



## Identification of Components and Factors Affecting Entrepreneurship of Students in Vocational Colleges and Schools of Gilan

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### Article history:

Received date: 30 April, 2017

Review date: 26 May 2017

Accepted date: 26 June 2017

Printed on line: 2 August 2017

### Keywords:

Entrepreneurship, Effective Factors, Vocational Colleges

### Abstract

**Purpose:** Entrepreneurship is the basis and foundation of successful economy and a hope for developing economic systems. Nowadays, engineering students must become engineers with entrepreneurial attitude. Unemployment of graduates of higher education is one of the recent problems of many countries of the world and one basic issue of higher education is development of factors affecting entrepreneurship in graduates. **Method:** In terms of method, this study is a descriptive study and in terms of purpose, it is an applied research and is also a qualitative study in terms of data. Data collection instrument is semi-structured interview and to determine sample size, purposeful sampling is used because of considering quality of data from sampling to theoretical saturation. **Result:** Academic experts and entrepreneurship lecturers and faculty members in relation with entrepreneurship and industry are selected and after the interviews, the data analysis is done through open and axial coding. **Discussion:** Hence, 15 factors affecting entrepreneurship of students are classified including education, research, motivation and entrepreneurial capacity, attitude, personality, information technology, management support, environment, entrepreneurship skills, culture, family, entrepreneurship lesson, commercialization and infrastructure.

**Please cite this article as:** Imani, M.N., Nazem, F., Rafee Liavli, A (2017). Identification of Components and Factors Affecting Entrepreneurship of Students in Vocational Colleges and Schools of Gilan. *Iranian journal of educational Sociology*, 1(4), 12-22

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## 1. Introduction

Entrepreneurship education is one of the fields of study of universities at the world (Bascig & Alcan 2015, 857). Bati (2015, 1544). Entrepreneurship is recognized as a solution to solve the problem of unemployment of the graduates by many scholars and the role of university in promoting entrepreneurship education and entrepreneurship skills for students is being increased (Rengiah, 2013, 3). At the current age, entrepreneurship is considered as an important factor for development and welfare of different nations including advantages such as create jobs, improve quality of life fits the distribution of income, help solve social problems, create social welfare through the government and people and also use of resources and activation for national massive utilization (Amoozadeh et al, 2012, 3). According to the role of entrepreneurship in creating capability in students to gain skill of creating job and business and to reduce unemployment and create social welfare and economic, social and cultural development, this study tends to investigate the factors affecting entrepreneurship of students of Vocational Schools and Colleges of Gilan, so that it can realize the mentioned items based on mission of Vocational University that is Entrepreneurial University.

Iran's Higher Education System is responsible for training specialized and efficient human resource required by the society in different levels and majors. Employment of graduates of universities and Higher Education Centers in Iran is depended on having capabilities that some of them must be created during education at the university. It seems that mismatch of educational processes and materials and academic majors at the universities with required skills and abilities of labor market can be the most important factor for failure of graduates for employment (Ghasemi and Asadi, 2010, 13). Entrepreneurship is the foundation of successful economy and a light of hope for developing economics. Nowadays, engineering students must become engineers with entrepreneurial attitude (Abdulkarmi, 2016, 380). One of the most important solutions for economic development of countries is job creation and the most important mechanism and instrument in this field is development of entrepreneurship (Johari and Karmi, 2013, 152). One of the main causes of unemployment of academic graduates is lack of skill to establish a new business. Hence, one of the main goals of entrepreneurship education is to teach different skills to create job (Fekrietul, 2012, 567). Today, universities are the most important motor for development of technology and economic growth (Klofsten & Evans, 2000, 299). One of the main issues of higher education system is development and institutionalization of entrepreneurship skill in the graduates (Moradshahi et al, 2014, 756). Serious attention of universities to issues such as holding entrepreneurship courses and majors for the students, basic change in teaching methods and academic content in line with adjusting them with entrepreneurial requirements and development of entrepreneurship capabilities of students are the main priorities of curricula of Iran's Higher Education (Amini et al, 2013, 149). In order to pay serious attention to entrepreneurship in Iran, education system must be conducted towards making graduates have characteristics of an entrepreneur (Yegane Deljoo, 2008, 3). Entrepreneurship can cause economic growth of countries, especially developed countries (Nabi and Linah, 2011, 325). Nowadays, almost in all developed and developing countries and all educational grades, teaching and promoting entrepreneurship have special position (Rahmati et al, 2010, 9). One problem for the country is related to graduates without required capabilities and skills to startup appropriate business (Ahmadi et al, 2009, 10). Developing countries like Iran need to develop entrepreneurship to achieve competitive advantages and to solve public problems like unemployment and similar problems and one of the main measures for development of entrepreneurship is to teach entrepreneurship in field of higher education (Arasti et al, 2011, 108). Entrepreneurship is one of the most effective methods to change graduates into labor market easily (Urbano et al, 2008, 377).

This study tends to find answer for following question:

- What are factors affecting entrepreneurship of students in vocational colleges and schools of Gilan?

Finally through identification and prioritization of factors affecting entrepreneurship and investigation of the current status of entrepreneurship, the study is aimed in providing better plans for entrepreneurship and job creation for students of Vocational Colleges and Schools of Gilan.

## 2. Literature review

### 2.1. Definition of entrepreneurship

The word "entrepreneurship" was common in French language since centuries ago and before presenting it to the current language. The word is an equivalent for French word "Entreprendre" meaning commitment (equivalent of Under Taker in English), which was translated to Entrepreneur in English language on 1848 by John Stewart Mill (Technical Complex, 2010, 6). Joseph Schumpeter presented his theory by 1934, which was in same time with economic stagnation and this caused paying attention to axial role of entrepreneurs to create profit and hence, they was named as Father of Entrepreneurship (Technical Complex, 2010, 2).

25 definitions of entrepreneurship have concluded about entrepreneurship as a business activity with following features:

- 1- Creation: establishment of a business unit or a new business
- 2- Public management: conducting and organizing a business activity or a new business
- 3- Risk-taking: acceptance and being strong in facing losses or potential failure of a business unit
- 4- Intention: being strongly believed in achievement to high levels of growth of a business unit (Aghajani, 2009, 60).

Karimi et al have conducted a study to investigate effect of teaching entrepreneurship on studying entrepreneurial intention of Iranian students and identification of opportunity and found that teaching entrepreneurship can affect entrepreneurial intention and identification of opportunities of students (Karini et al, 2016).

Piscitelli has investigated the academic components required for success of entrepreneur at the Capella University of America and has found that 4 components are identified for success of entrepreneurship as follows: 1) shortage 2) value 3) nature and 4) influence

Shortage is related to experiences of entrepreneur or educational elements less felt.

Value is related to educational experiences or components that can help success of participants and must be included in the curricula.

Nature refers to natural capabilities shown by successful entrepreneurs.

Influence includes events of life of teachers, lecturers and parents that can affect success of entrepreneurs (Piscitelli, 2015).

Maresch et al have conducted a study to investigate effect of teaching entrepreneurship on entrepreneurial intention of engineering students of University of Johannes in Austria and have found that in general, teaching entrepreneurship to school students and engineering students can be effective (Maresch et al, 2015).

Slinger et al have conducted a study to investigate that how education can encourage students for entrepreneurship and have found that the project of entrepreneurship course with the aim of presenting entrepreneurship can entourage students for entrepreneurship (Slinger et al, 2015).

Walter and Block have investigated outcome of teaching entrepreneurship in university of Trier in Germany, Manchester in the U.K and Amsterdam in Netherlands and found that there is positive

correlation between teaching entrepreneurship and entrepreneurial activities (Walter and Block, 2015).

Rengiah have investigated effect of teaching entrepreneurship on development of entrepreneurial intention in Malaysia University and has found that there are 3 mediators between teaching entrepreneurship and entrepreneurial intention including examining the interaction attitude towards the goals, the role of family engagement and interaction of family and attitudes to goals. Attitude towards goals to 64.9%, role of family to 39% and attitude to goals and family to 5.9% can help entrepreneurial intention (Remgiah, 2013).

Karimi have investigated direct and indirect and adjusted effects of institutional environment on entrepreneurial intention of students of Agricultural Sciences and has found that institutional environment is correlated to entrepreneurial intention strongly and indirectly and through attitude and behavioral control. In other words, when people feel that environmental conditions are provided for entrepreneurship (e.g. providing financial and legal supports and valuating the entrepreneurs by the society), their attitude towards entrepreneurship would become positive and hence, they find the intention to startup new business. Moreover, existence of an appropriate environment for entrepreneurship (like have access to data and resources, supporting rules and support of society for entrepreneurial activities) can help people to take step toward startup a new business with more confidence. In other words, their perceived behavioral control could be improved and their entrepreneurial intention is also enhanced through this (Karimi, 2015).

Samadi Myarkalaei et al have investigated evaluation of Entrepreneurship University Indicators at the University of Mazandaran based on fuzzy methods and have found that the indicators of the Entrepreneurship Department in the University of Mazandaran, perspective components, mission and strategy of the university, governance of the university, organizational, multidisciplinary and transdisciplinary structure, influence and use of various resources, management of beneficiaries and social values, graduates, knowledge transfer, growth center, financing risks in companies of the university, internationalization and finally, entrepreneurial education and investment education are in inappropriate level (Samadi Myarkalaei et al, 2014).

Keshavarz has investigated entrepreneurial intention of PNU students and the structures affecting it and have found that entrepreneurial intention of students in Engineering and Business Administration is significantly higher than students in other fields. Moreover, public attitude, attitude to entrepreneurship, self-efficacy and entrepreneurship experience are the factors affecting entrepreneurship intention of Students in Engineering, Business Administration.

However, entrepreneurial intention of students in other fields can be discriminated through public attitude, belief in self-efficacy and subjective social norms (Keshavarz, 2014).

Kordnaeej et al have investigated specifications of Entrepreneur University at the Tarbiat Modarres University and have found that Tarbiat Modarres University has the specifications of Entrepreneurship University such as entrepreneurial organizational culture, continuous interaction with the environment, common perspective, futuristic strategy and human resources; although it has not entrepreneurial structure and good independence.

According to obtained results, paying attention to human resource, attempting to attract financial resources, empowerment of principle of innovation of action, creating decentralized structure and bureaucracy are the main efforts that can conduct the university towards entrepreneurship (Kordnaeej et al, 2012).

### 3. Methodology

What are the factors affecting entrepreneurship of students in Vocational Colleges and Schools of Gilan.

Identification of components and factors affecting entrepreneurship of students in Vocational Colleges and Schools of Gilan.

In terms of method, this study is a descriptive study and in terms of data collection, it is an applied research and is also a qualitative study in terms of data. Because of collecting data from the population, this study is a survey done in cross-sectional manner. The main purpose of the author from applied research is to achieve principles and regulations used in real time and can also help improvement of product and implementation methods (Sharifi and Sharifi et al, 2011, 87).

In terms of data, this study is a qualitative study and has used qualitative data to identify the components and factors affecting entrepreneurship. Data collection instrument in this study is semi-structured interview and to determine sample size, because of considering competency of data from sampling to theoretical saturation, purposeful sampling is used. the experts and academic lecturers of entrepreneurship lesson and faculty members in field of entrepreneurship and industry are selected.

### 4. Findings

The interviewees included 15 experts, lecturers and faculty members of Vocational Colleges and Schools of Gilan. As the interview was semi-structured interview, the questions were designed previously. After the interviews, they were analyzed. After the end of interviews, a complete list including required information was provided and a code was allocated to each participant. Then, the data were reviewed carefully and were entered to a table including interviewee code and verbal statements and the coding concepts were selected. Then, the codes were reviewed again and were integrated in major groups and were arranged in table based on open coding content and axial coding. At the end, they were analyzed in table including axial coding through considering frequency of answers of the interviewees.

In theoretical coding method, there are two trends for data analysis. Some scholars consider detailed analysis; meaning that they analyze the texts and data line by line and word by word. Some others only code the key points and contents because of time-consuming nature of this method.

**Table 1:** open coding

ID	effective factors (data)	concept (Code)
R1	teaching based on market need, visiting workshops of entrepreneurs, supporting ideas, providing educational contents based on labor market, internship in industry, changing topics of lessons	teaching , market need, project, visit, idea, internship, industry, topic
R2	visiting successful entrepreneurship centers, inviting entrepreneurs for speech, holding training courses in relation to entrepreneurship, research on the lesson, entrepreneurship, introducing and encouraging entrepreneur students	visit, entrepreneurship centers, successful entrepreneur, speech, research, encouraging, glorification, entrepreneurship lesson
R3	encouraging and creating motivation by professors, guiding students by entrepreneur professors, holding seminar and conference with theme of entrepreneurship, inviting successful entrepreneurs, defining different projects as group	encouragement, motivation, guidance, seminar, conference, group work, visit, production, employment, entrepreneur professors, workshops

	work with economic purpose, visiting successful centers in field of job creation	
R4	inviting top entrepreneurs, visiting entrepreneurship centers, using entrepreneur professors to teach entrepreneurship, introducing students to entrepreneurs to sue their experiences in workplace, one or more entrepreneurship projects, creating an independent entrepreneurship unit at the university, providing BA of industrial relationship in the university	top entrepreneurs, speech, visit, entrepreneurship lesson, entrepreneur professors, environment, teaching, experience, relationship with industry, entrepreneurship unit
R5	visiting entrepreneurship centers and companies, inviting entrepreneurs, holding entrepreneurship conference, talent finding of students in field of entrepreneurship, creating motivation in entrepreneurs, making information of students in field of realization of findings applicable	visit, entrepreneurship centers, companies, entrepreneurs, successful, conference, talent-finding, motivation, practical work, applied education
R6	presence of professors at college, relationship with industry and production industries, part-time presence of students in production centers and implementing entrepreneurship projects, using creative students for production, empowerment of scientific associations, using entrepreneurs to teach entrepreneurship, encouraging entrepreneur students, scientific visits	entrepreneur professors, industry, production, class, lesson, visit, project, scientific associations, creativity, education, encouraging, relationship with industry
R7	presenting practical work to become familiar with entrepreneurship, using experiences of entrepreneurship students for those students who have idea but don't know what to do, creating databank to analyze opportunities and needs of the society to guide students, collecting student ideas during academic year, changing attitude of students to work and entrepreneurship using videos and inviting entrepreneurs, visiting implemented projects of entrepreneurship, holding festivals for student projects, making relationship with students with projects or ideas, providing facilities for entrepreneurship consultation for students using teachers and other scholars, creating working group of entrepreneurship for students to encourage them in this field, collecting projects and ideas of entrepreneurship and rewarding the top project	practical work, experience, idea, relationship with industry, environmental relationship, databank, opportunity, social needs, guidance, consultation, attitude, video, inviting entrepreneurs, visiting, festival, project, idea, family, group work, encouraging, cooperation, workshop owner, rewarding, teaching method, scholar, applicability, familiarity with entrepreneurship concepts
R8	creating incentives in students from material and spiritual perspective according to growing process of development of technology and needs of society and the officials, increase in self-confidence and self-esteem in students, holding appropriate training courses in center and leveling it, clearing suitable economic conditions and market for students and that entrepreneurship can be the growth motor of economic growth of the society, providing appropriate workplace and role of centers in implementing this plan, meeting the gap between knowledge and market, choosing top students, inviting successful people in entrepreneurship for speech and explaining their success process in this field, visiting research centers by the students, attendance of students in festivals, holding theoretical and practical classes and following advancement of students in field of presenting production projects, financial support for the projects by officials, gratuitous financial supports of organizations and systems, increase in self-confidence and stress reduction, educational courses of creativity techniques, explaining role of entrepreneurship in economic and social effects of the society	rewarding, motivation, material and spiritual support, technology, social needs, self-confidence, training courses, marketing, economic growth, environment, workshop, laboratory, top students, relation with industry, speech, visiting, festival, research, financial support, organizations, production, stress reduction, creativity technique, practical work, skill, talent, success, successful entrepreneur, attitude, self-esteem, subsidy, production projects, consultation, development

R9	family conditions, following way of family members, economic conditions: if the economic conditions are in good level, they can make decision in better manner, attitude of people towards entrepreneurship, encouraging entrepreneurs, advancement of entrepreneurs and increase in their number, success of entrepreneurs in creating wealth, belief in entrepreneurs by the society, paying attention to market and social needs, value making for entrepreneurs, creating supportive rules for entrepreneurs, governmental supports, supporting entrepreneurial ideas, omission of bureaucracy to create small businesses	family, pattern, attitude, economic condition, society, belief, entrepreneurs, business, social needs, market need, income, governmental support, idea, decision making, advancement of entrepreneurs, trend for entrepreneurship, wealth production
R10	making changes in thinking manner of students on this basis that students feel they can take step toward being an entrepreneur relying on their capabilities, familiarity with successful entrepreneurs, making students familiar with entrepreneurship steps, required bank facilities, decreasing administrative bureaucracies in way of entrepreneurship, legal support for entrepreneurship on behalf of the government, supporting manufacturers, encouraging entrepreneurs	self-confidence, positive attitude, successful entrepreneurs, legal support, bank facilities, administrative regulations, supporting production, encouraging entrepreneurship concepts
R11	establishment of innovation fund, concluding contract with job center, development of training household jobs, following invention of students, rewarding student theses and papers, providing required education to teach skills to the students using entrepreneur students as model, inviting successful entrepreneurs for speech, low-profit bank facilities, creating student work team, creating motivation with low-profit loan by the Cooperation Office, land assignment in industrial towns, required education to create entrepreneurship, tax, cheque, memorandum, company establishment	skill, innovation, contract, household jobs, invention, paper, job centers, education, rewarding
R12	creating motivation in students, providing required infrastructures for practical education, exchange of information between the university and the industry, holding training courses for the project, supporting from idea to product, exchange of experiences with successful entrepreneurs	model, successful entrepreneurs, speech, visiting, team work, motivation, establishment of company, industries, workshop, entrepreneurship training, memorandum, financial, entrepreneurship concepts
R13	paying attention to practical educations, using experienced entrepreneurship professors, appropriate educational plans for entrepreneurship, creating appropriate structures with entrepreneurship at the colleges, individual and family traits of students, visiting entrepreneurship workshops, inviting successful student entrepreneurs to explain their entrepreneurship, providing facilities for students, spiritual support of students, facilitating completion of entrepreneurship process by technology unit, supports of officials, managers and Vocational University	infrastructure, successful entrepreneur, mind development, environmental relation, education, idea, project, relationship with industry, production, supporting ideas, exchange of experience
R14	supports of family and the society for entrepreneurs, holding festivals and stores for handmade works of students, supporting their inventions and innovations of students, paying specific attention to entrepreneurship lesson, inviting successful entrepreneurs for speech and to hold conferences, increase in capabilities of students, paying specific attention to personality of students, supplying gratuitous facilities to entrepreneurs, relation with industry and signing contracts and creating student cooperation companies, equipping workshops and labs and emphasizing practical works, creating motivation and rewarding and increasing decision making	supports of manager, practical education, supports of professors, curricula, spirits, structure of schools, individual traits, family, entrepreneurship lesson, visiting, scientific circulation, successful entrepreneurs, model, material supports, use of facilities, spiritual supports, information technology, practical works, applied nature of lessons, entrepreneurship regulations
R15		family, society, store, festival, student works, invention, innovation, idea, entrepreneurship lesson, successful entrepreneurs, speech, conference, self-confidence, personality, skill, facilities, industry, contract, cooperative companies, decision making, lab, practical works, motivation, rewarding, responsibility, employment, supports of officials, manager's support, business,

power and responsibility of students, paying attention to entrepreneurship at the universities, paying attention to entrepreneurship society, the relationship of education, society, industry and university

subside, increased risk-taking, social support

The aim by axial coding is to create relationship between produced categories (in stage of open coding). This action is usually taken based on paradigm pattern and helps the theorist to perform theory making process easily.

**Table 2:** axial coding

components	concepts	ID
education	teaching + entrepreneurship lesson + professors + job skill + practical education + databank + internship + entrepreneurship training + inviting entrepreneur + educational curricula + topic	R1+R2+R3+R4+R6+R7+R8+R9+R10+R11+R12+R13+R14+R15
research	project + visiting + seminar + scientific association + scientific circulation + educational workshop + technology + supporting inventions + data bank + using facilities + training creativity + successful entrepreneurs + educational assistants + innovation	R1+R2+R3+R4+R5+R6+R7+R8+R11+R12+R14+R15
motivation	creating motivation + economic activity + business + wealth production + decision making	R3+R5+R9+R13
entrepreneurs hip capacity	idea + success + creative thinking + positive attitude + decision making + opportunity + encouraging	R1+R7+R8+R9+R13+R15
attitude	need of labor market + subsidy + trend for entrepreneurship + social needs + ban facilities + consultation + wealth creation + attitude towards entrepreneurship	R1+R7+R8+R9+R10+R12+R15
personality	creativity + self-confidence + success + spirits + self-esteem + personal traits + personality + risk taking + decision making	R5+R6+R8+R9+R10+R14+R15
information technology	technology + infrastructure + use of facilities	R8+R11+R14
manager's support	encouraging + glorification of entrepreneurs + rewarding + supporting implemented projects + financial support + spiritual support + supports of officials + manager's support	R2+R3+R7+R8+R13+R14+R15
environmental factors	entrepreneurship centers + relationship with industry + environmental relationship + organizations + supports of institutes + bank facilities + environment + social support + supporting productions	R2+R5+R7+R8+R9+R10+R13+R14+R15
skill	business capabilities + skill in entrepreneurship + responsibility + growing creative thinking	R9+R11+R13+R15
culture	encouraging and glorifying entrepreneurs + material support + rewarding top students + team work + group work + identification of opportunities	R2+R3+R5+R7+R8+R10+R11+R12+R14
family	family + financial supports + society + household jobs + model	R7+R9+R11+R12+R14+ R15
entrepreneurs hip lesson	entrepreneurship lesson + entrepreneurship concepts + group work ability + business concepts + cooperative companies + memorandum + fiscal periods + entrepreneurship regulations + familiarity with companies + creativity techniques + personality traits	R2+R7+R9+R10+ R12+R13+R14+R15
infrastructure	relationship with industry + entrepreneurship unit + entrepreneurship centers + companies+ festival +	R1+R2+R4+R5+R7+R8+R11+R12+R13+R14+R15



commercialization	recording inventions + establishment of company + infrastructure + college structure	
	labor market needs + economic activity + applied nature of education + industry + production projects + supporting productions + supporting projects + legal supports + contract + marketing + festival + employment	R1+R3+R5+R6+R7+R8+R9+R10+R12+R13+R15

**Table 3:** factors affecting entrepreneurship and their frequency based on axial coding

row	factor	frequency	percent
1	education	14	0.93
2	research	12	0.80
3	motivation	4	0.27
4	entrepreneurship capacity	6	0.40
5	attitude	7	0.47
6	personality	7	0.47
7	information technology	3	0.20
8	manager's support	7	0.47
9	environment	9	0.60
10	entrepreneurship skill	4	0.27
11	culture	9	0.60
12	family	6	0.40
13	entrepreneurship lesson	8	0.53
14	infrastructure	11	0.73
15	commercialization	11	73

Through analyzing the collected data, from the frequency of answers of the interviewees through open and axial coding, the interviewees have believed that the factors affecting entrepreneurship of students of Vocational Colleges and Schools of Gilan are respectively as follows: 93% for education; 80% for research; 73% for commercialization and infrastructure; 60% for culture and environment; 53% for entrepreneurship lesson; 47% for attitude, personality and manager's support; 40% for family; 27% for skill and motivation and 20% for information technology.

## 5. Discussion and conclusion

Paying serious attention by the universities to issues such as holding training courses of entrepreneurship for entrepreneurship; fundamental change in teaching methods and educational content in line with adjusting them with entrepreneurship requirements and development of entrepreneurship capability of students are the most important priorities considered by Iran's Higher Education (Amini et al, 2013, 149). Nowadays, almost all developed and developing countries in all educational majors pay specific attention to train and promote entrepreneurship (Rahmati et al, 2010, 9). One of the most important issues in Iran is the graduates without required ability to startup appropriate businesses (Ahmadi et al, 2009, 10). Developing countries like Iran need to develop entrepreneurship to achieve competitive advantages and to solve public problems like unemployment and similar problems and one of the main measures for development of entrepreneurship is to teach entrepreneurship in field of higher education (Arasti et al, 2011, 108). Entrepreneurship is one of the most effective methods to change graduates into labor market easily (Urbano et al, 2008, 377).

In this study, identification of factors affecting entrepreneurship of students in Vocational Colleges and Schools of Gilan is investigated from perspective of experts and entrepreneurship lecturers. Obtained results from data analysis through open and axial coding have answered the question "what are the factors affecting entrepreneurship of Vocational Students of Gilan". 15 factors

affecting entrepreneurship of students are classified including education, research, motivation and entrepreneurial capacity, attitude, personality, information technology, management support, environment, entrepreneurship skills, culture, family, entrepreneurship lesson, commercialization and infrastructure.

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