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Status of Entrepreneurial and Startup Education in Agriculture University: The Study of Students' Perspective

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ABSTRACT

Considering the agriculture sector's progress in the recent years and emergence of new innovative kind of businesses such as agricultural startups, it is compulsory that educational programs are precisely evaluated and especial attention is paid to entrepreneurship and startup education. For this purpose, it is very vital to know the exact current situation of entrepreneurship education in agriculture. Thus, the main objective of this paper was to analyze the entrepreneurial and startup education status in Sari Agricultural Sciences and Natural Resources University of Iran through investigating students' perspectives. In this research, respondents' insights were obtained via following a survey approach. The study instrument was a questionnaire in which its reliability and validity were carefully confirmed. The results indicated that for all components of entrepreneurial and startup knowledge, students scored less than average. Also, only 6.1% of the respondents had high entrepreneurship and startup knowledge; while, 51.3% had moderate, and 42.6% had low knowledge. The average score of less than 3 indicates that the majority of students did not have a positive attitude towards running entrepreneurship and startup activities in the country and found it to be very difficult. The findings pointed out that the students' families and parents, internets and virtual networks, as well as entrepreneurs were the most important sources of impact on starting new startups or entrepreneurship activities by students, respectively. According to the results, in students' opinion the importance of entrepreneurship curriculum was significantly higher than its degree of performance. Similarly, there was a statistically significant difference between importance level and implementation level regarding the entrepreneurship and startup programs. The conclusions of this analysis could provide a valuable starting point for educational policies and promoting entrepreneurial skills in agricultural universities.

Keywords: Educational programs, Entrepreneurial attitudes, Entrepreneurship courses.

INTRODUCTION

The entrepreneurship development is increasingly becoming a global underlying concern (Amjad *et al*., 2020). Entrepreneurship has been consistently identified as designing, introducing, and functioning a novel business, which is usually a small business such as a startup firm, affording a product, process or service to sell or hire (Al-Edenat and Al Hawamdeh, 2021). The past 15 years, rapid advances in the field of entrepreneurial education has increasingly occurred which are mostly due to following reasons. As the first reason, entrepreneurship is considered as an education process. This type of education can address some social and economic issues such as unemployment, poverty, and shortage of living standards (Mukhtar *et al*., 2021). Several authors have argued that an entrepreneurial learning theory confirms how learning influences the behavior, processes, structure, and procedures adopted in successive business start-ups (Mathias *et*

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al., 2015; Ucbasaran *et al*., 2010). The second reason underlines the fact that there is compelling evidence of a need to special entrepreneurial education at the universities. Indeed, the quality of higher education depends very much on providing graduates with the skills demanded by the labor market (Bartlett *et al*., 2016). Reviewing the previous literature (Ahmed *et al*., 2020; Horng *et al*., 2020; Mukhtar *et al*., 2021), there is a lack of research focusing on students' entrepreneurial and startup education status in their universities. Therefore, this paper concentrated on filling this research gap by explicitly evaluating students' perspective towards entrepreneurship and startups' education in the university.

Entrepreneurship education has been defined as a collection of formalized teachings that teach anyone interested in business creation (Mani, 2018; Bechard and Toulouse, 1998). It can trigger entrepreneurial initiatives by enhancing entrepreneurial mindset among the students (Mani, 2018; Lubis, 2014; Mukhtar *et al*., 2021). Most institutions currently provide entrepreneurial training programs with the belief that the importance of entrepreneurship and the knowledge and skills required for a person to become an entrepreneur can be taught. Hence, the proportion of policy supports towards entrepreneurship education has been increasing in many countries around the world (Byun *et al*., 2018). According to Walter and Block (2016) entrepreneurship education consists of the curricular and extra-curricular offerings through which the individuals learn different aspects related to entrepreneurship. More recent evidences (Horng *et al*., 2020) reveal that students who were entrepreneurially educated were able to significantly improve their innovative entrepreneurship assessment by various entrepreneurship evaluation techniques. As Ahmed *et al*. (2020) and Boubker *et al*. (2021) argued, entrepreneurship education programs and entrepreneurial intention have a positive impact on graduates' entrepreneurial attitudes and intentions.

Since entrepreneurial skills are not necessarily innate and personality based, education and learning programs and curriculums seeking to shape these entrepreneurship abilities are flourishing over the world. The evidences showing the fact that these programs can effectively facilitate entering the entrepreneurship activities has been overlooked. For example, the countries in the Middle East and North Africa are among the areas with the highest university graduates' unemployment rates (Premand *et al*., 2016). Also, the employment of university graduates is an expectation of all stakeholders and is highlighted in national documents and by policymakers in Iran (Farhadi Rad *et al*., 2020). Meanwhile, one of the largest sectors in countries' economy is agriculture, employing over 18% of employment and accounting for 18% of the national GDP (World Bank Group, 2017). However, serious criticism of Iran's higher agricultural education system is the oversupplying of agricultural graduates, most of whom are not successful in the labor market. In more detail, nearly 54% of agricultural and natural resources' graduates are unemployed, seeking jobs or working out of the agricultural sector (Agricultural and Natural Resources Engineering Organization of Iran, 2021). Moreover, the agriculture sector is not generally attractive to the young generation. Thus, the government should encourage students to enter agricultural higher education in order to increase the probability of becoming an agri-entrepreneur (Arafat *et al*., 2020). Gaining a deep understanding of entrepreneurial education among agricultural university students would help relevant decision makers to create effective teaching and learning environments. It also helps agricultural graduates to get maximum practical benefit out of their studies and have a significant contribution in agriculture sector.

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The Sari Agricultural Sciences and Natural Resources University is one of the three Iranian agricultural and natural resources' universities. Further, the university is located at one of the most important agricultural areas in Iran (Mazandaran Agricultural Jihad Organization, 2021). In Mazandaran province, 57% of the university graduated is unemployed, and considering the low share of agricultural employment in the province (19.2% agriculture, 32.3% industry, and 48.5% services), this number is even higher for agricultural graduates (Mardanshahi, 2017). Therefore, it seems that graduated entrepreneurial agricultures are needed more than other areas in Iran.

Accordingly, this study aimed at exploring entrepreneurship and startup education status among agricultural and natural resources' students in Sari University. Therefore, based on the research conceptual framework (Figure 1), it has been attempted to answer the following questions:

– How do agricultural and natural resources' students perceive entrepreneurial and startup education status in their university?
– How is entrepreneurial and startup knowledge of students?
– Which factors affect starting new startups or entrepreneurship activities by students?
– Are there significant differences among university performance, importance of entrepreneurship and startup curriculums, and programs' status in the view of students?

It must be mentioned that a curriculum is defined as a learning that is expected to take place during a course or study program such as knowledge, skills and attitudes; while, the course is considered as a path, sequence, development, or evolution. Subsequently, the curriculum is a set of courses, coursework, and their contents, offered at a school or university (McKimm, and Barrow, 2009; Farhadi Rad *et al*., 2020). Entrepreneurship and startups' programs are assumed as practical learning activities that provide students the opportunity to produce and earn money through establishing a work space, laboratory or farm.

MATERIALS AND METHODS

In terms of objective, this study is considered as an applied research, because its results can be used in educational planning of the universities and higher educational organizations. In addition, the research design was a cross-sectional type. The target population consisted of all under-

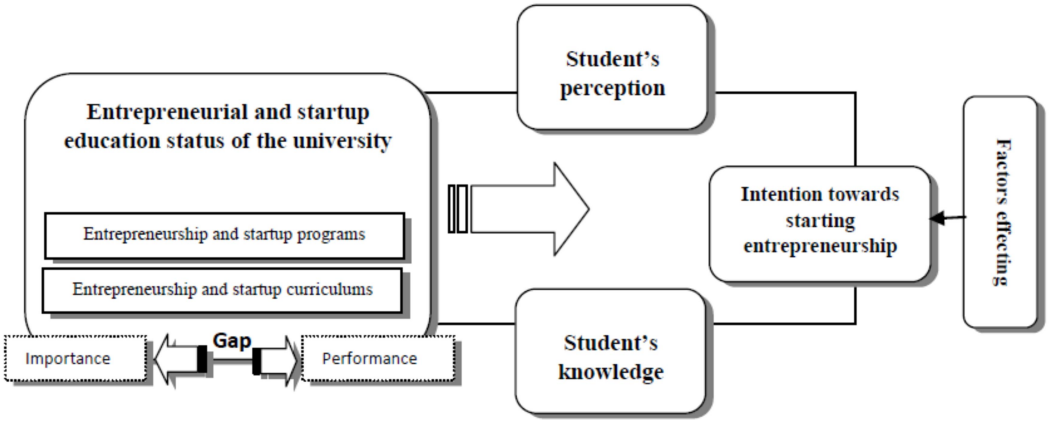

Figure 1. Research conceptual framework.

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graduates as well as post-graduates of Sari Agricultural Sciences and Natural Resources University of Iran (N= 539). The students who passed entrepreneurship courses offered by the university were assessed to detect how they evaluate the courses, curriculums, and entrepreneurship programs. Entrepreneurship courses consisted of: "introduction to entrepreneurship and employment laws", "fundamentals of entrepreneurship", "fundamentals of technological entrepreneurship in sustainable agriculture", "entrepreneurship and creation of new business", "technological entrepreneurship opportunities in agriculture" and "agricultural business management". These courses are normally taught in different majors at the under-graduate and post-graduate levels.

The sample size was determined using SPSS (Sample Power Software), by the assumptions of significance level equal to 0.95, statistical test power of 0.82, and one domain hypothesis and effect size of 0.24. The sample size was determined equal to 230 individuals and the data was collected by simple random sampling method. The main research tool was the questionnaire, whose validity was confirmed by a panel of experts including the agricultural extension and education faculty members as well as entrepreneurship education professionals. Also, the instrument reliability was confirmed by measuring Cronbach's Alpha coefficient, which was higher than 0.8 for all parts of the questionnaire.

Based on the literature review, the items were extracted and used for analysis of the courses' importance and performance, curriculum and entrepreneurship, and eventually startup programs. The degree of importance refers to the importance rate that each mentioned component has in the process of entrepreneurship development; while, the performance refers to entrepreneurial status. In other words, the performance underlines the quality of courses and entrepreneurship programs offered by the university. The importance-performance level for each curriculum and program was measured by a 5-point Likert scale (very likely to very unlikely) for 23 courses and nine entrepreneurship and startups programs. The curriculum courses used in this analysis were adopted from the study of Lee and Kim (2016) and Byun *et al*. (2018).

The students' knowledge of entrepreneurship and startup, containing nine items (no information to very high), students' perception of entrepreneurship and startups containing six items (strongly disagree to strongly agree) as well as personal characteristics were other research variables. Also, the sources affecting the inception of new startups or entrepreneurship activities were presumed as other variables. To do so, the students were asked to identify who has been encouraged (positively affected) or frustrated and discouraged (negatively affected) in starting and developing a new entrepreneurship activity. They were asked to rank ten influencing sources from one (highest priority) to ten (lowest priority). Then, to calculate the Total Rating Points (TRP) of each source, the following formula was used:

TRP= The number of respondents selected (priority 1)×10+The number of respondents selected (periority2)×9……..×The number of respondents selected (priority 10)*1

The findings of this study are presented in descriptive and analytical sections. Also, the Statistical Package for Social Sciences (SPSS) version 22 and Microsoft Excel were used to processed and analyze the data.

RESULTS AND DISCUSSION

Socio-Economic Characteristics

Table 1 shows the socio-economic characteristics of the respondents. As it is shown, 65.7% of the students were female and 34.3% were male; also, 31.7% of them were married and the rest were single. In terms of age, 74% of respondents were in

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Table 1. Socio-economic characteristics of respondents.

Variable		Frequency	Percent	
Gender	Female	151	65.7	Mode: Male
	Male	79	34.3	
	Total	230	100.0	
Marital status	Married	73	31.7	Mode: Single
	Single	157	68.3	
	Total	230	100.0	
Age (Years)	≤21	23	10.0	Maximum: 52
	22-25	170	73.9	Minimum: 20
	25-30	18	7.8	Average: 24.70
	30≤	19	8.3	Std deviation: 5.80
	Total	230	10.0	
Educational level	MA	182	79.1	Mode: MA
	MSc	48	20.9	
	Total	230	100.0	
Job status	Somewhat-specified	52	22.6	Mode: Not-specified
	Specified	25	10.9	
	Not-specified	153	66.5	
	Total	230	100.0	
Overall Job experience	Yes	69	30.0	Mode: No
	No	161	70.0	
	Total	230	100.0	
Agricultural Job experience	Yes	67	29.1	Mode: No
	No	163	70.9	
	Total	230	100.0	

the age range of 22 to 25 years; while, the average age was 24.7 years. About 80% of the respondents were under-graduates and 20% were post-graduates. It was revealed that 20.6 % of the students stated that their future job statement is to some extent specified, 10.9% stated that it is specified and 66.5% expressed that it is not specified yet. The results indicated that 30% of studied students had working experience, around 29% of them had agricultural working experience, and 70.9% had no experience in this field.

How Do Students Perceive Entrepreneurial and Startup Education Status of the University?

Before taking any further action to evaluate the status of entrepreneurship and startup education, the students' perception of entrepreneurship and startups should be assessed. The results presented in Table 2 illustrate that the majority of students do not have a positive attitude towards establishing and running entrepreneurship and startup activities in the country. The findings revealed that all six items that constitute the perception have a score of less than 3 (average level). For example, approximately 70% of respondents strongly disagreed or disagreed with the statement that there was sufficient financial support for launching start-ups and innovative firms in the country.

How is the Status of Students' Entrepreneurial and Startup Knowledge?

To measure students' knowledge about entrepreneurship and startups, a scale with nine items was applied. The results presented in Table 3 indicate that in all components of entrepreneurial and startup knowledge, the students scored less than average i.e. 5. Accordingly, the students expressed their highest level of knowledge as "specialized

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Table 2. Distribution of respondents according to their perception.[a]

No	Item	SD* (%)	D* (%)	U* (%)	A* (%)	SA* (%)	Mean	Std dev*	CV*
1	In my country, there is sufficient financial support for launching start-up and innovative firms.	53	19.6	21.3	2.2	3.9	1.84	1.07	0.58
2	In my country, the public sector supports launching of start-ups and agricultural knowledge base enterprises.	48.3	32.2	13.5	5.7	0.4	1.78	0.915	0.51
3	In my country, the private sector supports emerging and growing enterprises.	28.7	43.9	21.3	2.6	3.5	2.08	0.956	0.46
4	In my country, supporting new and growing enterprises has high priority in national government policy-making.	43.5	38.3	14.8	3.5	0	1.78	0.823	0.46
5	In my country, national culture strongly stands for individual success occurred by personal efforts.	35.7	34.8	17.4	4.8	7.4	2.13	1.17	0.55
6	In my country, national culture emphasizes self-reliance, independence, and personal initiative.	36.5	27.4	23	10.4	2.6	2.15	1.10	0.51

[a] No: Number, SD*: Strongly Disagree, D*: Disagree, U*: Uncertain, A*: Agree, SA*: Strongly Agree, Std dev*: Standard deviation), CV*: Coefficient Variance.

knowledge of agriculture or natural resources" and declared their lowest level of knowledge as "the knowledge of how the innovation and acceleration centers operate".

Given the fact that each person can get a score between 0 and 5 for each item, the final score of knowledge will fluctuate between 0 and 45. To categorize students, a score of zero to 15 was considered as the students with "low knowledge", 16-30 as the students with "moderate knowledge", and 31-45 as the students with "high knowledge". The result indicated that only 6.1% of the respondents had high knowledge of entrepreneurship and startup, 51.3% had moderate knowledge, and 42.6% of them had low knowledge (Table 4).

Which Factors Affect Starting a New Startup or Entrepreneurship Activities by Students?

Table 5 demonstrates the factors impact on starting a new startup or entrepreneurship activities by students. The results indicated that "the family and parents" were the most important influencing source. Also, "Internet and virtual networks", "entrepreneurs (Iranian and foreign)", "friends", "teachers and professors", "job consultants, masters", "university atmosphere", "national radio and television" and "national press (newspapers and magazines)" were placed at the next priorities, respectively.

What Are the Differences between University Performance and Importance of Entrepreneurship and Startup Curriculums and Programs Status?

To verify the difference between performance and importance level of related courses delivered by the university, a non-parametric Mann–Whitney U test was conducted. Table 6 shows the result of this test and represents that the importance of all 20 courses were rated more than performance. In other words, all items exhibited positive (+) value, which means

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Table 3. Status of respondent's knowledge about entrepreneurship and startups.

No	Item	Mean (of 10)	Std deviation
1	Awareness and information about starting new and innovative businesses	3.83	2.53
2	Awareness and information about labor laws and regulations	3.33	2.61
3	Awareness and information about the principles of teamwork skills	4.46	2.76
4	Awareness and information about identifying and taking benefit out of market opportunities	4.21	2.53
5	Awareness and information about financial management and the market	4.10	2.80
6	Awareness and information about the process of innovation and creativity	4.25	2.70
7	Familiarity with new technologies in business (Such as ICT and smart agriculture, etc.)	4.00	2.64
8	The extent of specialized knowledge of agriculture or natural resources	4.88	2.47
9	Awareness and information on how the Innovation and Acceleration Centers operate	3.25	2.54

Table 4. Distribution of respondents, based on the level of entrepreneurship and startup knowledge.

Rank	Categories	Range	Frequency	Percentage	Cumulative percentage
1	High knowledge	30-45	98	42.6	42.6
2	Moderate knowledge	15-30	118	51.3	93.9
3	Low knowledge	0-15	14	6.1	100.0
Total		-	230	100.0	-

Table 5. Factors affecting the commencement of new startups or entrepreneurship activities by students.

Factors affecting	Priority 1[a]	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8	Priority 9	Priority 10	Total responses	Total Rating Points (TRP)	Average relative rank
Family and parents	82	38	19	12	11	10	17	12	17	12	230	1664	1.00
Internet and virtual networks	26	53	26	18	14	14	14	16	31	18	230	1409	0.85
Entrepreneurs (Iranians and foreigns)	12	28	32	35	28	22	28	20	19	6	230	1367	0.82
Friends	35	12	19	23	23	39	33	21	14	11	230	1338	0.80
Teachers and professors	8	23	40	22	20	35	30	24	16	12	230	1292	0.78
Job consultants, masters	21	20	14	26	36	32	16	29	20	16	230	1267	0.76
University atmosphere	9	14	21	42	42	24	29	11	26	12	230	1263	0.76
National Radio and Television	13	21	17	23	21	12	34	28	28	33	230	1111	0.67
Country press (Newspapers and magazines)	8	10	24	15	26	30	22	31	39	25	230	1057	0.64
ETC	16	11	18	14	9	12	7	38	20	85	230	882	0.53

[a] Frequency.

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Table 6. The Comparison of performance and importance of entrepreneurship and startup curriculums.

No	Curriculums	Mean[a]		Mean rank		Mann–Whitney U test	Sig
		Importance	Performance	Importance	Performance		
1	Concepts of start-ups	3.02	2.22	268.2	192.8	17772.0	0.000
2	Basic principles of entrepreneurship	3.46	2.79	260.9	200.1	19456.0	0.000
3	Steps of launching a start-up in agricultural and environmental sector	3.38	2.63	267.6	193.4	17920.0	0.000
4	Ways to discover entrepreneurial and start-up opportunities and environmental analysis	3.44	2.63	270.6	190.4	17231.5	0.000
5	Feasibility study for launching start-ups	3.54	2.62	267.8	187.5	16551.0	0.000
6	Creativity and innovation techniques	3.67	2.82	269.3	191.7	17523.0	0.000
7	Business models and plans	3.57	2.75	268.5	192.5	17703.5	0.000
8	Writing economic business plans	3.50	2.69	269.0	192.0	17592.5	0.000
9	Intellectual Property Laws and registration of patent and inventions	3.26	2.49	263.8	197.2	18787.0	0.000
10	Accounting entrepreneurship	3.49	2.53	274.1	186.9	16426.0	0.000
11	On-line Marketing	3.67	2.57	276.1	184.9	15956.0	0.000
12	Principles of team management and human resource management in start-ups	3.48	2.47	274.2	186.8	16404.5	0.000
13	Risk reduction strategies in launching a business	3.57	2.41	269.6	173.2	14018.0	0.000
14	Acquaintance with successful agricultural startups	3.59	2.54	279.4	181.6	15198.5	0.000
15	Acquaintance with international capacities for development of agricultural start-ups	3.51	2.40	275.2	178.0	14369.5	0.000
16	Technology commercialization process	3.33	2.43	271.6	189.4	17007.5	0.000
17	Business opportunities complementing the value chain of agricultural products	3.44	2.36	278.1	182.9	15500.0	0.000
18	New agricultural technologies	3.58	2.50	267.1	170.7	13652.0	0.000
19	Rules and regulations for starting a start-up	3.54	2.47	277.1	183.9	15726.5	0.000
20	Science and technology parks, innovation and acceleration centers	3.53	2.47	279.5	181.5	15170.0	0.000

[a] Mean= Out of 5 (Likert scale; Not at all= 0 to Very high=5).

that the importance degrees of entrepreneurship curriculums were higher than the performance degrees.

Table 7 shows the difference between the importance of entrepreneurship and startup programs from the students' point of view and implementation level of these programs by the university. As it is seen, in all entrepreneurship programs, there is a statistically significant difference between the level of importance and implementation. In other words, the importance considered by the students was considerably higher than the implementation of those programs by the university.

Young people are considered as valuable asset for any country because they actively contribute to economic development of the country through various beneficial activities they perform (Din *et al*., 2016). Over this modernized era, the governments place increasing attention on youth education because the public and private sectors demand more and more professional employees (Vasilache and Rînciog, 2017). On the other hand, entrepreneurship

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Table 7. The Comparison of performance and importance of entrepreneurship and startup programs.

No	Curriculum	Mean[a]		Mean rank		Mann–Whitney U test	Sig
		Importance	Performance	Importance	Performance		
1	Entrepreneurship programs (projects that provide student the opportunity to produce and earn money through launching a work space, laboratory or farm)	3.20	2.24	271.25	189.75	17078.0	0.000
2	Industry-university communication plans	3.42	2.50	271.88	189.12	16932.0	0.000
3	Private-public participation programs	3.73	2.69	277.86	183.14	15558.0	0.000
4	Well-known professors in the field of business (mentorship)	3.64	2.76	270.94	190.06	17148.0	0.000
5	Startup and entrepreneurship events (such as startup weekend)	3.33	2.45	275.07	185.93	16199.0	0.000
6	University entrepreneurship office programs	3.31	2.60	265.12	195.88	18488.0	0.000
7	University entrepreneurship association	3.25	2.58	263.65	197.35	18826.5	0.000
8	Entrepreneurship and startup competitions	3.25	2.45	269.21	191.79	17546.5	0.000
9	Entrepreneurship programs of the university alumni association	3.34	2.40	274.66	186.34	16293.0	0.000

[a] Mean= Out of 5 (Likert scale; Not at all= 0 to Very high=5).

education has received substantial critical attention in the last decade (Mukhtar *et al*., 2021). As Amjad *et al*. (2020), Horng *et al*. (2020), and Mokhtar *et al*. (2021) have already reported, the reason is that entrepreneurship has a close relationship with poverty alleviation, regional development, and economic growth. Meanwhile, constant establishment of new businesses, start-ups that could introduce themselves to the market and be successful in agriculture sectors (Smolova *et al*., 2018), and training the youth to appropriately start and develop this type of business, are of great importance. Therefore, this study aimed to explore entrepreneurial and startup education status among agricultural students of Sari Agricultural Sciences and Natural Resources University of Iran.

The results indicated that the majority of students did not have a positive perception towards running entrepreneurship and startup activities in the country. In other words, they believe that the process of entrepreneurship and starting a business in the country is very difficult with numerous challenges ahead. As Jamshidi *et al*. (2018) implied, perceptions could be strong predictors of behaviors or acceptance of ideas. Lindsay (2005) stated that perception and attitude could be regarded as the tendency to react on or respond to appropriate or inappropriate behavior. Based on this, it can be said that an entrepreneurial perception is a state in which the people tend to show entrepreneurial behavior. Perception is one of the factors influencing entrepreneurship, which can play a significant role in the desire or reluctance to entrepreneurship by students and needs to be improved and strengthened. To do this, participating in training courses, implementing entrepreneurial programs, introducing successful entrepreneurial models, advertising and accomplishment of culture-building programs can be useful.

The results of this paper displayed that in almost all components of entrepreneurial and startup knowledge, the students scored below the average, and half of them had low knowledge of entrepreneurship and startup education. Adequate knowledge and skills

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are required among the key components of success in the entrepreneurial process and initiating a start-up business. Horng *et al*. (2020) found that students who received training and intervention were able to enhance significantly their innovative entrepreneurship. Based on results obtained from the survey, the students had low and insufficient knowledge about starting new and innovative businesses, labor laws and regulations, principles of teamwork skills, getting benefit from the market opportunities, financial management, process of innovation and creativity, new technologies in business, and innovation and acceleration centers. However, as Horng *et al.* (2020) implied, these skills are critical for success in today's competitive business world. Therefore, it is clear that students should be offered more opportunities to enrich their entrepreneurial knowledge and experiences. Boldureanu *et al*. (2020) provided evidences that entrepreneurship education through introducing successful entrepreneurial role models may positively influence student entrepreneurial intentions and their attitudes towards entrepreneurship. Similarly, Hatten and Ruhland (1995) found that students were more likely to become entrepreneurs after attending an entrepreneurship-related program. Horng *et al*. (2020) underlined the importance of mentoring for developing greater knowledge, skills, and confidence among the students. Therefore, it should be specified that for promoting entrepreneurial and startup knowledge of students, it is compulsory to review the courses offered at the university and integrate the important mentioned topics in educational process. Furthermore, preparing opportunities for students to do practical entrepreneurial activities in the form of entrepreneurial program is suggested. Several researchers have argued that education plays a critical role in cultivating the entrepreneurial potential of students (Horng *et al*., 2020; Ndou *et al*., 2019; Smolova *et al*., 2018). High education quality in innovative fields provides a great opportunity for establishment of new entrepreneurship (Ndou *et al*., 2019).

The results revealed that the family and parents are the most important factors affecting a new startup or entrepreneurship establishment by students, while internet and virtual networks and entrepreneurs were the next important priorities, respectively. Ahmed *et al.* (2020) implied that entrepreneurship's motivation is complex and involves the dynamic interaction of a number of factors. These factors include the internal factors such as personality as well as external factors such as the impact of society (Farhadi Rad *et al*., 2020). Cardella *et al*. (2020) conducted a research on entrepreneurship and family role. They concluded that the family has a significant impact on entrepreneurship development via cultural dimension, parental role models and entrepreneurial intention, and family support. This reveals that the families have a great impact on cultivating entrepreneurial spirit, a positive attitude, and perception among students. Consequently, the families should receive essential trainings in this field in order to provide a space for fostering students' entrepreneurship. In addition, special attention should also be paid to Internet and virtual networks' capacities in fostering an entrepreneurial spirit and creating a positive attitude in students. In this regard, production of useful and practical contents is suggested. Through introducing entrepreneurial behavior of successful role models (entrepreneurs), students learn about the sources of business ideas, contexts, the reasons for starting a business, and the ways that they could deal with upcoming challenges. The characteristics of successful entrepreneurs may also represent a source of inspiration and motivation for students to become entrepreneurs themselves.

As mentioned earlier, entrepreneurship education consists of “any pedagogical program or process of education for entrepreneurial attitudes and skills” (Ahmed *et al*., 2020). Entrepreneurship education plays an important role in an uncertain

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environment; because it can develop the insights needed to discover and create opportunities for entrepreneurs (Daud *et al*., 2011). Educational curriculums as well as entrepreneurship programs are some of the most significant parts of entrepreneurship education programs. Khoshnodifar *et al*. (2020) indicated that although the educator is the main player of the teaching components, the curriculum development is the key point in strengthening the behavior of students in accordance with learners' needs (program flexibility). According to Ahmed *et al*. (2020), entrepreneurship education has been assumed to have a positive impact on several types of entrepreneurial outcomes. The findings of this research implied that there are significant differences between performance and importance of entrepreneurship and startup curriculums as well as entrepreneurship programs. This means that the importance degree was higher than the performance degree. Similarly, Mani (2018) emphasized that there were gaps among the entrepreneurship education provided in the universities and colleges, and students' expectations. This indicates that delivering entrepreneurship curriculums by the universities are weaker than what is expected. Harms (2015) affirmed that entrepreneurship education represents a way to increase the number of entrepreneurs by preparing students for self-employment in a complex and uncertain market and to help them develop their skills. To develop entrepreneurs, the curriculum needs to facilitate experiences and to provide feedback and support for students to gain as much learning as they can from these experiences in a safe but real environment (Blass, 2018). The curriculum needs to be responsive to students' needs, student-centered in its design, and supported by a plethora of resources that students can draw on when they need them. In addition, the students need to apply learning from facilitated experiences based on their own value proposition/entrepreneurial ideas and to be able to work through their novel ideas as their future propositions (Blass, 2018). As Byun *et al*. (2018) declared, the entrepreneurship curriculum requires the development of personalities and skills. Mani (2018) argued that the right sets of skills for becoming a successful entrepreneur are needed to develop through a well-drafted curriculum. In this regard, the research recommends that, in collecting educational programs, entrepreneurship and startup courses and entrepreneurship curriculums should be compiled and presented in accordance with the real needs of the labor market and students. Farhadi Rad *et al*. (2020) accentuated that the universities should be constantly undertaking self-assessments by observing the labor market needs. Furthermore, due to increasing changes in the labor market, there is a need for continuous evaluation of entrepreneurial curriculums. However, it should be considered that mere provision of entrepreneurial education programs could not necessarily guarantee the emergence of entrepreneurial behaviors among students. Ahmed *et al*. (2020) concluded that entrepreneurship education should not be expected to produce a more entrepreneurial society in a short period. Although entrepreneurship development through entrepreneurial education programs and curriculums is currently one of the best tools to improve students' entrepreneurial skills, the role of other important factors in this process should not be overlooked. Byun *et al*. (2018) noted that in order to improve students' satisfaction with entrepreneurship education programs, follow-up studies are required considering various influences of entrepreneurship motivation and different choices attributing entrepreneurial behavior. The link between university education and the industry is important to improve the quality and relevance of entrepreneurship education (Park *et al*., 2016). Also, by dissemination of entrepreneurship culture and developing entrepreneurship approaches in the university, stablishing growth centers, holding start-up events, construction of employment counseling centers, creating

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close connection between the university and agriculture sector, internship workshops, apprenticeship and internship courses, it would be possible to materialize and internalize entrepreneurship among students.

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وضعیت آموزش های کارآفرینانه و استارتاپی در دانشگاه کشاورزی؛ بررسی دیدگاه دانشجویان

ا. جمشیدی، و ف. شفیعی

چکیده

باتوجه به پیشرفت های اخیر در بخش کشاورزی، به نظر می رسد تغییر در برنامه های آموزشی و توجه بیشتر به کارآفرینی در این بخش ضروری است. به همین منظور، شناسایی وضعیت حال حاضر آموزش های کارآفرینی در کشاورزی بسیار مهم است. هدف این تحقیق، بررسی و تجزیه و تحلیل وضعیت آموزش های کارآفرینی و استارتاپی در دانشگاه علوم کشاورزی و منابع طبیعی ساری از دید دانشجویان بود. برای دستیابی به این مهم از روش تحقیق پیمایشی و ابزار پرسشنامه پس از تایید روایی و پایایی آن، استفاده شد. نتایج نشان داد که در تمامی مولفه‌های دانش کارآفرینی و استارتاپی دانشجویان نمره کمتر از حد وسط کسب کردند. همچنین تنها ۶/۱ درصد از آنان دارای سطح دانش کارآفرینی و استارتاپی بالا بودند درحالی‌که ۵۱/۳ درصد سطح دانش متوسط و ۴۲/۶ درصد سطح دانش پایین داشتند. براساس نتایج بیشتر دانشجویان نگرش مثبتی در خصوص شروع فعالیت‌های کارآفرینانه و استارتاپی در کشور نداشتند و آنرا امری بسیار سخت و دشوار قلمداد کردند. نتایج حاکی از این بود که به ترتیب؛ خانواده و والدین، اینترنت و شبکه‌های اجتماعی و کارآفرینان مهم‌ترین منبع‌های تاثیرگذار بر شروع فعالیت‌های کارآفرینانه و استارتاپی دانشجویان بودند. براساس یافته‌ها و از دید دانشجویان، سطح اهمیت سرفصل‌های کارآفرینانه به طور معناداری بیشتر از میزان اجرا (ارائه) آنها در دانشگاه بود. همچنین در خصوص برنامه‌های کارآفرینی نیز دانشجویان اهمیت آنها را به طور معناداری بالاتر از وضعیت کنونی اجرای آنها ارزیابی کردند. نتایج این تحقیق، راهبردهای شروع به کار ارزشمندی برای طراحی سیاست‌های آموزشی ارتقاء مهارت‌های کارآفرینانه برای دانشگاه‌های کشاورزی ارائه داده است.

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