoretical training, can be a novel method to make latest knowledge more applicable. This reveals the increasing role of applied sciences. The mission of the applied science education system is to train efficient, creative and entrepreneurial human resources. The entrepreneurship education can potentially assist graduates of agricultural applied science education centers in their future career. Therefore, the entrepreneurship course is delivered for agricultural applied science education centers in order to improve their entrepreneurial skills to run a business. This course consisted of two theoretical credits and one single practical credit and is promising to develop entrepreneurial knowledge and technical skills of graduates to become a self-employment. Thus, it is necessary to assess the agriculture applied science education system carefully and analyze the obstacles hampering entrepreneurship education courses in education centers. The relevant literature reveals some facts for the present study which are highlighted in the below.

Ebn-e Ali and Rajabi Nasab (2007) conducted a research on barriers of agricultural academic entrepreneurship and identified factors such as inefficiency of higher education system, lack of a specific model for development of entrepreneurial skills for graduates, long term returns of investment in this field and lack of coordination between administrating organizations and entrepreneurship institutions as the main barriers of development of entrepreneurship education in agriculture faculties. There are

some other barriers of entrepreneurship in academic centers, as noted by Mirza Mohammadi *et al*. (2007) such as theory-based courses, lack of entrepreneurial culture in all levels of society and lack of relationship between universities and industries (Mirza Mohammadi *et al*., 2007).

Yaghoubi *et al*. (2011) have done a research entitled "Investigating barriers to enhance entrepreneurship in Zanjan agricultural higher education from the perspective of the graduate students". The results of factor analysis showed that five factors including unsuitable selection and training method, inappropriate content and educational planning, communication barriers, lack of entrepreneurial training courses and books on agriculture, and poor assessment in structural programs could explain 44.53% of the variance in barriers of development of entrepreneurship in agricultural colleges (Yaghoubi *et al*., 2011).

Haji Mir-Rahimi and Mokhber (2010) assessed the barriers to development of entrepreneurship in agriculture applied science higher education system. Results showed that there are three factors affecting the qualitative and quantitative process of development of entrepreneurship education including debilitating of professional competencies of human resources, low quality of educational material, and weakness in attitude and functional competencies of agricultural graduates. These factors could explain about 50% of variance of barriers of entrepreneurship development in agriculture applied science higher education system (Haji Mir-Rahimi & Mokhber, 2010).

Yaghoubi (2010) studied the barriers to entrepreneurship in agriculture higher education and presented some approaches to support it. His research findings revealed that the most important barriers in agriculture higher education are focus of students on their academic degrees and lack of attention to applied skills, quantitative growth of agriculture colleges without any desired attention to their practical quality, lack of enough applied activities in the designed courses, weakness in motivational skills of professors and weakness in innovative education, disproportionate teachings to job market demands and the use of traditional educational methods (Yaghoubi, 2010).

In another essay entitled "An identification and analysis of hindering barriers of entrepreneurship in higher agricultural education as perceived by graduate students" Hosseini *et al*. (2010) indicate that a lack of public support for agriculture is the most important barrier for graduates' employment in the agriculture sector. Also, the results of factor analysis showed that the entrepreneurship obstacles in higher agricultural education were categorized into five factors, which in total explained 61.6 % of the whole variance of entrepreneurship obstacles. The most important factor was the supportive factor, with 17.8% explanation of total variance. Educational, planning, policymaking and human factor comes as the next factors (Hosseini*et al*., 2010). Rezaei (2011) in his research "barriers of entrepreneurship development in agricultural higher education system from the viewpoint of agricultural graduate students" found four factors as barriers. These are educational, infrastructural-supporting, managerial and personal-psychological barriers (Rezaei, 2011).

Khosravipour and Monajemzadeh (2011) in their studies found a lack of knowledge of job market opportunities proportionate with the graduates' educational field and the inadequate level of knowledge and job skills of the graduated were the main obstacles of agricultural graduates' entrepreneurship and employment (Khosravipour & Monajemzadeh, 2011). In another research entitled "Analyzing entrepreneurship obstacles in agricultural faculties of Iran" Razavi *et al*. (2012) showed that, five infrastructure factors were known as the most important obstacles of entrepreneurship in agricultural faculties: "Educational obstacles", "Individual-characteristic obstacles", "Low-support obstacles", "Facilities obstacles" and "Communication obstacles". These factors could explain 64.8 % of variance of obstacles (Razavi *et al*., 2012).

According to the mentioned literature, it seems that the first step for recognizing the obstacles of entrepreneurship education in agriculture higher education system and training entrepreneurship to graduates is to conduct research to identify and analyze the barriers. Therefore, this study was conducted to analyze obstacles hampering of entrepreneurship education in AASECs in Fars province.

MATERIALS AND METHODS

The research method was descriptive correlation carried out by survey. The population consisted of all N=1018 students in four AASECs in Fars province (Shiraz, Jahrom, Aliabad Kamin & Marvdasht) in 2010-11 academic year. Using Cochran's formula and stratified random sampling technique, 178 students were selected as sample (n=178). A researcher made structured questionnaire was used to collect data. The questionnaire covered two parts 1) demographic characteristics and 2) obstacles hampering entrepreneurship education courses in AASECs which were measured on a five point scale ranged from 1 (very little) to 5 (very much). The content and face validity of the questionnaire was validated by a panel of experts of faculty members at Tarbiat Modares University, Department of Agricultural Extension and Education. The reliability of the questionnaire was confirmed by calculating Cronbach's alpha in pre-test stage in Tehran AASECs (α= 0.89). Data collected were analyzed using SPSS16 software. Appropriate statistical procedures for description (e.g. frequencies, percent, means, standard deviations and coefficient of variance) and inference (Factor Analysis) were used.

RESULTS AND DISCUSSIOM

Demographic Profile of the Students

The results of descriptive statistics showed that average age of the students was about 25 years. As shown in Table 1, 103 respondents were men (*58.9%*) and 72 were women (*41.1%*). The majority of the respondents had associate degrees (*63.8%*) and 36.2% had bachelor degrees (Table 1).

Table1: Demographic characteristics (n=178)

Personal and occupational characteristic		Frequency	Percent
Gender			
	Male	103	58.9
	Female	72	41.1
Age			
	Less than 20 years	14	7.9
	21-25 years	113	63.5
	26-30 years	10	21.9
	More than 36 years	12	6.7
Degree			
	Associate degree	111	63.8
	Bachelor degree	63	36.2

Barriers of Entrepreneurship Education Courses in AASECs

Based on the literature review, barriers of entrepreneurship education courses in AASECs in Fars province were measured using five-point Likert scale. The results are shown in Table 2.

As shown in table 2, results showed that the most important barriers of entrepreneurship education courses are "using conventional entrepreneurship education methods (CV=0.3102)", "inadequate equipment and training materials for entrepreneurship education (CV=0.3230)" and "lack of support

of entrepreneurship education courses by the educational management system (CV=0.3392)".

Table2: Prioritization of Obstacles Hampering to Entrepreneurship Education in AASECs

Items	The frequency distribution of items										Mean	SD	C.V	Rank
	Very much		Much		Somewhat		Little		Very little					
	f	%	*f*	%	*f*	%	*f*	%	*f*	%				
-Using conventional entrepreneurship education methods	20	11.2	49	27.5	52	29.2	26	14.6	24	13.5	3.09	1.21	0.3102	1
-Inadequate equipment and training materials for entrepreneurship education	23	12.9	49	27.5	44	24.7	30	16.9	25	14	3.09	1.26	0.3230	2
-Lack of support of entrepreneurship education courses by the educational management system	28	15.7	50	28.1	53	29.8	26	14.6	12	6.7	3.36	1.14	0.3392	3
-Inconsideration of learning practical skills	21	11.8	59	33.1	50	28.1	29	16.3	15	8.4	3.24	1.13	0.3487	4
-The center does not value new and creative ideas	26	14.6	55	30.9	46	25.8	25	14	17	9.6	3.28	1.19	0.3628	5
-Lack of evaluation of entrepreneurship education courses	11	6.2	48	27	62	34.8	30	16.9	19	10.7	3.00	1.10	0.3666	6
-Lack of familiarity and training of common financial and management rules in business	37	20.8	47	26.4	47	26.4	15	8.4	21	11.8	3.38	1.27	0.3757	7
-Lack of promotional scientific publications in the field of agricultural entrepreneurship	24	13.5	53	29.8	47	٢٦/٤	22	12.4	21	11.8	3.22	1.22	0.3788	8
-Lack of appropriate lesson plans and discontinuity in presentations	24	13.5	44	24.7	53	29.8	27	15.2	20	11.2	3.15	1.21	0.3841	9
-Successful entrepreneurs are not welcome to teach their entrepreneurial skills	36	20.2	49	27.5	42	23.6	26	14.6	20	11.2	3.32	1.28	0.3855	10
-Lack of coordination between educational methods and students' interests and capabilities	33	18.5	51	28.7	38	21.3	27	15.2	22	12.4	3.27	1.30	0.3975	11
-Entrepreneurs are not valued in the society	31	17.4	42	23.6	47	26.4	27	15.2	22	12.4	3.20	1.28	0.4000	12
-Bureaucracy in the central structure	20	11.2	36	20.2	76	42.7	22	12.4	14	7.9	3.27	1.31	0.4006	13
-Lack of coordination between entrepreneurial contents and the real needs of the labor market	14	7.9	44	24.7	54	30.3	37	20.8	25	14	2.91	1.17	0.4020	14
-Not using the experience of expert entrepreneurship trainers	28	15.7	42	23.6	45	25.3	35	19.7	22	12.4	3.11	1.27	0.4083	15
-Insufficient entrepreneurship course credits	23	12.9	37	20.8	54	30.3	31	17.4	28	15.7	2.98	1.26	0.4228	16
-Lack of counseling and guidance to students in the center	30	16.9	50	28.1	38	21.3	20	11.2	30	16.9	3.18	1.35	0.4245	17
-Absence of a close relationship between universities and entrepreneurial firms	34	19.1	55	30.9	28	15.7	18	10.1	30	16.9	3.27	1.39	0.4250	18
-Lack of internship course credits in educational fields	34	19.1	42	23.6	41	23	28	15.7	29	16.3	3.14	1.36	0.4331	19
-The government does not support agriculture graduates in the field of entrepreneurship	39	21.9	36	20.2	37	20.8	25	14	28	15.7	3.22	1.40	0.4347	20

Factor Analysis of Barriers of Entrepreneurship Education Courses in AASECs

It was assumed that the variance of each measured variable could be decomposed into common and unique portions and a maximum likelihood (common factors) factor analysis of the data was conducted. This approach is considered to be appropriate in cases where the measured variables are assumed to be a liner function of the unmeasured (latent) variables (Omid *et al*., 2012). Since the analysis was carried out on a sample rather than a population, maximum likelihood factor analysis was considered appropriate.

To determine the suitability of collected data for factor analysis, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity (BTS) applied to ensure that the characteristic of data set were suitable for factor analysis. KMO analysis yielded an index of 0.88 and BTS were 1275.289, $p<0.000$. According to Kaiser's criterion, the only important components are those that have eigenvalues of 1 or more. In addition, a screed plots of determining the number of factors. Thus, the analyses eventually resulted in the selection of four obstacles based on 20 out of the 18 initial variables. These factors accounted for a total of 61.01 percent of the total variance explained by the model (Table 3). In the last part of table the eigenvalues of the factor after rotation are displayed. Rotation of the factor axis has an effect which is optimizing the factor structure (Table 3).

Table3: Extracted factor with eigenvalues criterion, percentage of variance and cumulative percent frequency variance

Factor	Eigenvalues criterion	Percentage of variance	Cumulative percent
1	3.904	19.501	19.501
2	3.581	17.893	37.893
3	2.390	11.942	49.346
4	2.333	11.670	61.016

After performing factor rotation by the varimax method, the variables were classified into 4 factors (Table 4), included weakness in supportive and counseling services (*19.50%*), inadequate of applied education (*17.89%*), inadequate of recognizing of financial and management regulation (*11.94%*) and weakness inadequate planning (*11.67%*). These 4 factors could explain about 61.01% of the variance of barriers of entrepreneurship education in AASECs of Fars province (Fig.1).

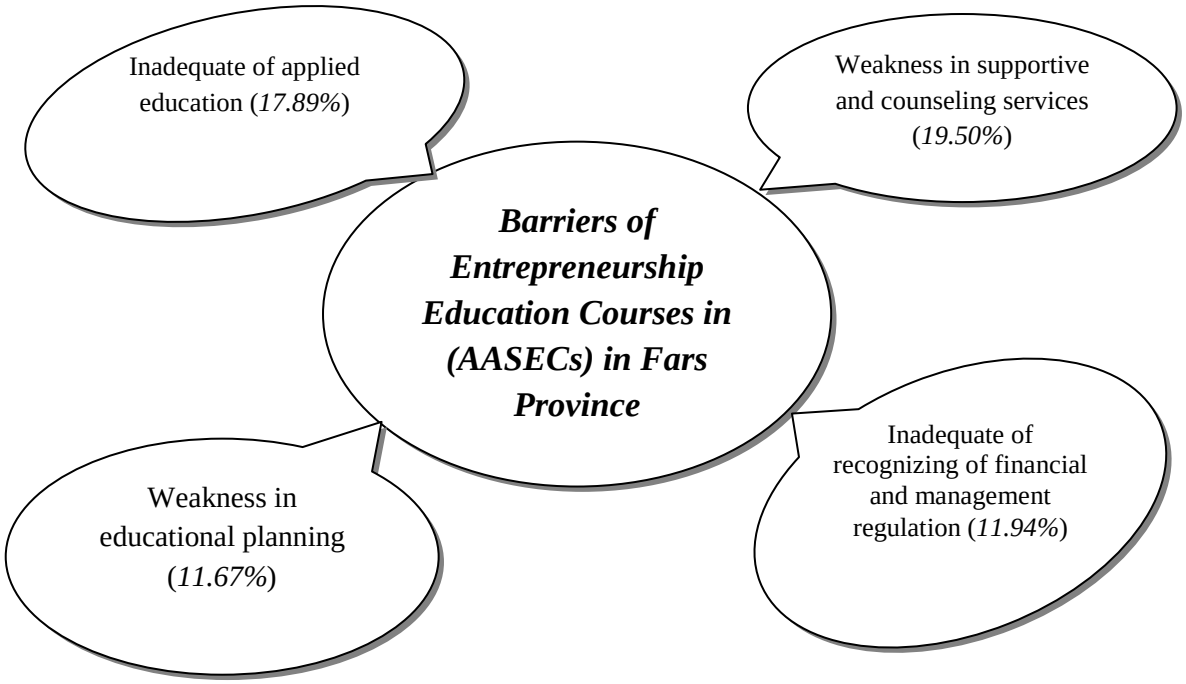

Fig.1: Classification barriers of entrepreneurship education courses inAASECs

Table 4: The related variables to each barrier factor and the rate of factor loading obtained by the rotation matrix

Factors	Variables	Factor Loading
Weakness in supportive and counseling services	-Lack of counseling and guidance to students in the center	0.825
	-Entrepreneurs are not valued in the society	0.768
	-Lack of support of entrepreneurship education courses by the Educational Management Center	0.667
	-The government does not support agriculture graduates in the field of entrepreneurship	0.607
	-Absence of a close relationship between universities and entrepreneurial firms	0.606
	-The center does not value new and creative ideas	0.515
Inadequate of applied education	-Not using the experience of expert entrepreneurship trainers	0.746
	-Inadequate equipment and training materials for entrepreneurship education	0.694
	-Lack of internship course credits in educational fields	0.692
	-Using conventional entrepreneurship education methods	0.685
	-Successful entrepreneurs are not welcome to teach their entrepreneurial skills	0.676

	-Inconsideration of learning practical skills	0.564
	-Lack of coordination between entrepreneurial contents and the real needs of the labor market	0.502
Inadequate of recognizing of financial and management regulation	-Lack of familiarity and training of common financial and management rules in business	0.711
Weakness in educational planning	-Insufficient entrepreneurship course credits	0.760
	-Lack of evaluation of entrepreneurship education courses	0.561
	-Lack of coordination between educational methods and students' interests and capabilities	0.551
	-Lack of appropriate lesson plans and discontinuity in presentations	0.536

CONCLUSION and RECOMMENDATION

Entrepreneurship education serves as a catalyst for entrepreneurial attitude of students to practice self-employment and entrepreneurship in the agriculture applied science education system.

Among the problems and barriers found in this research, **weakness in supportive and counseling services**, which explained 19.5% of the variance, was the most important factor. In this regard, observations and conducted interviews with some students in these centers indicated that components such as “the center does not value new and creative ideas”, and “lack of support of entrepreneurship education courses by the educational management system”, were the factors inhibiting entrepreneurship. This finding is compatible with the results of studies conducted by Razavi *et al*. (2012), Yaghoubi *et al*. (2011) and Hosseini *et al*. (2010 b). Based on the findings of this part of the study, it is recommended to establish entrepreneurship units in **AASECs** to provide supporting and consulting services by the management.

According to the results, another barrier of entrepreneurship education in **AASECs** was **inadequate of applied education** with the 17.89% of variance explanation. In this regard, one of the most important problems confronted in the system of **AASECs** is the “incompatibility of the contents of courses offered in entrepreneurship with the actual needs of the agricultural labor market”. Undoubtedly, taking into consideration the nature of agricultural activities and employment in this sector with respect to their close relationship with the environment and with the practical activities conducted in this environment, offering theoretical courses without providing the requirements for applying them will not have the desired effectiveness. Razavi *et al*. (2012), Amiri and Moradi (2008), and Heidarzadeh (2004) conducted researches and concluded that offering theoretical courses and lack of necessary coordination between the labor market needs and the courses taught at these centers were among the main problems in expanding entrepreneurship at higher education systems. The findings of the above--mentioned are compatible with those obtained by Rezaei (2011), Yaghoubi (2010), Ebn-e Ali and Rajabinasab (2007), and Mirza Mohammadi *et al*. (2007).Therefore, it is recommended that educational policy makers at these centers reform the process of developing university courses, so that more applied courses compatible with the actual conditions prevailing outside of universities

are offered. In this way, students learn how to put into practice the theoretical knowledge which they acquire and gain initial experience necessaries for starting to work in entrepreneurial businesses in agriculture.

Another part of the results of this research points to **inadequate of recognizing of financial and management regulation** related to business activities as another of the barrier and problems faced in entrepreneurship education in AASECs. In this regard, students will be confronted with problems in the future, because they will not be familiar with financial regulations related to, and practices employed in business management. This research finding is confirmed by results obtained in studies carried out by Khosravipour and Monajemzadeh (2011) and Rezaei (2011).

The other factor that prevents entrepreneurship education in AASECs is **weakness in educational planning**. This is in agreement with results obtained in studies conducted by Razavi *et al*. (2012), Yaghoubi *et al*. (2011), Rezaei (2011), Haji MirRahimi and Mokhber (2010), and Yaghoubi (2010).Therefore, it is recommended that authorities and managers of educational centers paying attention to the evaluate of the entrepreneurial courses during and after their completion for distinguishing and correcting the weaknesses of these courses.

Based on the findings of this research, it could be stated that in order to break the barriers to reach entrepreneurial approach, studying and analyzing the variables related to consulting and educational supportive factors would be the most helpful. This would facilitate the solutions for amplification of entrepreneurship among students in AASECs.

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