

Comparison of Students' Entrepreneurship Spirit in Agricultural Scientific-applied Higher Education Centers of Iran

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Abstract: The main purpose of this study is to compare students' entrepreneurship spirit in Iranian agricultural scientific-applied higher education centers. The type of study is descriptive-correlative. The target population of the research are 470 higher educated of agricultural scientific-applied centers in central region and 135 people were selected through random sampling. Data was analyzed in descriptive and inferential statistics by SPSS software. According to the results, more than half of graduates are employed, meanwhile 63.74 percent of free quota graduates are unemployed. The most effective psychological characteristics in entrepreneurship spirit of students are need to success, self-confidence and responsibility.

Key words: Agriculture higher education • Scientific-applied education • Entrepreneurship • Entrepreneurship spirit

INTRODUCTION

Now, more than ever, the entrepreneurial spirit is what is required to bridge the divides that exist in the world today; an entrepreneurial spirit that transforms challenges into opportunities and creates a more vibrant future for us all. The entrepreneurial spirit is one of creativity and innovation, ambition and goal driven action, value creation, willingness to take risks and learn from failure and most of all, a sense of play that includes both freedom and responsibility. To build this spirit, is to build a more entrepreneurial culture and it is through education that the entrepreneurial spirit can be best ignited, developed and nurtured.

An acceptable definition needs to concentrate upon what an entrepreneur does. On that basis, entrepreneurship initially may be defined as, 'the process of uncovering and developing an opportunity to create value through innovation' [1]. The National Commission on Entrepreneurship [1] suggested that entrepreneurs typically have all or some of the following characteristics: Vision; Adaptability; Persuasiveness; Confidence; Competitiveness; Risk-taking; Honesty; Perseverance; Discipline; Organization; Understanding.

Anyway Entrepreneurship and entrepreneurial behavior are considered to be essential competences and constructs of individual competitiveness in the future [2]. But Bolton and Thompson [3] reflected that "Sadly, our culture and our educational system, not only inhibit the flowering of entrepreneurial talent; they positively discourage it". They considered that their anecdotal evidence with entrepreneur programs for undergraduates suggested that too much education can actually deter entrepreneurs and bury their talent even deeper (except for high technology fields where educational qualifications tended to be much higher).

Based on point of view of UNESCO [4] universities around the world grow and develop scientific theories, but scientific-applied education is used to perform theories. In fact these two educational processes are parallel and complement of each other. Scientific-applied educations may reduce unemployment of youth and unskillful and unable people [5].

Some researchers believe that agricultural scientific-applied education is a kind of planning by skillful instructors and specialists to train student interested in agricultural affairs or people occupied in productive units [6]. Scientific-applied educations have a main advantage and it's injection of suitable and specialized skills that

may make people more capable and prolific than before [7]. In other study, Lindley [8] noted that agricultural scientific-applied educations have an important role in empowerment of farmers, researchers, instructors, extension personnel and all people whose occupations are related with agriculture and distributors of agricultural products. In opinion of Kotrlik [9], productivity of instructors in scientific-applied educations is more than trainers in other educational systems. Lankard [10] indicated that the productivity of graduates of scientific-applied educations was also more than other educational systems.

But unfortunately also in agricultural scientific-applied higher education centers, focus on learning theoretical knowledge instead of scientific-applied knowledge, lack of attention to foster creativity and innovative ability of learners, non-suitability of courses content with conditions and needs of job market and lack of experienced and skillful teachers to teach practical courses are main difficulties that leads to train graduates with no creativity and entrepreneurial spirit.

The problem becomes even more complex when we examine the nature of entrepreneurship. Defining entrepreneurship has long been an issue, as Henry *et al.* [11] noted that, the literature abounds with theories and discussions about who or what is an entrepreneur. Indeed, after reviewing a number of types of definition, they seem to concur with Curran and Stanworth's [12] account, "a new economic entity centered on a novel product or service or, at the very least, one which differs significantly from products offered elsewhere". On the other hand, Smith *et al* (2006) provided a deceivingly simple definition, "entrepreneurs are people with entrepreneurial spirit". Consequently, the nature of entrepreneurship presents a formidable array of attitudes, skills and knowledge, experiences and ways of behaving that need to be considered and taught in education system.

Regarding to importance of entrepreneurship spirit in graduates and the needs of agriculture sector to skillful and capable graduates, it was necessary to study what make differences in students' entrepreneurial spirit and what make changes in students' entrepreneurship spirit. So the main goal of this study is to compare students' entrepreneurship spirit in Iranian agricultural scientific-applied higher education centers based on different variables.

Table 1: Number of graduates being surveyed

provinces	Number of graduates	Number of samples
Tehran	146	70
Semnan	159	46
Qazvin	35	10
Qom	30	9
Total	470	135

MATERIALS AND METHODS

The type of current research is descriptive-correlative. The population in this study is graduates of agricultural scientific-applied centers from 2008-2010 in central district of Iran including Tehran, Ghom, Semnan and Ghazvin that are 470 graduates. In order to determine size of sample, 30 graduates were selected accidentally and variance was calculated through distribution of questionnaire between them as data collection tool. Based on the variance, size of sample was estimated 135 graduates through Cochran formula. The sampling method was stratified sampling in which the people were selected quite by accident inside the stages (Table1).

According to the objectives of scientific- applied educations, dependant variable in this study is the entrepreneurship capability of students which was evaluated by several questions. Independent variables are individual, occupational and educational factors. By considering the objectives of research, the questionnaire was used as data collection tool. In order to determine the reliability of questions, the pilot-test was done by completing 30 questionnaires by graduates of agricultural scientific-applied educations and Cronbach Alpha coefficient was estimated to be 87% which is indicative of desired reliability of the research tool. Data analysis was done in two descriptive and inferential statistic levels by SPSS software. In descriptive level, through statistical characteristics such as frequency, percentage, average, variance and standard deviation and in inferential t-test and ANOVA¹ have been used.

RESULTS

According to the results, the graduates entering by free quota (59.6%) in agricultural scientific-applied educations are more than graduates of employment quota (40.4%). The average of their age was 28 years and its standard deviation was 9.34 which are indicative of high

¹Analysis of variances

dispersal of interviewees age. Among graduates of free quota 78.8 percent were male and among graduates of employment quota 84 percent were male. Based on the findings, only 23.19 percent of free quota graduates were married; meanwhile 69.7 percent of employment quota graduates were married. In the light of educational level, most graduates (81.4%) were technicians. According to Table 2, more than half of graduates are employed meanwhile 63.74 percent of free quota graduates are unemployed. Also, according to the table 3, among total 83 occupied graduates more than half (57.14%) are working in public sector and only 6 persons (7.8%) are self-employed.

The findings of the research show that from point of view of both free and employment quota graduates the effects of psychological characteristics of students in entrepreneurship spirit is positive. The psychological characteristics are extracted from several entrepreneurship studies such as Henry *et al.* [13], Hisrich and Peters [14], Ward [15], McClelland [16], Kuratko and Hodgetts [17] and [18], Jennings and Seaman [19] and Vesper [20]. According to Table 4, the most effective psychological characteristics in entrepreneurship spirit of students are "need to success", "self-confidence" and "responsibility".

In order to compare the entrepreneurship spirit of several groups of graduates which are being grouped according to individual, occupational and educational variables, the t-test was done for comparing two groups and ANOVA was used for comparing more than two groups. The results of t-test show that there are no significant differences between the entrepreneurship spirit of male and female graduates. This results show the same results for married and single graduates and also for technician and bachelor graduates. But there is a significant difference between the entrepreneurship spirit of free and employment quota graduates in 0.05 levels (Table 5).

The ANOVA results show that there is no significant difference between the students' entrepreneurship spirit with different occupational status. Also, these results show that different groups which are grouped based on parents' job or education have similar entrepreneurship spirit. On the other hand, the entrepreneurship spirit of graduates with different educational fields and in different scientific-applied centers have significant difference in level of 0.05 (Table 6).

Table 2: Occupational status of graduates according to the type of quota

Occupational state	Fulltime employee	Part-time employee	Unemployed	Total
Type of quota free	18	11	51	80
employment	44	10	0	55
Total	62	21	51	135

Table 3: Occupational state of employee graduates

Type of occupation	Public	Private	Self-employed	Total
Fulltime employee	46	16	0	62
Part-time employee	1	14	6	21
Total	47	30	6	83

Table 4: Ranking of psychological characteristics according to the rate of effectiveness in entrepreneurship capability of students

Rank	Factors	Average	SD	CV
1	Need to success	6.74	2.29	35.39
2	Self confidence	6.80	2.49	36.62
3	Responsibility	6.81	2.054	37.30
4	Risk taking	5.69	2.20	38.66
5	Desire to independence	5.53	2.20	39.78
6	Acceptance of indeterminacy	6.50	2.63	40.46
7	Self-esteem or inner control	5.89	2.56	43.46
8	Failure tolerability	6.06	2.67	44.06

Table 5: The results of t-test according to independent variables

Variables	Frequency	SD	t	Sig.
Gender	Male:111 Female:24	0.848	-3.169	0.811
Marital status	Married:54 Single:83	1.097	1.894	0.202
Acceptance quota	Free:80 Employment:55	0.47	-2.55	*0.011
Level of education	Technician:110 Bachelaurate:25	0.391	0.86	0.388

** Significant in 0.01 level * Significant in 0.05 level

Table 6: The results of ANOVA according to independent variables

Variables	F	Sig.
Educational field	3.46	*0.049
Higher education center	2.782	*0.034
Occupational status	1.147	0.319
Parents' job	1.217	0.298
Parents' education	0.213	0.808

** Significant in 0.01 level * Significant in 0.05 level

DISCUSSION

According to the results of current study, over more than half of free quota graduates are unemployed. On the other hand, only a small part of employment graduates is working as self-employed (7.8 percent) and most of them

are employed in public sector. These findings showed that lack of proportion in current courses in agricultural scientific-applied educational system with job market and weakness of this system in training entrepreneur graduates.

Regarding the effective psychological factors in entrepreneurship spirit, all studied factors were considered important. While, the following characteristics were considered more important by the studied people; need to success, self confidence and responsibility. It means that the effects of these characteristics in students' entrepreneurship spirit are more than others. According to the results, there was a significant difference between graduates' entrepreneurship spirit in free and employment quota. Also, graduates of diverse educational fields and different higher education centers had different amount of entrepreneurship capability.

The other consequences of this study showed that graduates of free quota didn't have the same entrepreneurship spirit with employment quota graduates. In total, there are recommendations and emphasis on conjoining professional educations with psychological, sociological and environmental educations, so that agricultural scientific-applied educational centers can bring up skillful students with entrepreneurship spirit and capability.

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