

The Comparative Study of Entrepreneurship Education at High School: Iran vs. Selected European Countries (A Qualitative Study)

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Received Date:08/08/2021

Accepted Date:23/03/2022

Pp: 35-58

Abstract

This study compares entrepreneurship education at high schools of EU countries and Iran. The approach was qualitative and the methodology followed was deductive qualitative content analysis. The statistical population included research projects related to entrepreneurship education. A total of 120 sources were collected using desired keywords and 14 of them were selected as the final sample via purposive sampling. According to the results, the main difference between selected countries is in teaching-learning and evaluation methods. While European countries focus on active learner-oriented methods, in Iran, theoretical methods of teaching and assessing are applied. The similarity between Iran and EU countries lies in the emphasis on practical training of skills and the development of entrepreneurial thinking. Considering the relative success of EU countries in entrepreneurship education, it is suggested that more value should be given to the practical aspect of teaching and evaluation methods of entrepreneurship education in Iran.

Key Words: Entrepreneurship Education, High School, Iran, EU Member States.

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Introduction

Entrepreneurship education has blossomed as an important area of research due to its practical significance and role in expediting the economic wellbeing of the global economy. Despite its popularity there is still a long way to go before we fully understand the nature and ability of entrepreneurship education to transform society (Ratten & Asmanij, 2021). Today, entrepreneurship is a strategy for cultivating ideas and thoughts, initiative and innovation, orienting resources and investments and leading the market in developing and developed countries (Feyz, et al 2017). In fact, entrepreneurship is the engine of economic development and successful entrepreneurs are called national heroes and builders of new worlds (Organization for Economic Cooperation and Development, 2016). By a comprehensive definition, entrepreneurship includes personal development, creativity, self-confidence, initiative, pragmatism, and a diverse set of competencies and practical skills (Safin et al., 2016). Entrepreneurship includes nurturing entrepreneurs, understanding entrepreneurial

concepts, strengthening the ability to discover and use opportunities, entrepreneurial skills, and strengthening personality influences (Kearnest & Galisa, 2016). The European Commission (2008) believes that the development of an entrepreneurial spirit is the key to breaking away from the current economic recession (Chia Chang & Fang Shih, 2021). A review of development patterns in advanced societies shows the major contribution of knowledge, innovation, creativity and entrepreneurship, and by using education, the entrepreneur can take a step in the right direction and achieve its goals (Ravayi, 2014). Entrepreneurship education has been initiated in higher education, especially Business Schools, as part of the curriculum but it is currently expanding to both pre- and post-university settings (Kakouris & Morselli, 2020). By teaching entrepreneurship skills as the default rather than as an afterthought, students are empowered to enter a world that would otherwise remain closed to them. This goes beyond teaching them useful skills. It also makes them aware of their options, of the questions they would otherwise not know to ask. At the moment, entrepreneurship is an enigma to many students due to a lack of education. The good news is that this does not need to continue.

Schools just need to make the effort (Martins Lopes, 2021). Entrepreneurship education is done in order to acquire the necessary skills in the field of entrepreneurship and can have a direct impact on creating employment and economic prosperity (Ahmadabadi & Arabshahi, 2011). It is known that education is an effective tool for gaining entrepreneurial opportunities, because it is a kind of investment for social activity and employment of the labor force, and on the other hand, it promotes entrepreneurial behaviors and entrepreneurial culture. Entrepreneurship education is a systematic, conscious and goal-oriented process in which non-entrepreneurial and potential people are trained creatively. In fact, entrepreneurship education is an activity that is used to transfer knowledge and information needed for entrepreneurship. This type of training will increase, improve and develop the attitudes, skills and abilities of non-entrepreneurs and is an effective tool for governments to develop a knowledge-based economy and one of the key factors for growth and development and the ability to create economic value for organizations and communities. (Ahmadpour, 2014). Such trainings, with emphasis on entrepreneurial activities considering environmental opportunities, will lead to a better understanding of economic development (Hosseininia, 2012). Entrepreneurship education began many years ago, around the late

1950s, and the first country to start promoting entrepreneurial culture at the high school level was Japan (Ahmadpour & Feyz, 2001), followed by Europe in the early 60's (Germany and England) and in the 70's in the United States, then in many countries such as the Philippines (1974), India (1983), Singapore and Malaysia (1986). In Iran entrepreneurship training began in 1988 (According to the training group of the Alumni Employment Organization, 2002) and the approval of the KARAD⁵ in 2002 (Mohammadi et al., 2008). In the third socio-economic development plan of the Islamic Republic of Iran, there are several cases regarding the support of entrepreneurs and the promotion of entrepreneurial culture. In the general policies of the Third Plan, a statement by the Supreme Leader, out of a total of 36 items in the economic, social, political, defense and security chapters, ten items to spread the culture and spirit of creativity, work, effort and entrepreneurship, as well as creating appropriate conditions are dedicated to training entrepreneurs. The law of the third program also emphasizes the need to pay attention to entrepreneurship education. In the third development plan, various cases (about 32 cases) have been addressed to the issue of entrepreneurship and in some cases, its training has been considered. Overall, in the third program, the issue of entrepreneurship in general and

⁵⁵ Entrepreneurship development plan in the country's universities

skills, technical and vocational training in particular have been emphasized. Along with the upstream documents of the Islamic Republic of Iran, in the «vision document of the country in 1404», achieving the first economic, scientific and technological position in the region through committed, specialized, creative and innovative human capitals, as well as entrepreneurship and value creation is discussed. The National Curriculum Document also mentions several cases of entrepreneurship, in particular the document mentions the need to educate the creative and entrepreneurial generation, to the principles of supervising curricula and education, to strengthen the entrepreneurial spirit in students, and to use basic skills to shape the professional identity and entrepreneurial characteristics in students. Also in the same document, in Proposition No. 24 of the value propositions of the public formal education system, the spirit of entrepreneurship is mentioned (National Curriculum of the Islamic Republic of Iran, 2013). Moreover in the fourth chapter of the document of the Fundamental Transformation of Education, Vision, in the section entitled: School on the horizon of Vision 1404, the necessity of entrepreneurship is mentioned. In the fifth chapter of this document, the first goal of the grand goals is to train creative and entrepreneurial human beings. In the seventh chapter, the section of operational goals and strategies, the first goal is “to cultivate a

generation with an economic concept within the framework of the Islamic standard system through entrepreneurship”. The sixth goal also refers to the preparation and implementation of a comprehensive entrepreneurship program for all courses until the end of the fifth development plan in the curriculum, the establishment of entrepreneurship centers and the establishment of effective interaction between schools and these environments. Operational goal 18 also includes the training of creative, innovative and entrepreneurial students (Fundamental Transformation Document of Education, 2011).

Iran's GDP in 2019 was \$ 430.7 billion and its GDP per capita based on purchasing power parity was \$ 20,100, according to the World Data Map. According to the World Bank, GDP per capita in 2019 was \$ 5,520. Iran's population is 83 million and the total Iranian labor force in 2019 was 30.5 million (tasnimnews, 2020), so the country suffers from a shortage of skilled labor. Considering the importance given to entrepreneurship in the Third Development Plan, the National Curriculum Document, and the Fundamental Transformation Document of Education, the Government of the Islamic Republic of Iran should play a role in policy-making and implementation of educational programs to educate entrepreneurs, business owners and small tasks, by facilitating the necessities to achieve this important issue. Addressing the issue of

entrepreneurship education requires executive mechanisms and national determination in the light of government-private partnership. Entrepreneurship education is a prerequisite for development, and accordingly, governments must play a serious role in policy-making and effective implementation of educational programs. Given the importance of entrepreneurship in economic development, many countries are directing their school curricula towards it in order to increase the rate of entrepreneurial activity (Raspo & Peko, 2011). Entrepreneurship education does not only seek to start a new business, but also aims to remove barriers that reduce the motivation of potential entrepreneurs (Otay et al., 2015). Entrepreneurship is in fact a way of thinking and insight that the school period is the ideal stage to create and nurture it (Axelson et al., 2015) and school education has a significant role in cultivating this insight (Ahmadi & Fazaelifard, 2013). Introducing entrepreneurship education at the school level creates basic knowledge and skills in students, so that they can withstand the challenges created in the living environment and work with more confidence during school, from elementary to high school and even after that in the workplace (Odo & Amadi, 2013).

As the world becomes more globalized, teaching entrepreneurship is more critical than ever as students will need to build the skills of an entrepreneur to creatively solve complex

problems, and artfully navigate ambiguity. Entrepreneurship is not just about teaching the hard skills around creating a business, it is about empowering students with not only an entrepreneurial mindset, but the skills, knowledge and behaviors that can serve them regardless of career path. This is real-world learning that can set students up for long-term success (Geleske, 2021). Today, in most countries, in addition to entrepreneurship education in higher education, extensive efforts are being made to teach entrepreneurship to children and elementary students. An example is the "Small Community" curriculum in American schools, which runs for children and pursues goals such as teaching entrepreneurial concepts in practice and combining entrepreneurship with academic subjects. We can also mention entrepreneurship education programs for children and adolescents in countries such as Canada, China and Singapore, where they provide innovation and entrepreneurship education in the form of entertainment and handicrafts to preschool and elementary school children.

In addition, in many countries, serious efforts have been made to develop entrepreneurship education since high school, and steps have been taken in their curricula to prepare adolescents for the economic and social conditions of the 21st century. In some of these countries, entrepreneurship education is offered to students separately and in others in combination with different

subjects. However, about two-thirds of European countries have explicitly recognized the need for entrepreneurship education and have incorporated it into their national curricula (cited in the ESAA⁶, 2012). Countries that have taken or are taking effective action in this area include Luxembourg, Ireland, Cyprus, Spain, Sweden, Iceland, Poland, Bulgaria, Austria and Romania. These countries have been developed in line with the European Commission's long-term plan until 2020 to support and develop entrepreneurship education, with the aim of increasing creativity and innovation at all levels of education, including pre-school and primary school. According to Bourgeois (2012), in the future, creativity, innovation and entrepreneurship will replace the current education system. It seems that in European countries, attention to the issue of entrepreneurship education is very serious.

Literature review

Various researches have been done in regard with entrepreneurship education and this issue has been studied from different angles. Among the researches that have been done in Iran, we can refer to the research of

Ahmadi and Steeri (2016), entitled "Laying the groundwork for entrepreneurship education in elementary school". The results of this study confirm the need for entrepreneurship education in elementary school and empowerment of students in adulthood. Morteza Nejad (2017) and Sheikhan (2016) have separately stated that educational systems help people to realize their potential and this is very important in their entrepreneurship. They emphasize that entrepreneurship is an acquired process and the best time to teach it is the early period of education. In addition, Banyamerian et al. (2017) in a comparative study examining the technical and professional curriculum, emphasizing the entrepreneurial intention between Canada, Germany and India with Iran, found that the goals and content of the curriculum of the three countries and Iran are similar and it is aimed at creating entrepreneurial intentions and skills, but there are many differences between teaching-learning activities and evaluation methods in Iran and the three selected countries. According to the findings of this study, while in Iran, traditional methods are used in teaching entrepreneurship, the approach of selected countries to teaching is based on group methods. Also in Iran, evaluation is done using written and oral tests, while in the three selected countries, various evaluation methods such as the use of the evaluation board, self-evaluation and research projects are used.

⁶ The Erasmus+ Students and Alumni Alliance (ESAA) aims to bring together all European Union funded exchange students and alumni and offers a dynamic platform for networking, professional development and intercultural learning while promoting European higher education and worldwide cooperation.

Zanganeh et al. (2017) examined teachers' attitudes toward teaching-learning methods of entrepreneurship education and concluded that if teachers have a proper attitude and insight towards entrepreneurship, by integrating it with teaching-learning strategies and methods in the classroom, they can be more effective and this will facilitate fostering creative people with an entrepreneurial spirit and attitude. According to the results of Roshan et al.'s (2015) study, which investigated the relationship between teachers' entrepreneurship education with the entrepreneurial spirit of high school students in Tehran, there was a positive and significant relationship between entrepreneurial education, educational content, educational environment and teaching methods with students' entrepreneurial spirit and only the component of entrepreneurial education goals did not find a significant relationship with students' entrepreneurial spirit. According to the findings of this study, the situation of teachers' entrepreneurship education, students' entrepreneurial spirit and their dimensions were at a relatively desirable level, gender affects the level of entrepreneurial spirit of students (the average score of male students is higher than female students) but there is no significant difference in the entrepreneurial spirit of students of different disciplines (mathematics, humanities, experiments). In regard to international research, the results of Kuib and Verhal (2015) research confirm the results of Morteza Nejad (2017) and Sheikhan (2016)

researches. Rose (2012) also showed that entrepreneurship education is something different from traditional business education and deals with topics such as creativity, innovation and the like. Silveyra et al. (2021) propose the theoretical model of teachable entrepreneurship competencies (M-TEC) that is also tested empirically. The scale consists of 38 items related to nine types of competencies classified in four dimensions: entrepreneurship, management and business, human resources and interpersonal competencies. Research by Haber, Slough, and Prague (2015) suggests that the cognitive and non-cognitive skills of students receiving entrepreneurship training are significantly higher than other students. On the other hand, Yudo and Amada (2016) concluded that the presence of entrepreneurship in the curriculum will have beneficial effects on the country's economy. Chaerudin and Hartati (2018) showed that simultaneously the variables of knowledge, skill, and attitude have positive and significant influence on entrepreneurial competence in entrepreneurship curriculum at high school. Blessing and Deef (2014) examined entrepreneurship education in Nigerian students and the results indicated that students believe that entrepreneurship education is a good policy and solution to eliminate unemployment. Hara and Jensen (2016) examined the reasons for application and how to introduce the concept of entrepreneurship in teachers' education and the

challenges it brings. They found that student-teacher learning through entrepreneurship is a necessity for achieving their educational credentials as a teacher, and that their use of such training in schools draws attention to students' practical competencies and skills and develops their ability of self-regulation. Jenssen and Harra (2019) showed that together with, among other things, project-based learning, problem-based learning and investigative learning, pedagogical entrepreneurship is an approach to teaching and learning, which can help to accommodate the requirements of a highly developed knowledge society with a general regard to the ability to change, and with a particular regard to the development of creative knowledge, attitudes and skills. Jeddi et al. (2021) showed that among the factors that affect the model of entrepreneurship education program, instability in the labor market in the disadvantages of entrepreneurship education, the interaction of production and industrial centers among the goals of entrepreneurship education, attractiveness and accessibility to appropriate content of entrepreneurship education, problem solving in entrepreneurship teaching methods and evaluation of business plan in the methods of evaluation, have the highest impact factor. Yu Shu et al (2020) explored creativity and innovation from an educational perspective and proposed a sustainability-oriented creativity, innovation, and entrepreneurship

education framework that uses creative problem solving. Moreover Yu Shu et al (2020) provided a suggestion for designing curriculum in creativity, innovation, and entrepreneurship education (CIE) for different education levels.

It seems that the rapid developments of science and technology in recent decades have affected the pillars of the educational system and have made entrepreneurship a national necessity as well as a fundamental challenge of educational systems. Given the role and importance of entrepreneurship in the development of countries, the dissemination of the concept of entrepreneurship and the context for its education is of vital importance for developing societies such as Iran, and this requires special attention to education. Since entrepreneurship affects all systems of a country, with careful planning and optimal use of the country's capacities and potentials, its positive consequences can be used (Kavehpisheh & Ghasempour, 2015). To achieve this goal, strategic measures are needed to increase entrepreneurial intent, and one viable strategy in this regard is entrepreneurship education in secondary schools. Therefore, it seems that the study and comparison of entrepreneurship education in high school in the EU and Iran, will lead to further insight in this area.

Research questions

In this section the research questions that are addressed in this paper are presented. In particular, the following questions are answered in the remainder of the paper:

1. What are the goals of high school curriculum in Iran and selected EU countries⁷ in the entrepreneurship education?
2. What content does the curriculum of Iran and selected EU countries convey in the entrepreneurship education?
3. What teaching-learning methods are used in the high school curriculum of Iran and selected EU countries in the entrepreneurship education?
4. What evaluation methods are used in the field of entrepreneurship education in the high school curriculum of Iran and selected EU countries?
5. What are the differences between Iranian high school curriculum and selected EU countries in the entrepreneurship education?
6. What are the strengths and weaknesses of the entrepreneurship curriculum in Iranian secondary education?
7. What are the formal and informal training structures

and programs of entrepreneurship education in European countries?

Methodology

The research method of the present study is deductive qualitative content analysis. Deductive content analysis is a type of content analysis in which texts are analyzed in the form of pre-defined categories and components based on a proposed conceptual framework. This conceptual framework can be developed based on the research literature, or be taken from other research. For this purpose, in the present study, using previous researches, four elements, including 1. Objectives 2. Content 3. Teaching-learning methods and, 4. Evaluation, were used to analyze the content of selected scientific texts. To answer the research questions, an analytical table was designed and according to the above components, the content of articles and selected scientific texts were analyzed into five content areas. Then, the data of each content area was defined and coded in the form of a unit of analysis. Finally, by combining and aggregating the codes under each unit of analysis, a description of the component was given. The statistical population of this research included all available articles and research projects related to entrepreneurship education. After searching using the desired keywords, 120 credible sources related to entrepreneurship education from 2011 to 2021 were collected. After reviewing the

⁷ Austria, Finland, France, Germany, Italy, Spain, Sweden

sources, using purposive sampling, 14 of them that were more relevant to the research topic, were selected as the final sample. In data collection, search engines and valid databases such as Magiran, Noormags, Scientific Information Database, Science Direct and google Scholar were used.

Research Findings (Information and Data)

The first research question
What are the goals of high school curriculum in Iran and selected EU countries in the entrepreneurship education?

The data obtained from the analysis and review of the entrepreneurship education curriculum in these countries are shown in Table 1-1.

Table 1- The data obtained from the analysis of the entrepreneurship education curriculum in selected countries

Iran	Austria	Finland	France	German	Italy	Spain	Sweden
1.Under standing the philosophy of entrepreneurship	1. Familiarity with entrepreneurial spirit	1. Fostering entrepreneurial spirit	1.Familiarity with the basics of entrepreneurship	1.Familiarity with the principles of entrepreneurship	1. Raising an entrepreneurial citizen	1. Fostering entrepreneurial spirit	1. Familiarity with entrepreneurial thinking
2.Under standing the value of entrepreneurship	2. thinking Familiarity with top entrepreneurs	2. Acquiring the necessary skills in the field of entrepreneurship	2.Study of entrepreneurial culture	2.Entrepreneurial upbringing for the future	2. Familiarity with entrepreneurship	2. Fostering economic independence in learner	2. Familiarity with prominent entrepreneurs
3. Recognition of industrial enterprises	3. Becoming an entrepreneur	3. Fostering entrepreneurial creativity	3.Entrepreneurial personal development	3. Familiarity with the role of entrepreneurship in economic development	3. Underst and the importance and value of entrepreneurship in life	3. Trainin the future entrepreneur	3. Realize the importance of entrepreneurship in life
4.Under standing the effective factors in entrepreneurship	4. Nurturing entrepreneurship	4. Nurturing entrepreneurship	4.Realize the importance of entrepreneurship	4. Realizing the importance of entrepreneurship	4. Realizing the importance of entrepreneurship	4. Growing value, attitude and entrepreneurial skills	4. Realizing the importance of entrepreneurship in life

neurial thinking

As shown in the table above, the education system of Iran and the European Union (Austria, Finland, France, Germany, Italy, Spain, Sweden) have paid some attention to the issue of entrepreneurship education, but according to the data of this table the objectives of the entrepreneurship education curriculum in countries such as Spain, France, Germany and Austria, In addition to fostering an entrepreneurial spirit, it also emphasizes the entrepreneurship of

students in the future. While in other countries, more emphasis is placed on fostering entrepreneurial thinking in students.

The second research question
What content does the curriculum of Iran and selected EU countries convey in the entrepreneurship education?

The analysis of the content of the entrepreneurship education curriculum in Iran and the selected EU countries is presented in Table 2-1:

Table 2- Content of Entrepreneurship Education Curriculum in Iran and selected EU Countries

curriculum	Iran	Austria	Finland	France	Germany	Italy	Spain	Sweden
Social studies	1. Natural resources	1. Economic justice 2. Foreign and employment	1. History of Entrepreneurship 2. Concepts related to employment	1. Types of job creation approaches 2. Economic justice	1. Social entrepreneurs 2. Schools of Economics 1. Society and employment 2. Different economic approaches	1. Theories of sociology and employment 2. Outstanding economists 1. Different schools of economics	1. Society, culture and economy 2. Social entrepreneurship	1. Economic history of the society 2. The role of employment in social development 1. Social income generation 2. Man and economic growth
Economic studies	1. Perception of economic development 2. The role of	1. Economic justice 2. Foreign and employment 3. Sustainable development	1. History of Entrepreneurship 2. Concepts related to employment 1. Social entrepreneurship	1. Types of job creation approaches 2. Economic justice 1. Social development and employment	1. Social entrepreneurs 2. Schools of Economics 1. Society and employment 2. Different economic approaches	1. Theories of sociology and employment 2. Outstanding economists 1. Different schools of economics	1. Society, culture and economy 2. Social entrepreneurship	1. Economic history of the society 2. The role of employment in social development 1. Social income generation 2. Man and economic growth

man in sustain able develo pment	h
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As can be seen in Table 2-1, the educational content in Iran and selected EU countries has been well considered in both social studies and economics. But the difference is that in Finland, France and Germany, entrepreneurship education and its approaches are directly addressed, while in other countries it has been addressed indirectly through issues

such as the economy and employment.

The third research question

What teaching-learning methods are used in the high school curriculum of Iran and selected EU countries in the entrepreneurship education?

The main teaching-learning methods used for entrepreneurship education in Iran and selected EU countries are listed in Table 3-1.

Table 3- The main teaching-learning methods used for entrepreneurship education in Iran and selected EU countries

Iran	Austria	Finland	France	Germany	Italy	Spain	Sweden
1.Speech 2.Group discussion 3.Practical work	1. Content transfer 2.Dialectics 3. field trip	1.Speech 2. Practical work 3. Visiting industries and workshops	1. Direct training 2. Group practical work 3.Discussion 4. Field visit	1. Joint conference with entrepreneurs 2. Doing practical work 3. Speech	1. field trip 2. Field visit 3.Discussion	1. Scientific workshops 2. Field visits 3.Discussion	1.Learning communities 2. field trip 3. Content transfer

As can be seen in the table above, the common denominator of all countries is direct entrepreneurship education (in the form of lectures and content delivery), but the difference between them is the emphasis on the amount of practical work and field visits. In Iran, the emphasis is on direct and theoretical education and the use of field visits is rare.
The fourth research question

What evaluation methods are used in the field of entrepreneurship education in the high school curriculum of Iran and selected EU countries?

The results of the analysis and review of the methods used in evaluating the learning rate of learners of educational systems in Iran and selected EU countries in entrepreneurship education can be seen in Table 4-1:

Table 4- The results of the analysis and review of the methods used in evaluating the learning rate in Iran and selected EU countries in entrepreneurship education

Iran	Austria	Finland	France	Germany	Italy	Spain	Sweden
1. Theoretical evaluation	1. Interview	1. Evaluate behavior	1. Individual and group project	1. Folder work	1. Continuous reporting	1. Interview	1. Folder work
2. Individual projects	2. Observation	2. Individual projects	2. Practical work outside of school	2. Interview	2. Reporting through semester	2. Individual and group projects	2. Evaluate behavioral patterns
	3. Individual projects	3. Group tests		3. Observation	2. Project		3. Observation

As shown in Table 4-1, the common denominator of all countries is the emphasis on practical evaluation in measuring students' entrepreneurial skills. Of course, in Iran, theoretical evaluation is also emphasized, which has not been paid much attention in other countries. In countries such as Austria, Germany, Spain and Sweden, interviewing and observation are used as other methods of assessing entrepreneurial skills.

Fifth research question

What are the differences between Iranian high school curriculum and selected EU countries in the entrepreneurship education?

To answer this question, four dimensions of purpose, content, teaching-learning method and evaluation in countries must be considered. It seems that the difference in the goals of the educational system of Iran and the

countries of the European Union is due to the attitude towards entrepreneurship education. While in European countries, the purpose of entrepreneurship education is more focused on cultivating entrepreneurial spirit and preparing the individual for the future, In Iran, the focus is more on teaching theoretical concepts and issues in this field. In terms of content, although entrepreneurship education is more prominent in all countries studied in the present study in courses such as social studies and economics, but in Iran, courses such as technology and research have also dealt with this issue. In terms of teaching-learning methods, there is a huge difference between Iran and European countries, while in European countries the focus is on practical entrepreneurship teaching, in Iran the focus is more on theoretical education. The same is true of evaluation, so that in European

countries, the greatest emphasis is on practical evaluation of entrepreneurship, while in Iran, evaluation has a greater tendency to evaluate theory.

Sixth research question

What are the strengths and weaknesses of the entrepreneurship curriculum in Iranian secondary education?

According to the answers to the first to fifth questions of the research, in the secondary school curriculum of the Iranian educational system, a set of weaknesses in comparison with the educational systems of the selected European countries can be seen in the table below.

Table 5-Weaknesses of Entrepreneurship Education Curriculum in Iran

Weaknesses of the goals of the entrepreneurship education curriculum	<ol style="list-style-type: none"> 1. Lack of attention to codified goals that meet the needs of learners. 2. Not paying attention to the need to learn entrepreneurial skills 3. Lack of attention to the importance and ability to conduct research in learners 4. Relying solely on goals that meet theoretical issues
Weaknesses of Entrepreneurship Education Curriculum Content	<ol style="list-style-type: none"> 1. Not paying attention to the content that requires practical work in entrepreneurship 2. Lack of specific content and courses for entrepreneurship education 3. Lack of coherence in the content of entrepreneurship education
Weaknesses of teaching-learning methods of Entrepreneurship education curriculum	<ol style="list-style-type: none"> 1. Using traditional methods in entrepreneurship education 2. Relying solely on theoretical methods in entrepreneurship education 3. Relying solely on school education 4. Using individual training methods and not paying attention to group methods
Weaknesses of entrepreneurship education curriculum evaluation methods	<ol style="list-style-type: none"> 1. Lack of attention to practical methods in evaluation 2. Relying solely on the evaluation of archives 3. Do not use observation, interview and various methods in evaluation

Regarding the strengths of entrepreneurship education in Iran, the following can be mentioned:

Table 6- Strengths of Entrepreneurship Education Curriculum in Iran

Strengths of the goals of the entrepreneurship education curriculum	<ol style="list-style-type: none"> 1. Paying attention to collective and social needs 2. Paying attention to the goals of social entrepreneurship 3. Paying attention to values in formulating goals
Strengths of Entrepreneurship Education Curriculum Content	<ol style="list-style-type: none"> 1. Compilation of interdisciplinary content in the field of entrepreneurship

	2. Paying attention to different strata of students in content development
Strengths of teaching-learning methods Entrepreneurship education curriculum	1. Using teacher-student methods in entrepreneurship education 2. Pay attention to the role of the teacher as a facilitator
Strengths of entrepreneurship education curriculum evaluation methods	1. Pay attention to standardized tests in evaluation 2. Use of various descriptive questions in evaluation 3. Pay attention to practical work as part of evaluation

Seventh research question

What are the formal and informal training structures and programs of entrepreneurship education in European countries?

The results of the study of the structure and formal/ informal training programs of the selected EU countries in entrepreneurship education are presented in Table 7-1.

Table 7- The structure of secondary education and entrepreneurship training programs in selected EU countries

Country	The structure of secondary education	The best exercises for entrepreneurship
Austria	High school education divided to: 1. First secondary 2. Second scientific high school 3. Technical and vocational secondary schools Secondary education, after compulsory education, includes general education and vocational education. Both last for three years and qualify people for higher education.	- Learning through practice in training or educational companies - Initiative for entrepreneurship education - Entrepreneurship Education Motivation Center - More than 140 schools offer European Business Degree courses. - The Austrian Federal Institute of Economics offers an Entrepreneurship Skills Certificate course. "Entrepreneurship training centers that provide entrepreneurship training services for basic education, and public and vocational high schools. The concept of "Finnish Young Entrepreneurs" is intended to teach students the following: - Workforce readiness, and entrepreneurship and financial literacy
Finland	The second-high school is based on courses with unlimited class schedules and ends with the university entrance exam. This	- Start-up training provided by the Finnish Entrepreneurship Training Center.

	<p>course does not qualify people for any kind of job</p> <p>Students can then continue their education at universities, technical colleges (polytechnics) or in professional institutions.</p>	
France	<p>Adolescents between the ages of 15 and 18 attend high school, which offers a wide range of educational facilities. Many high schools end with "general courses", a distinction can be made between two general courses:</p> <p>(1) a technology diploma that includes theoretical and vocational education and prepares students for higher professional education,</p> <p>(2) A professional diploma that focuses on vocational training and prepares students to enter the job market directly.</p>	<p>The Entrepreneurship Academy is an association of entrepreneurial teachers and educators from higher and secondary education levels, whose main mission is to identify and disseminate entrepreneurial education and teaching activities.</p> <p>Entrepreneurs' House, which aims to raise awareness and entrepreneurship education in educational institutions.</p> <p>Young entrepreneurs where students have the opportunity to design business plans with first year experts.</p> <p>A "School Entrepreneur" in which students build their own companies and participate in competitive business competitions and programs.</p> <p>"Lucy and Valentine ... have started a business!" It is an educational tool that combines comics and serious content to encourage young people to become entrepreneurs and think about starting their own company.</p>
Germany	<p>After elementary school, where all children attend classes with different backgrounds, the organization of secondary education in the states is determined by the different educational paths:</p> <p>The purpose of the upper secondary level is to prepare students for the workplace.</p> <p>Secondary level 2 aims</p>	<p>The Junior project provides a framework for running a company for students aged 15-20.</p> <p>The Go to School project teaches entrepreneurship skills to students and rewards the best business idea.</p> <p>Silent Hat Cooperative School" supports students in a show as entrepreneurs. Initiatives that promote the establishment of school-based companies and small businesses, Exhibitions include school corporations, a telephone line</p>

	to provide scientific education. Secondary education is in the realm of state authority.	for legal advice, a database for small companies, interaction weeks and competitions (for example, a competition between the Ministry of Education-sponsored Talent Factory and the BW Federal Employment Agency).
Italy	After finishing primary school, students go to junior high school, which ends with an exam that enables them to continue their education in high school. Secondary schools are divided into the following types based on their specialization: Scientific, classical, linguistics, education, technical, professional and art.	"IG students" that enable high school students to gain hands-on experience in running a company. A project that provides a simulation lab as a bridge between class and company. Italian Employers' Association has launched a project in which entrepreneurs in 16 Italian provinces are part of the school staff, and a section is made up of young entrepreneurs to raise awareness of the role of the entrepreneur in society and the economy.
Spain	The central government sets the curriculum for secondary education to ensure equal education for all students. However, there are 17 educational competencies in the area of autonomous communities. The beginning of secondary education for 12-year-old children and includes four academic years	Astoria is a special entrepreneurship training program for 12- to 16-year-olds, in which students set up and manage import and export companies and engage in real-world business activities with other student companies abroad (Young European Entrepreneur). "Business Simulator" supports teaching and learning by providing a truly simple model. Entrepreneurship at My School allows students to start and run a small business.
Sweden	After completing the compulsory education, young people aged 16-20 can enter high school. The high school includes 17 separate national programs for secondary education (3 years). Each program includes 8 main courses, program-	A project to provide services such as in-service training for teachers in the field of leadership training in local projects, meetings between different schools and business and networking. "Open to Business" offers an eight-week summer vacation entrepreneurship program focusing on 19- to 17-year-olds, which is an opportunity to gain experience in a company so students can create their own summer jobs.

specific courses, optional courses and projects. Different high school programs can be considered as preparation for academic, professional-oriented graduate education or a combination of the two.

Based on the above facts, we find that although entrepreneurship education is important in the EU and there is widespread agreement among EU members on its objectives, however among the countries studied, only Sweden and Spain have included entrepreneurship in their national curriculum. In general, it has been agreed among experts that entrepreneurship education should no longer be just an extracurricular activity, but should be included in the curriculum of all levels of education and disciplines. The positive outcomes of the educational systems of the studied countries in the field of entrepreneurship education is a proof of the belief that the entrepreneurial spirit can and should be encouraged and promoted from elementary school to higher levels of education.

Discussion and conclusion

This study compared entrepreneurship education in high schools of selected EU countries and Iran. It has been said that European countries, having realized the importance of entrepreneurship education for many years, have tried to include it in their education systems and

curricula in various ways. Many research projects have been done to confirm the importance and institutionalization of entrepreneurship education in the education systems of European countries, such as the following: Liu & Gu (2017) conducted the study of 3 models of TIE⁸, SSE⁹ and NSE¹⁰ in education and Introduced entrepreneurship in schools, which is based on thematic knowledge and a combination of entrepreneurship education and vocational learning. Boyle's (2007) study points to the importance of the components of training courses, the educational opportunities provided to students, the practical experiences gained during practical work, and the practical dimension of entrepreneurship. Streeter & Jaquette (2004) introduced a model that emphasized the importance of having practical lessons in school along with theoretical lessons and stated that students should be exposed to practical lessons to gain entrepreneurial skills and abilities. Moraes et al. (2018) described and

⁸ TIE: Technical Science Innovation Entrepreneurship

⁹ SSE: Social Science Innovation Entrepreneurship

¹⁰ NSE: Natural Science Innovation Entrepreneurship

presented a conceptual model based on the integration of entrepreneurship education, and suggested it as the ideal model for entrepreneurship education in schools. Huda (2020) considered entrepreneurship education in schools through holding an exhibition as a suitable option to strengthen entrepreneurship in students. Penaluna & Penaluna (2015) emphasized the maintenance and development of skills, mental abilities and creativity through entrepreneurship education in schools, especially in elementary schools.

It is also stated that entrepreneurship education in Iran has received more attention in the last decade. For example, Raza et al. (2021) study entrepreneurship education and believe that individuals' inner intentions and motivations, personality traits, need for position, center of internal control, and students' willingness to take risks should be considered. Morteza Nejad (2017) and Sheikhan (2016) have also stated that educational systems should help people realize their potential entrepreneurial abilities and develop them. Banyamerian et al. (2017) compared the technical and vocational curriculum, of Canada, Germany and India with Iran. The study emphasized on the entrepreneurial intentions. She found similarities in the goals and contents of the curricula of the three countries and Iran as all aimed to create entrepreneurial intentions and skills. However, the teaching-learning activities and

evaluation methods used in Iran are significantly different.

Overall findings indicated that while in European countries the purpose of entrepreneurship education is more focused on cultivating entrepreneurial spirit and preparing the individual for the future, in Iran, more focus is on teaching theoretical concepts and issues in the field. In terms of content, although entrepreneurship education in all countries studied in the present study is more prominent in courses such as social studies and economics, in Iran, subjects such as technology and research have also addressed this issue. There is a huge difference between Iran and European countries in terms of teaching-learning methods: While European countries focus on active and learner-oriented methods, in Iran, theoretical methods of teaching and assessing are applied. The similarity between Iran and selected EU countries lies in the emphasis on practical training of skills and the development of entrepreneurial thinking in students, which can be considered as strengths of entrepreneurship education in Iran. Whereas all EU member states have incorporated entrepreneurship education into the high school curriculum in some way, and by examining the goals, methods and approaches of entrepreneurship education in the mentioned countries, the following suggestions can be considered to apply in Iran:

1-Allocating sufficient budget and financial support for entrepreneurship education in order

to design and implement proper education programs in this field.

2- Holding specialized training courses on entrepreneurial teaching methods for teachers and stakeholders to promote entrepreneurship.

3- Using various scientific and up-to-date resources for entrepreneurial training in educational system and offering specialized courses in this field.

4- Holding entrepreneurial meetings in schools with various stakeholders in attendance.

5- Incorporating innovation and new educational methods in entrepreneurship education programs.

6- Providing the necessary coordinations to exchange entrepreneurship professors and educators between schools and universities.

7- Providing teachers with facilities and incentives to guide and actively accompany students through entrepreneurship education programs.

Regarding the obstacles in the way of entrepreneurship education, we can refer to: lack of attention and familiarity of families with the importance of this issue, lack of professional instructor, lack of attention to the interests and talents of students and some bureaucratic rules.

Finally, it should be noted that entrepreneurship education in schools is a step towards bridging the gap between school and the world of work. This kind of education opens a wide window to help students think effectively about the world of work. Although

formal entrepreneurship education will not turn all school graduates into entrepreneurs, it will certainly provide them with the basic skills and values to face potential challenges in life and the workplace, and thus the ability to adapt to the emerging conditions of global village.

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