

A longitudinal study on the effect of entrepreneurship courses taught at the vocational colleges in Turkey on students' entrepreneurial tendency

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Abstract

In the current international context, it is important to maintain vocational and technical education by providing entrepreneurship qualities within the mission of raising median labor force, which is undertaken by vocational colleges. The aim of this study is to make a longitudinal assessment of the effect of entrepreneurship courses taught at vocational colleges on entrepreneurship tendency. According to the study findings, having entrepreneurship courses at vocational colleges does not allow students to gain sufficient entrepreneurship qualifications. However, students feel inspired to establish their own business and gain a consciousness of the fact that they should not leave their lives at the mercy of external factors. In order to ensure that students acquire entrepreneurship qualities through entrepreneurship courses and prefer entrepreneurship, it is necessary for this course to be taught as an applied course: students' application performance must be included in the course assessment criteria; students must be given supervision support and a sense of making money on their own; and structural problems must be resolved.

Keywords: entrepreneurship, vocational college, education, business, Turkey

Introduction

As a consequence of the increasing need for qualified human capital due to globalization and intensifying competition, the importance of entrepreneurship qualifications has recently become even more significant (Gül and Beysenova, 2018, p. 214). Individuals' attitude towards entrepreneurship and relevant skills could be

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developed and consolidated through entrepreneurship education (Harris and Gibson, 2008). Entrepreneurship education is carried out in Turkey under both „Applied Entrepreneurship Education” in collaboration with KOSGEB (Small and Medium Industry Development Directorate) and İŞKUR (Government Employment Agency), which are local chambers of commerce, mercantile, and artifacts as well as public organizations, which also occur under the name „vocational and technical education” through „Entrepreneurship Courses” taught by universities.

Contemporary information and communication technologies in the fast-paced development trend have caused labor markets to transform and new professions to emerge. Among individuals who view these new professions as opportunities and who follow them closely, the „entrepreneurship tendency” gains popularity with each passing day. Together with this increasing popularity, the number of young individuals who pursue development in entrepreneurship has increased exponentially. Hence, it is important to structure the vocational and technical education curriculum efficiently, with a holistic perspective and design, and to implement entrepreneurship course contents in a way that ensures that students acquire the necessary qualifications. Subject to the „Entrepreneurship 2020 Action Plan” developed by the European Commission in 2013, investments made in entrepreneurship education activities offer one of the highest return rates that could be earned from the EU (Galvao *et al.*, 2018).

Today, universities seem to be substantial actors among entrepreneurship education providers both in Turkey and around the world (Jones and English, 2004). According to the Turkish Vocational and Technical Education Strategy Bill and Action Plan (Years 2014-2018)¹, the acquisition of new skills supporting creativeness, innovativeness, and entrepreneurship, allowing transition among professions and the acquisition of capability to adapt to new professions could only be achieved through strong vocational and technical education. Furthermore, vocational and technical education is viewed as an important tool to alleviate the possible consequences of socio-economic crises that may arise in case of economic and employment capacity shrinkage. Within this scope, establishing social and economic integration into business life, increasing productivity in economy, and developing competitive strength require individuals to obtain key skills. As individuals who have obtained the necessary skills through entrepreneurship education put their unique and innovative opinions into action, this opportunity both fulfills the entrepreneurs’ employment needs and enhances the country’s macroeconomic indicators by reducing the unemployment index.

Based on 2017 demographical statistics, the unemployed youth population has reached 70.9 million in the world; and this figure is expected to grow to 71.1 million in 2018 (ILO, 2018). Besides this figure, when the number of young population

¹ Turkey Vocational and Technical Education Strategy Document and Action Plan (2014-2018) (retrieved from <https://abdigm.meb.gov.tr/projeler/ois/017.pdf>).

employed without social security or under disadvantaged standards are taken into consideration, the scope of the issue gets broader (Arpat, 2018, p. 2194). In fighting against this global issue, efforts to develop entrepreneurship skills among young population and motivate them for entrepreneurship have become essential. According to the findings reported in Shane and Venkataraman (2000), Oosterberbeek, Praag and Ijsselstein (2010), Belitski and Desai (2016), there are strong correlations between entrepreneurship activities and economic growth, innovation, economic results, productivity, and the creation of new businesses. In this regard, inspiring youth through entrepreneurship would offer a solution to high unemployment rates among youth population, one of the substantial problems of global economy. The findings of this study will determine the entrepreneurial tendency performance of entrepreneurship education in vocational colleges (henceforth VCs). In this way, by identifying the aspects of entrepreneurship courses that need to be improved, it will be ensured that graduates of VCs enter the labor market as individuals with higher entrepreneurial performance.

In the first part of the research, a literature review about entrepreneurship tendency and characteristics is given. In the second part, entrepreneurship lectures given in VCs and state supports provided within the framework of entrepreneurship training are discussed. The third part provides information about the methodology and application of the research. In the fourth part, research findings are given.

1. Entrepreneurship tendency and characteristics

Entrepreneurship is described as taking action to put into practice what is imagined through great sacrifice and devotion without being hindered by the obstacles awaiting the person involved; and as a significant effort to achieve one's ideas (Güner, 2010, p. 9).

Entrepreneurship tendency is described as the self-motivation of persons to employ themselves based on a view against organizational employment (Gül and Beyşenova, 2018, p. 218). This tendency represents the inclination and intention of a person to take a new initiative (Bayraktar and Karadeniz, 2017, p. 493), and is referred to as a planned and willful behavior of an individual. Thus, entrepreneurship education needs to be structured so as to ensure that individuals gain the inclination and personal qualifications necessary to be successful in their imagined businesses.

Establishing and managing a business brings social reputation and respectable status for individuals. However, individuals need to possess certain qualifications. The personal characteristics of a successful entrepreneur are: the ability to make risky decisions, a creative and participative personality, being a visionary, the ability to foresee and to recognize the things others tend to miss, effective leadership, and positive courage. The fundamental objective of an entrepreneur is to invent something that has not been invented before. Their distinctive characteristic is not

only creating and elaborating on new opinions, but also taking „action” for these novel opinions (Fidan and Yeşil, 2015, p. 320).

An increased number of entrepreneurs in both Turkey and the world is important in order to increase and develop the quality and quantity of employment. Table 1 exhibits the expected rates of entrepreneurs in labor force in Turkey and the world based on statistics from ILO.

Table 1. Annual entrepreneur rates expected in Turkey and in the World

Year	Entrepreneur Rates					
	Turkey	Eastern Europe	EU	World		
				Low Income Countries	High Income Countries	All Countries
2018	4.6	1.9	4.2	2.0	3.9	3.1
2019	4.6	1.9	4.2	2.0	3.9	3.1
2020	4.6	1.9	4.2	2.0	3.8	3.2
2021	4.6	1.9	4.2	2.0	3.8	3.2
2022	4.6	1.9	4.1	2.0	3.8	3.2

Source: ILO Database²

According to Table 1, the entrepreneur rate among the current labor force is estimated to be 4.6% for Turkey in the near future. This rate is greater than all the groups from Europe and the world in terms of various geographical and economic classifications. The higher rate observed with Turkey could be the result of the relatively high unemployment rate in Turkey in comparison to Europe. Additionally, KOSGEB offers special grant programs for the entrepreneurs who are in pursuit of establishing their own business. Entrepreneurs usually display two different psychological stances before starting their business. The first is the one mostly observed among experienced workers when they feel that they have gained enough experience in their profession, which is necessary for craftsmanship. The second is of individuals who have already been in the labor market and who want to establish their own business as a guarantee against the possibility of being laid off. Entrepreneurs in these two stances are able to found their businesses by taking advantage of KOSGEB incentives and grants. This could be why the anticipated entrepreneur rates in Turkey is comparably higher than the rest of the world.

² Data retrieved from www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page3.jsp?MBI_ID=32

2. Entrepreneurship education and its significance

In our contemporary period, an outstanding interest exists towards entrepreneurship education organized by universities and government bodies across the world (Yarkin and Yeşil, 2016, p. 128). Similarly, education programs on „entrepreneurship” are organized and conducted by various institutions in Turkey. Upon successfully completing these education programs, participants are issued relevant certifications. In addition to these public education activities offered by various institutions, „entrepreneurship” courses are taught to students in various higher education programs so as to ensure that students gain entrepreneurship qualities and are motivated to establish their own businesses. The purpose of entrepreneurship education programs is to facilitate the transition of individuals to the private sector by providing them with fundamental entrepreneurship and business administration knowledge and skills so that they can establish and maintain their own businesses successfully (Patır and Karahan, 2010, p. 27).

Entrepreneurship education programs are an important milestone in creating an entrepreneurship culture within society and entrepreneurship tendencies among individuals. In this regard, entrepreneurship education (courses) taught at universities are especially distinguished from other institutional education activities since they constitute the last element of vocational and technical education before transition into the labor market; and they serve the purpose of acquiring entrepreneurship qualifications at a young age. In order to get the assumed efficiency from these education programs, the content and teaching of courses should adequately motivate the young population to shape their view towards entrepreneurship and to follow the path of „entrepreneurship” along with their vocational preferences.

2.1. Entrepreneurship education and available entrepreneur incentives in Turkey

A well-functioning entrepreneur incentive system could motivate and facilitate entrepreneurship. It is therefore argued that entrepreneurship education could play a more significant role in an initiative support system (Gürol and Atsan, 2006). Because of the economic aspect of a business, it is not sufficient for the individuals pursuing the opportunity of establishing their own business to make their living independently through their personal efforts and take action to actualize their plans with own resources. For a person lacking sufficient capital for a business idea, these plans would not go beyond the dreaming stage. At this point, supporting loans offered to new entrepreneurs by the government come to prominence, where the aim is to ensure that these businesses are useful to themselves and to the national welfare. The governmental monetary support for these entrepreneurs’ projects, based on

various conditions (such as not closing down the business for three years), is referred to as „grant”.

Various institutions back the governmental grants and incentives made available for entrepreneurs in Turkey depending on the nature of the investment presented. KOSGEB, Ministry of Science, Industry, and Technology, TÜBİTAK, Ministry of Energy and Natural Resources, Ministry of Food, Agriculture and Husbandry, Ministry of Finance, Ministry of Transportation and Infrastructure, Regional Development Agencies, Organization for Promotion of Agricultural and Rural Development (TKDK), İŞKUR, Turkish Technology Development Foundation (TTGV) and Credit Guarantee Fund (KGF) provide incentive and support to entrepreneurs based on their major area.

Concerning the period between 2010 and 2018, KOSGEB’s „New Entrepreneur Grant” was the most preferred type of government support for the entrepreneurs who establish new businesses. Under this grant classification, which requires an entrepreneurship education participation certificate, entrepreneurs’ business establishment and business maintenance expenditures are partially compensated by the government while being subject to certain regulations. KOSGEB offers this incentive as a grant and low-interest loan.

Entrepreneurs are required to participate in institutional education sessions given by KOSGEB in order to be eligible for the government grant. However, this is not the only choice for education. Students who take entrepreneurship courses at universities which are in collaboration with KOSGEB are also entitled to apply for these incentives without the education certificate requirement. These courses could be given both in associate and bachelor degrees.

2.2. Entrepreneurship courses at vocational colleges entrepreneurship tendency

At VCs, the entrepreneurship course is taught 3 hours per week in a 14-week semester. Students are expected to pass a midterm and a final exam as well as a feasibility study project for team-work skills acquisition. The entrepreneurship course can be included in many programs offered by VCs. Some universities, in collaboration with KOSGEB, organize business plan competitions and winners get several different prizes. Some of the lecturers teaching entrepreneurship at VCs also work for KOSGEB to maintain the adult education program for the individuals who are in pursuit of establishing their own business under the „Entrepreneur Grant Program”.

The entrepreneurship courses taught at VCs aim to develop students’ capabilities related to feasibility study and business development. Thus, the learning outcome is to ensure that students have more analytic and result-oriented decision-making approaches in their professional life after graduation. This approach may allow students to develop greater self-confidence in the labor force or as independent business owners after graduation.

It is claimed that entrepreneurship courses taught at universities do not display the assumed efficiency to ensure that students gain entrepreneurship tendencies. In a study conducted by Ghina (2014) in Indonesia, it is reported that the basic reasons for poor entrepreneurship tendencies were: the lack of practical activities in developing entrepreneurship through collaboration between government and higher education institutions, the unstandardized curricula of entrepreneurship courses at universities, the lack of lecturers' capability of suggesting new paradigms on the significance of entrepreneurship, and the lack of adequate cooperation between the universities and entrepreneurs. Similarly, in Sweden, the problem with the policies concerning the role and significance of entrepreneurship in higher education is reported as its poor performance in helping individuals develop practical skills to take necessary action in entrepreneurship (Hagg and Schölin, 2018). In Turkey, studies concerning the entrepreneurship tendency among VC students report different findings, summarized below:

- Among the Namık Kemal University VC students, the entrepreneurship tendency rate is reported as 28% (Akpınar and Küçüköksel, 2015, p. 18).
- Türkoğlu, Tetik and Açıkgöz's study on VC students reports students' entrepreneur personality characteristics to be at a medium level (2017).
- In Aydemir (2018)'s longitudinal study at a VC, it is reported that students' entrepreneurship tendency increases after entrepreneurship education.
- In Güreşçi (2014, p. 23)'s study on VC students from Atatürk University, students' entrepreneurship tendencies are assessed based on the number of their positive answers, and students are found to be potential entrepreneurs. However, it is reported that this potential could only be successfully applied provided that the entrepreneurship courses are implemented successfully by means of acquisition of entrepreneurship qualities.
- According to the findings in Türkmen and İşbilir (2014, p. 18), a significant difference is determined between students' entrepreneurship tendencies and getting entrepreneurship education.
- In Solmaz *et al.* (2014, p. 41), a significant difference is determined between bachelor and associate degree students in terms of entrepreneur personality characteristics.

Different findings obtained through various research based on micro data make it difficult to draw a general conclusion regarding the entrepreneurship tendency acquisition strength of the entrepreneurship courses taught at VCs. When the general qualities of VC students are assumed as homogenous, the issues related to education could be considered as an obstacle against the acquisition of entrepreneurship tendency. Looking at entrepreneur education lecturers in Estonia, Toding and Venesaar (2018) address the need for a systematic approach toward entrepreneurship teaching and learning practices.

The effective implementation of an entrepreneurship course requires a design that allows students to participate in practical entrepreneurship activities (Aydemir,

2018, p. 198). The entrepreneurship experiences that the students could gain should be made available in the classroom environment through simulations so that they can assess their own entrepreneurship skills and amend themselves accordingly (Graevenitza *et al.*, 2010). Nevertheless, there are no findings suggesting the existence of such entrepreneurship course practices at VCs in Turkey. Therefore, it seems that entrepreneurship courses are not taught in Turkey in a way that students can acquire the desired entrepreneurship skills and quality.

To ensure eligibility for VC students when making use of KOSGEB entrepreneur grants, a collaboration protocol between KOSGEB and respective university needs to be established. As mandated by this protocol, the content supplied by KOSGEB concerning entrepreneurship education needs to be given to students within the „entrepreneurship course” content in the VC’s curriculum. Provided that students pass this course successfully, they are to be entitled to participate in the Entrepreneurship Grant Program and have the opportunity to establish their own business with the grant supplied by KOSGEB. This acquisition gives a significant advantage to VC students. The availability of these incentives for VC students who acquired entrepreneurship qualities in real terms is considered a substantial factor in increasing the qualified entrepreneur rate in Turkey. Additionally, including KOSGEB’s entrepreneurship education content in VC entrepreneurship course curriculum both decreases the education costs that KOSGEB undertakes and increases the number of individuals who benefit from this content. Furthermore, VC graduates who take this course gain a competitive strength in their transition to labor market. Young people who establish their own business can yield important advantage for the government in combatting unemployment among youth population. Financial support, that is, the principal obstacle students face before gaining qualities necessary for their occupations in the classroom environment through formal education, is provided by KOSGEB so the students can implement their business ideas and turn them into income.

In Turkey, there are various popular programs launched to develop occupational knowledge and skills of VC students. One of these programs is called „on-the-job education (OJE)” and takes place over a period of at least one semester (Akşit *et al.*, 2017; Arpat *et al.*, 2017). VC students are given long-term employment opportunity at a workplace through the OJE program. At the end of the program, if the employer is satisfied with the student’s performance, they are recruited immediately after graduation. This method allows students to establish a career plan and to find a job through real industrial experience. In the same way, students who adapt to the relevant industry will be successful in founding their own businesses provided that they have access to the financial opportunities and gain business competency after graduation. By taking the first step in a workplace that offers a high level of compatibility between education and business, students can gain vision, feel motivated and get to wish to establish their own business. In a study of Ramsgaard *et al.* (2018), it is reported that students could develop a comprehensive

understanding collectively regarding how to transfer theoretical knowledge into practice through their apprenticeship program. In the same study, they note that students develop self-esteem, professional identity and a sense of employability by means of apprenticeship (Ramsgaard *et al.*, 2018).

Table 2 exhibits entrepreneur data in Turkey based on university graduates and other education levels.

Table 2. Entrepreneur data from Turkey based on age and education levels

Demographic Profile		Entrepreneur*		Other**	
		Number	Rate	Number	Rate
18-29 Age	Non-University Graduates***	412	1,5	26.546	98,5
	University Graduates****	492	2,3	20.772	97,7
	General	904	1,9	47.318	98,1
All Ages	General	7.224	4,2	163.928	95,8

* Compiled from „Employer” data.

** Includes workers employed based on wage, salary, daily-paid, freelance, or non-paid family member workers.

*** Primary, secondary or high school education levels.

**** Associate and bachelor degree holders.

Source: Organized by the authors based on 2017 TÜİK Household Labor Force Statistics Micro Data Set

The raw data supplied by the Turkish Statistics Institute (TÜİK) resources does not display a sub-classification based on the specific education level under „university graduates”. Thus, distance/formal education or associate/bachelor degree holders were all analyzed under this category without further details. The lack of sub-categorization makes utilization from current data for analyses specific to bachelor or associate degrees. Thus, current statistics are not appropriate to draw a conclusion specifically for VC graduates.

As seen in Table 2, university students’ entrepreneurship tendency was found to be greater than the other groups. This finding conforms to Dickson *et al.*’s results which show strong evidence of correlation between general education levels of individuals and various entrepreneur qualities (Dickson *et al.*, 2008). According to Table 2 and the supporting study results, it is possible to increase the number of graduates looking to establish their own business through efficient and applied conduct of entrepreneurship courses at VCs.

3. Methodology

3.1. Aim and significance of the study

The fundamental objective of entrepreneurship courses at VCs is to ensure that students gain entrepreneur qualities and display entrepreneurship tendency. One of the skills of a qualified student is the capability of establishing their own business after graduation and reaching better employment conditions easily and in a shorter period of time.

The aim of the present study is to assess whether VC students who successfully pass an entrepreneurship course gain the necessary entrepreneur qualities or not. The basic problem of the study is „*Do entrepreneurship courses taught at VCs enable students to gain entrepreneurship qualities and increase their entrepreneurship tendencies?*”. Within this framework, participant students’ entrepreneurship tendency was assessed based on 22 variables.

The results of the study are expected to be considerable in terms of fighting against high unemployment rates among youth population, with a special focus on higher education graduates. The study is expected to develop graduates’ entrepreneurship qualities through the findings based on pre- and post-entrepreneurship education measurements, as well as to make a positive contribution to employment figures by business ideas’ achievement. By developing welfare, the achievement of such expectations has the potential to determine economic growth.

3.2. Method

The scales developed by Konakay *et al.* (2017), Bilge and Bal (2012) were utilized so as to measure the effect of entrepreneurship courses at VCs on students’ entrepreneurship tendency. The survey method was employed for the data collection process. The survey comprised two sections. The first section had 22 5-point Likert scale questions concerning the acquisition of entrepreneurship tendency / qualification, and the second section comprised 12 questions about the demographical characteristics of participant students. Students were informed about the study and its objectives at the beginning. Survey forms were then distributed and students filled them out subsequently.

The study that investigated the effect of entrepreneurship courses on students’ entrepreneurship tendency was conducted through employing the semi-experimental method³, which is one of the longitudinal research methods. VC students who did not take the entrepreneurship course were put in the control group, and the ones who successfully (minimum C2 grade) passed the entrepreneurship course were put in the

³ In semi-empirical methods, control and experiment groups are selected after an intervention and impact assessment is made after the program (See: Pierre, 1999, p. 10).

experiment group. The study was conducted on the students from Occupational Health and Safety, Logistics, Banking and Insurance Brokerage, Equities and Capital Markets, Public Relations and Promotion, Office Management and Executive Assistance, and Marketing programs offered at the VC of X University.

A hundred and fifty students were determined for each of the experiment and control groups. Surveys were implemented simultaneously on both groups. Participant students were randomly selected for the survey study conducted right after finals of the fall semester of the 2017-2018 academic year. After invalid survey forms were eliminated, 102 and 139 forms remained for the experiment and control groups respectively.

The assumption of the study was that students from the control and experiment groups shared similar characteristics since it is not possible to measure any entrepreneurship quality that they could gain through interactions with other students until their graduation. This constitutes the limitation of the study.

4. Findings

4.1. Reliability Test

Reliability is a basic indicator that shows whether measurement tool functions accurately on the target characteristics (Tekin, 2009, p. 57). Cronbach's Alpha internal consistency reliability coefficients are utilized to estimate internal consistency of items of Likert-type weighted scoring analyses (Okursoy and Turan, 2014, p. 71). Reliability analyses were conducted individually on both data sets for the groups „entrepreneurship course takers” and „entrepreneurship course non-takers”. Table 3 exhibits the Cronbach's Alpha coefficients estimated through reliability analyses.

Table 3. Cronbach's Alpha coefficients of control and experimental groups

Control Group		Experiment Group	
Cronbach's Alpha	Number of Participants	Cronbach's Alpha	Number of Participants
0.909	102	0.905	136

As observed in Table 3, Cronbach's Alpha coefficients were estimated greater than 0.80 for each group, which suggests that the conducted test was highly reliable (Alpar, 2011). Thus, it is possible to state that the results obtained from surveys were adequate for further statistical analyses.

4.2. Normality test

The key issue in determining the statistical methods to be applied in the analysis is deciding on whether to apply parametric tests or non-parametric tests. To check for eligibility in parametric tests, it is necessary to test some assumptions to see whether they are fulfilled or not. Normal distribution is one of these assumptions. H_0 hypothesis asserting „Data is normally distributed” needs to be accepted to conduct parametric tests. If it is rejected, non-parametric tests need to be applied. To test the normality of data, Skewness and Kurtosis methods were utilized. If Skewness and Kurtosis coefficients are found to be in the range between -2 and +2, it can be concluded that the survey data is normally distributed (Kalayci, 2014, p. 6). Table 4 exhibits Skewness and Kurtosis coefficients and relevant standard error values for scale items.

Table 4. Skewness and kurtosis values of scale items

No	Item	Experiment Group		Control Group	
		Skew.	Kurtosis	Skew.	Kurtosis
1	I feel an inner energy to do different businesses.	-0.967	0.766	-1.472	2.331
2	I do not hesitate to take risks.	-0.638	-0.279	-0.629	0.144
3	I enjoy working on projects that let me encounter new experiences.	-0.789	0.646	-0.863	0.201
4	I like challenging old-fashioned opinions and methods and searching for better ones.	-0.328	-0.254	-0.724	0,179
5	I concentrate on projects and jobs that let me see through a new perspective.	-0.482	-0.447	-0.719	-0,059
6	I try to work with new methods that have not been used by others before.	-0.430	-0.513	-0.618	-0.202
7	I do not hesitate to make mistakes in the subject area I am working with.	-.484	-0.588	-0.502	-0.656
8	I create spaces in which I can apply my skills.	-0.483	-0.152	-0.738	0.062
9	I do not hesitate to participate in projects offered by my friends.	-0.672	0.162	-0.755	0.280
10	I am in search of appropriate methods and techniques for success.	-0.723	0.068	-1.187	1.261
11	I could take advantage of the opportunities I encounter.	-1.31	1.991	-1.468	2.067
12	I could bring available resources together to turn them into fruition.	-0.734	0.923	-0.811	0.702
13	I am open to changes that may occur at my business and work environment.	-0.421	-0.356	-0.981	1.247

14	My creativity aspect is strong regarding my business.	-0.455	-0.628	-0.829	0.268
15	My motivation and tendency towards different jobs are strong.	-0.676	.236	-1.061	1.118
16	I could establish my own business.	-0.783	-0.141	-1.546	2.798
17	I do not hesitate to take the leadership in a business or practice.	-1.01	1.196	-1.086	0.529
18	If I am determined to do something, I do not let anything stop me.	-1.55	2.335	-1.262	0.645
19	I could make effective decisions regarding the future status of a business.	-1.14	0.717	-1.337	2.397
20	I do my best when I am in a rather difficult situation regarding my position.	-1.45	2.119	-1.749	3.580
21	Usually I am sure that I can carry out my plans.	-1.03	1.336	-0.930	0.472
22	I do not let external factors determine my life.	-0.995	0.533	-1.555	2.393
	GENERAL	-0.956	1.399	-0.982	0.969

According to Table 4, since Skewness and/or Kurtosis values remained in the range of $-2 \leq \text{Skewness/Kurtosis Value} \leq +2$ for the items 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 17 and 21, parametric tests were applied to these items. On the other hand, since Skewness and Kurtosis values were outside the specified range for the items 1, 11, 16, 18, 19, 20, and 22, non-parametric tests were conducted. Since Skewness and Kurtosis values were found in the range between -2 and +2 for the whole population, parametric tests were found to be appropriate for the analyses representing it.

4.3. Demographical findings

Table 5 exhibits demographical characteristics of the participants in the experiment and control groups.

Table 5. Demographical characteristics of the participants

		Control Group		Experiment Group	
		Number	Percentage	Number	Percentage
Gender	Male	50	49,5	65	47,8
	Female	51	50,5	71	52,2
Age	19-21	72	71,3	86	63,2
	22-24	24	23,8	34	25,0
	25 and older	5	5,0	8	5,9
	No response	-	-	8	5,9
Marital Status	Single	99	98,01	133	97,8
	Married	2	1,98	3	2,2

As shown in Table 5, students' gender in the control group was homogenously distributed, as the majority of students were in the 19-21 age group, and single. The majority of students in the experiment group were female, aged 19-21 and single.

4.4. Inferential analysis findings

The effect of entrepreneurship course taught at VCs on students' entrepreneurship tendency was analyzed based on the averages estimated from items in the scale. In this section, average scores of students who take the course and the ones who do not were compared. The comparison was conducted through the Paired Samples T-Test. The results are summarized in Table 6.

Table 6. Impact of entrepreneurship course on entrepreneurship tendency (general)

	Mean	S.D.	t	df	p
Control Group	3,8820	0,57284	-1.225	100	0.223
Experiment Group	3,9836	0,59474			

According to Table 6 above, there is no statistically significant difference between the students who took the entrepreneurship course and the ones who did not ($p=0.223>0.05$). Although the average scores of students who took the entrepreneurship course were a bit higher than the ones who did not take it, this difference is considered as coincidental. These scores suggest that entrepreneurship courses taught at VCs do not help students gain any entrepreneurship quality or that they are not effective in building an entrepreneur-like personality. However, when the contents of the entrepreneurship course were taken into consideration, it was expected that students who attended and passed this course would develop their entrepreneur qualities. Based on the analysis of obtained results, a productivity problem was noted with the entrepreneurship courses. The most prominent factors were that the students feel no obligation regarding entrepreneurship, they do not take entrepreneurship initiatives in real life, and they perceive the entrepreneurship course just like any theoretical course. Moreover, students only made an effort to pass the entrepreneurship course to graduate as soon as possible; and they aimed to join other employees in the market instead of establishing their own business. Students usually expect to find a job at a reputable company at the beginning of their education and in their career plans following graduation. Accordingly, the entrepreneurship course at the VCs has failed to display efficiency in changing the students' point of view with regards to their career.

In order to increase the entrepreneurship course's efficiency and to stimulate students' entrepreneurship tendency, the course needs to have content material capable of bringing out students' entrepreneur identities and it needs to be taught by

the lecturer by using appropriate methods. In other words, lecturers need to convey the course content effectively. On the students' side, it is important to understand the course's learning outcomes. Based on the obtained results, it was revealed that the learning outcomes of the entrepreneurship course were not accomplished. The following issues were considered as reasons for this failure:

- Students' lack of sufficient qualities related to the outcomes that entrepreneurship brings and knowledge about entrepreneurship based on past experiences.
- Success levels of VC students are lower compared to bachelor degree students.
- Lecturers of entrepreneurship course lack adequate experience and sufficient knowledge about the fundamentals of entrepreneurship.
- The course is taught in a theoretical manner.
- Students are not given adequate chances to develop team-work and project development logic in a practical environment.
- No technical perspective on the theoretical entrepreneurship course and other courses is shown to students.
- Students are not informed sufficiently about risk management within the entrepreneurship framework.
- Students are not instructed sufficiently about financial management, which could cause problems in the cash flow of the business as a result of entrepreneurship activities and stand out as an obstacle before maintaining business operations.

Findings reported by İrmiş and Barutçu (2012) in their comparative study between freshman and senior students from the department of business administration support our results in that the entrepreneurship course is not effective on students' intention to establish their own business. Another study supporting our conclusion is conducted on 64 graduate entrepreneurs in Great Britain, where it is reported that education targets do not correspond to the actual targets of entrepreneurship skills, knowledge and attitude (Matlay, 2008).

In this section of the study, control and experiment groups were compared in terms of each of the items included in the scale.

I feel an inner energy to do different businesses

An entrepreneur personality naturally provides an analytic perspective, which allows one to do different jobs neatly and simultaneously. In order to prove different from their competitors, an entrepreneur is required to handle their business with a distinct perspective, which ensures their customers are convinced of the uniqueness of the offered product or service. Entrepreneurship education is expected to create a motivation and energy on students to „do different businesses”. Wilcoxon Signed Rank Test was employed to test whether this energy was manifested in students or not. Table 7 exhibits the test results.

According to Table 7, there was no statistically significant difference between students who took the entrepreneurship course and the ones who did not ($p=0.257>0.05$). As such, it was understood that taking the entrepreneurship course did not leave enough of an impression on the students to motivate them to do business in various fields, nor did it create an effect on students' perceptions. In other words, the entrepreneurship course fell short in motivating VC students by considering new opinions to establish businesses. As specified above, in order to ensure that the entrepreneurship course motivates the students, the course's significance needs to be understood by the students and to be supported through theoretical knowledge and practices. In that case, the lecturer thoroughly transfers theoretical knowledge to students and appropriately instructs them during practices.

Table 7. Creating motivation among students to do different businesses

	Mean	S.D.	Mean Rank	Z	p
Control Group	3.8820	0.57284	45.77	-1.134168	0.257
Experiment Group	4.0400	0.54805	52.80		

I do not hesitate to take risks

During an entrepreneur's implementation of a business idea, risks need to be in a measurable form so that they can be managed. When entrepreneurship tendency is viewed from the angle of the entrepreneur personality's characteristic, it is acknowledged that having a tendency to take risks is a significant indicator (Korkmaz, 2012). In a study conducted on 115 university students in Florida, it is revealed that risk tolerance, perceivable feasibility, and net desirability explain the intention for establishing business by 0.528 adjusted R^2 (Segal *et al.*, 2005). In this regard, skilled entrepreneurs analyze the current status and invest their resources (financial, labor and time) in the options promising success, and make efforts to promote the business. The item is aimed to measure students' risk-taking tendency in business life. The risk taking potential of VC students was expected to increase after taking the entrepreneurship course. The comparison between the control and the experiment groups was conducted through Paired Samples T-test, and is summarized in Table 8.

Table 8. The effect of taking the entrepreneurship course on risk taking behaviors

	Mean	S.D.	t	df	p
Control Group	3.61	1.140	-1.631	100	0.106
Experiment Group	3.85	0.942			

According to Table 8, in terms of risk-taking behavior, there is no statistically significant difference between students taking the entrepreneurship course and the ones that do not ($p=0.106>0.05$). Hence, it was concluded that the entrepreneurship course taught at VCs failed in the acquisition of risk-taking behavior by students. This finding was in accordance with the previous results. Students who failed to show entrepreneurship tendency would not exhibit risk-taking behavior neither. Firstly, students need to realize that entrepreneurship is a life style and not a phenomenon to be afraid of. Moreover, students must be inspired to understand that risk is a manageable factor and that the risk analysis competency is a valuable tool for an entrepreneur. Students who are aware of this fact and who have strong communication skills will not hesitate to take risks when they find an opportunity.

I like working on projects that allow me to try new things.

Entrepreneurs give importance to innovation in their business activities. Enterprises that base their activities on innovation also have the potential to establish a competitive superiority (Aksoy *et al.*, 2017). For this reason, for these enterprises, differentiation from the market in terms of the business set-up is important. The entrepreneur makes a difference with their products or services compared to the products of competitors. It is anticipated that students who take the course on entrepreneurship will have more positive opinions about working on projects that allow for experimenting on novelties, compared to students who do not take the same course. In order to measure this, the group averages have been compared with the Paired Samples T-Test and the results are shown in Table 9.

Table 9. The impact of taking entrepreneurship course on liking to work on projects that allow experimenting on novelties

	Mean	S.D.	T	df	p
Control Group	3.89	0.969	-0.591	100	0.556
Experiment Group	3.97	1.034			

According to Table 9, in terms of developing a positive attitude towards working on projects that allow for experimenting, there is no statistically meaningful difference between the groups ($p=0.556>0.05$). Accordingly, it has been observed that the course on entrepreneurship delivered at the VCs cannot/does not contribute to the adoption of the idea that working on the projects that allow for experimenting with novelties is important. An individual, who is not inclined towards entrepreneurship and does not feel the energy for entrepreneurship, will not be inclined towards these projects. Some of the entrepreneurs are not open to novelty and have tradition-oriented personalities. Such entrepreneurs cannot keep up with the innovations in the sector and technology, and therefore cannot be successful in developing their businesses.

I like challenging older ideas and practices and looking for better ideas and practices.

A good entrepreneur must be willing to be different compared to their competitors. Instead of copying existing competitors, such an individual will opt for that which is beyond the ordinary in the light of technological advances and novelties. This section examines the tendency to challenge older ideas and practices and to look for better ideas and practices. For students that attend entrepreneurship courses, more positive scores are anticipated. The comparison between the groups has been carried out by the use of Paired Samples T-Test. The test results are given in Table 10.

Table 10. The impact of taking the entrepreneurship course on the inclination towards seeking for better ideas and practices

	Mean	S.D.	T	df	p
Control Group	3.76	0.907	-1.021	100	0.310
Experiment Group	3.90	0.995			

According to Table 10, in terms of the tendency to seek for better ideas and practices, there is no statistically meaningful difference between those who take entrepreneurship courses and those who do not ($p=0.310>0.05$). According to this finding, it can be asserted that the entrepreneurship courses offered at VCs do not have a positive impact on students' tendency to challenge older ideas and practices and seek for better ideas and practices.

An entrepreneur should be foresighted. For this reason, they need to identify businesses with future potential and establish their business activities according to the requirements and needs of the customers. The entrepreneur should not invest in businesses that fail to provide present and future potential. For example, entrepreneurs with the anticipation that „within a decade, artificial intelligence and Industry 4.0 will become the most popular areas” should develop themselves in these areas and carry out research on these very topics in their business plan.

I get involved in projects and activities that allow me to gain a new perspective.

A good entrepreneur must keep up with novelties and technology. One of the biggest aspirations of an entrepreneur is their business being received with satisfaction by the beneficiaries and their products being perceived differently from those of the competitors. For this reason, the entrepreneur generally prefers trying new things and making a difference. It is anticipated that students that take the entrepreneurship course achieve more positive scores on the item. The comparison between the groups has been carried out through Paired Samples T-Test. The test results are given in Table 11.

Table 11. The impact of taking entrepreneurship courses on the student's inclination towards projects and business activities that offer a new perspective

	Mean	S.D.	t	df	p
Control Group	3.64	1.026	0.442	100	0.660
Experiment Group	3.57	1.117			

According to the scores presented in Table 11, there is no statistically meaningful difference between students who take the entrepreneurship course and those who do not, in terms of taking interest in projects and business activities that offer new perspectives for students ($p=0.660>0.05$). According to this finding, it can be observed that the entrepreneurship courses provided at the VCs do not offer students such gains. The aims and goals of training on entrepreneurship should be determined clearly and students should be enabled to internalize these aims and goals. For such clarification to be offered to the students, in addition to providing them with theoretical information, the entrepreneurship course should also include some practical studies. Therefore, students will be able to gain skills in drafting feasibility reports, projects and carrying out analyses about the sector.

I like working with new methods that have not been tested by others before.

Entrepreneurs do not approve of copying their business activity, process or systems from their competitors. In general, entrepreneurs employ the benchmarking technique to make an analysis of the activities of their competitors in order to become better than them, and they develop and adapt good practices to their own business activities. It is anticipated that the inclination to work with new methods that have not been tried by others before would be higher among the students who take the entrepreneurship course. The comparison between the groups has been made by using the Paired Samples T-Test. The tests scores are given in Table 12.

Table 12. The impact of taking the entrepreneurship course on working with new methods that have not been tried by others before

	Mean	S.D.	t	df	p
Control Group	3.43	1.169	-1.058	100	0.293
Experiment Group	3.60	1.158			

According to Table 12, there is no statistically meaningful difference between those who take the entrepreneurship course and those who do not in terms of working with new methods that have not been tried by others before ($p=0.293>0.05$). Based on this finding, it has been understood that taking the entrepreneurship course at VCs does not/cannot have any contribution to working with new methods that have not been tried by others before. The fact that the entrepreneurship course does not

provide students with a willingness to improve themselves will also decrease their motivation to seek for new methods. As a candidate for entrepreneurship, a student will need to be able to make use of the novelties in the sector and to adapt these to their newly founded business.

I am not afraid of making mistakes about the subject I work on

An entrepreneur is never afraid of making mistakes. This is because the entrepreneur is aware that making mistakes is part of finding the right option. It is in the entrepreneur's nature to try every possibility to find the right way. It is anticipated that the attitude of not being afraid of making mistakes about the subject that is worked on will be higher among students who take the entrepreneurship course. The comparison between the groups has been made by the use of the Paired Samples T-Test. The test results are given in Table 13.

Table 13. The impact of taking the entrepreneurship course on the attitude of not being afraid of making mistakes

	Mean	S.D.	t	df	p
Control Group	3.55	1.144	0.543	100	0.588
Experiment Group	3.47	1.188			

According to Table 13, there is no statistically meaningful relation between taking the entrepreneurship course and not being afraid of making mistakes on a particular subject that is being worked on ($p=0.588>0.05$). According to this score, the students of VCs that take the entrepreneurship course do not have any positive change of attitude towards not being afraid of making mistakes. When the risk-taking capacity of a candidate entrepreneur is not developed, they will continue to be afraid of making mistakes. Students should be taught that making mistakes is a phenomenon that can be corrected and also prevented. If necessary, they should be told that, as entrepreneurs, they should not be afraid of making mistakes, and they should also be taught about the risk analysis phenomenon and that the mistake possibility can also be managed.

I create areas to put my skills into practice.

A good entrepreneur should have a diverse set of skills. With these skills, the entrepreneur is able to make differences in entrepreneurship activities and adopt creative and innovative approaches in their products and services. It is anticipated that the skill of creating areas to put qualifications into practice should be higher among the students taking the entrepreneurship courses. The comparison between the groups has been made through Paired Samples T-Test. Test results are given in Table 14.

Table 14. The contribution of taking the entrepreneurship course on the skill of creating areas to put the qualifications into practice

	Mean	S.D.	t	df	p
Control Group	3.78	0.923	0.074	100	0.942
Experiment Group	3.77	1.048			

According to Table 14, there is no statistically meaningful difference between those who take the course and those who do not regarding the skill of creating areas to apply qualifications ($p=0.942>0.05$). Accordingly, it is understood that the VCs students' taking the entrepreneurship course does not make any contribution to their skill of creating new areas where they could apply their qualifications. As noted above, the failure in the improvement of students' disposition for entrepreneurship will result in the continuity of their anxiety in seeking new grounds. For this reason, the scientific research methods course should be integrated into the entrepreneurship course and students should be taught effectively. They should be acquiring knowledge about how a research is conducted, how it is analyzed, and concluded.

I do not abstain from being involved in some of the projects offered by my friends.

Individuals with an entrepreneurship spirit are willing to be involved in and contribute to new projects and group work. Achieving new things and being part of a team are among the chief subjects of enjoyment among entrepreneurs. It is anticipated that the students taking the entrepreneurship course will have a higher tendency to be active in joining the projects offered by their friends. The comparison between the groups has been made through Paired Samples T-Test. The test results are given in Table 15.

Table 15. The impact of taking the entrepreneurship course on the tendency to join projects offered by friends

	Mean	S.D.	t	df	p
Control Group	3.62	1.076	-1.115	100	0.268
Experiment Group	3.79	1.003			

According to Table 15, there is no statistically meaningful difference between those who take the course and those who do not in terms of attitude towards joining projects offered by friends ($p=0.268>0.05$). According to this result, it is understood that among VC students, taking the entrepreneurship course does not make any contribution to their attitudes towards joining projects offered by their friends. The entrepreneurship training should ensure that the entrepreneurship culture is mainstreamed among young people. The mainstreaming of the entrepreneurship

culture creates synergy among young people. This will also support an increase in communication among students in terms of creating new projects together. According to a research by Akbaba *et al.*, (2018), as the communication skills of the students improve, their inclination towards entrepreneurship also tends to increase. For this reason, students need to be guided into team and project creation tasks within the scope of the entrepreneurship course.

I am in search of convenient methods and techniques to achieve success.

An entrepreneur makes maximum efforts to find what is correct and good. Making use of technology and novelties in the sector supports individuals in their achievements. It is anticipated that the search for convenient methods and techniques to achieve success will be more positive among the students that take the entrepreneurship course. The comparison between the groups has been made through Paired Samples T-Test. The test results are provided in Table 16.

Table 16. The impact of taking the entrepreneurship course on the attitude of searching for convenient methods and techniques

	Mean	S.D.	t	df	p
Control Group	3.84	0.997	-0.540	100	0.590
Experiment Group	3.92	1.102			

According to Table 16, there is no statistically meaningful difference between those who take the entrepreneurship course and those who do not in terms of searching for the convenient methods and techniques to achieve success ($p=0.590>0.05$). Accordingly, among the VC students, there is no relation between taking the entrepreneurship course and searching for convenient methods and techniques. Entrepreneurship education should motivate students towards entrepreneurship and create a positive change of attitude so that they can be more successful in their future efforts.

I am capable of making use of opportunities.

Entrepreneurs come across a variety of opportunities throughout their life. Entrepreneurs must improve themselves regarding risk management and manage the risk of opportunities so that they can make use of and also make an effort for positive outcomes in their activities. The relation between taking the entrepreneurship course and being able to make use of opportunities has been analyzed with the Wilcoxon Signed Rank Test. It is anticipated that the individuals taking the entrepreneurship course should have a higher inclination towards making use of opportunities. The test results are given in Table 17.

Table 17. The impact of taking the entrepreneurship course on making use of opportunities

	Mean	S.D.	Mean Rank	Z	p
Control Group	4.20	0.906	34.74	-0.496	0.620
Experiment Group	4.29	0.942	29.94		

According to Table 17, there is no statistically meaningful relation between the students taking the entrepreneurship course and their skills of making use of opportunities ($p=0.620>0.05$). Thus, it is understood that taking the entrepreneurship course at the VCs does not have an impact on the skill of making use of opportunities. In order to make use of opportunities, entrepreneurship education should be able to enhance the perspective of an individual Finding opportunities and forming the capacity to make use of and seize them are among the important areas in entrepreneurship.

I am capable of compiling my resources and transforming them to efficiency.

An entrepreneur is a person fond of doing research. For this reason, the entrepreneur is able to make multi-dimensional research, efficiently use the resources s/he collects, and therefore to carry out activities that create value-adding products and services. It is anticipated that the students that take the entrepreneurship course will have a more positive skill on transforming the existing resources into efficiency. The comparison between the groups has been made by use of the Paired Samples T-Test. The results of the test are given in Table 18.

Table 18. The impact of taking the entrepreneurship course on the skills of the individual for assembling the resources and transforming them into efficiency

	Mean	S.D.	t	df	p
Control Group	3.87	0.879	-1.094	100	0.276
Experiment Group	4.01	0.933			

According to Table 18, there is no statistically meaningful relation between the students' taking the entrepreneurship course and combining the resources in hand and transforming them into efficiency ($p=0.276>0.05$). Accordingly, it can be asserted that taking the entrepreneurship course at the VCs does not have any impact on the skills of students in combining the resources in hand and transforming them into efficiency. Making use of resources depends on the individual's improvement in terms of knowledge and skills. This aspect should be supported and improved through training. The entrepreneur should get to know the concepts of time, money, human resources, raw materials and materials, and therefore be able to efficiently use resources.

I am open to changes in my work and my activities.

Entrepreneurs have personalities with a flexible structure of thinking. They generally respect the opinions of people around them and adapt convenient ideas to their business activities. They especially keep up with technology and the changes in the sector, and comply with the necessities of their time. It is anticipated that being open to changes in work and activities should be higher among those that take the entrepreneurship course. The comparison between the groups has been made through Paired Samples T-Test. The results of the research are given in Table 19.

Table 19. The impact of taking the entrepreneurship course on the openness to the changes in one's work and activities

	Mean	S.D.	t	df	p
Control Group	3.98	0.812	-0.530	100	0.597
Experiment Group	4.05	0.921			

According to Table 19, there is no statistically meaningful relation between taking the entrepreneurship course at the VCs and being open to changes in one's work and activities ($p=0.597>0.05$). Accordingly, taking the entrepreneurship course at the VCs does not have any impact on being open to changes in one's work and activities. The willingness to receive changes and improvements can be possible through motivation. It is important that the entrepreneurship course be able to motivate the students. Trainers have an important role in this. A good trainer should be able to guide the student appropriately and give advice that encourages students in terms of entrepreneurship. For them to learn about a subject from different domains, different people, specialized in different fields and with diverse experiences should act as trainers (Namal *et al.*, 2018, p. 105).

I have strong creativity in my work.

It is asserted that an education system targeting to improve students in terms of creativity plays an important role in the development of entrepreneurship characteristics (Gürol, 2006). According to the research by Doğaner and Altinoğlu (2010, p. 103) on personality traits, there is a positive relationship between entrepreneurship and a willingness for achievement. Entrepreneur personalities do not copy the works of others; instead, they analyze their competitors with the benchmarking technique. They adapt the better aspects of previous works to their own activities by making use of their creativity. It is anticipated that the students taking the entrepreneurship course should have a stronger characteristic of creativity. The comparison between the groups has been made through Paired Samples T-Test. The test results are given in Table 20.

Table 20. Impact of taking the entrepreneurship course on creativity at work

	Mean	S.D.	t	Df	p
Control Group	3.82	1.014	-1.021	100	0.310
Experiment Group	3.96	0.989			

According to Table 20, there is no statistically meaningful relation between taking the entrepreneurship course and creativity at work ($p=0.310>0.05$). Accordingly, taking the entrepreneurship course at the VCs does not have any impact on creativity. The development of creativity is about the development of the individual's qualifications. An entrepreneur individual has to make use of their creativity in the designing, manufacturing and marketing of a new product. For this reason, the entrepreneur has to have knowledge and skills in innovation and creativity in order to be distinguishable from their competitors.

I have motivation and inclination towards doing different jobs.

An entrepreneur is a foresighted person. S/he invests in activities that promise future success. Therefore, such a person is interested in a variety of activities and feels accomplished by performing them. For example, students may obtain achievements in their classes while being successful in other activities or social activities. It is anticipated that the students that take the entrepreneurship courses will have motivation and inclination towards a variety of activities. The comparison between the groups has been carried out through Paired Samples T Test. The test results are given in Table 21.

Table 21. The impact of taking the entrepreneurship course on the motivation and inclinations towards other activities.

	Mean	S.D.	t	Df	p
Control Group	3.92	0.902	0.770	100	0.443
Experiment Group	3.81	1.017			

According to Table 21, there is no statistically meaningful relation between taking the entrepreneurship courses at the VCs and the motivation and inclinations of the students towards different types of activities ($p=0.443>0.05$). According to these scores, it can be asserted that the entrepreneurship course taken at the VCs does not have any impact on motivation and inclination towards different types of activities. The entrepreneur has to carry out different parallel activities without mixing them. For this reason, students must take the entrepreneurship course not only to receive a passing grade but also to think about the future. This awareness must be shared by all students. They should take seriously the fact that when they

graduate, they have the opportunity to be not only workers in the labor market, but to become successful as entrepreneurs.

I can set up my own business.

Entrepreneurship is a game. Among the people who learn the rules of this game, there is an instinctive approach towards entrepreneurship. In case the resources, the environment, the business, and the team are all convenient, the entrepreneur will be willing to establish their own business. Students generally receive monetary support from their families throughout their studies. Those who have the spirit of entrepreneurship will be the ones to seek for ways to make their own living and establish their own businesses. It is anticipated that the students who take the entrepreneurship course will have higher scores on the idea of establishing their own businesses. The comparison between the groups has been made through Wilcoxon Signed Rank Test. The test scores are given in Table 22.

Table 22. The impact of taking the entrepreneurship courses on establishing one's own business

	Mean	S.D.	Mean Rank	Z	p
Control Group	3.78	1.171	32.98	-2.608138	0.009
Experiment Group	4.27	0.923	39.36		

According to Table 22, there is a statistically meaningful relation between taking the entrepreneurship courses at the VCs and establishing one's own business ($p=0.009<0.05$). According to these scores, the entrepreneurship classes taught at the VCs can be said to have a positive impact on the students' idea of establishing their businesses. Those who take the entrepreneurship course will have the skills necessary to prepare feasibility reports, to think analytically and make goal-oriented decisions. The main aim here is to ensure that the basic rules of the entrepreneurship game are taught during the entrepreneurship course. An entrepreneur must have ten different qualifications: foresightedness, motivation, self-esteem, time management, financial literacy, management skills, planning skills, flexible thinking, ambition, and communication skills (Akbaba *et al.*, 2018). The graduates that have these skills are seen as more active in establishing their own businesses. The education system at the universities should be adapted so as to improve such skills among students.

I do not abstain from taking leadership in work or practice.

The entrepreneur's nature includes potential for teamwork and leadership spirit in order to carry out a project under their own initiative. For example, in the teamwork assigned to students, one of them must be the leader of the team for assignment management. These students are candidate entrepreneurs that possess leadership and are able to manage projects. It is anticipated that those who take the

entrepreneurship course have higher scores in terms of leadership. The comparison between the groups has been made through Paired Samples T-Test. The test scores are given in Table 23.

Table 23. The impact of taking the entrepreneurship course on leadership behaviors

	Mean	S.D.	t	df	p
Control Group	4.01	0.954	-1.352	100	0.179
Experiment Group	4.20	0.980			

According to Table 23, there is no statistically meaningful relation between taking the entrepreneurship courses at the VCs and displaying leadership behavior in a work or a practice ($p=0.179>0.05$). According to these scores, the entrepreneurship courses offered at the VCs do not have any impact on displaying leadership behavior. For leadership behavior, the aims and goals of entrepreneurship should be learned thoroughly, and the organizational skills thereon should be improved. The establishment of a business by the entrepreneur requires the existence of management skills. In order to ensure that the established enterprise has a leading and innovative approach within its sector, the entrepreneur should have developed leadership skills. Nevertheless, in the existing education systems at the universities, students can only receive theoretical information. The implementation of project work and teamwork in assignments are required, and the management and leadership qualifications of the students should be improved.

If I make up my mind for something, I never let anything get in my way.

Candidate entrepreneurs have high self-esteem and ambitions. An entrepreneur has to focus on the work, carry out research and make a risk analysis of the job at hand. After deciding to see through with the work, s/he provides the required resources and does whatever is possible for the completion of the work. It is anticipated that the students who take the entrepreneurship course have better skills in fulfilling the work they plan to do. The comparison between the groups has been made through Wilcoxon Signed Rank Test. The test results are shown in Table 24.

According to Table 24, there is no statistically meaningful relation between taking the entrepreneurship courses at the VCs and the fulfillment of a task that is planned by the individual ($p=0.80>0.05$). According to this score, the entrepreneurship course offered at the VCs does not have any impact on the fulfillment of a task planned by the individual. The inclination of students towards entrepreneurship should be improved so as to adapt to their needs and professions.

Table 24. The impact of taking the entrepreneurship course on the skills of an individual to fulfill any activity that s/he plans

	Mean	S.D.	Mean Rank	Z	p
Control Group	4.28	0.939	32.40	-0.254	0.80
Experiment Group	4.43	0.822	31.64		

For example, if a student is fond of computer games, it is observed that when s/he is involved in activities of entrepreneurship regarding the areas of computer hardware, software or data entry, s/he turns out to be more successful. For this reason, during university education, the student's required skills for entrepreneurship should be improved and their sectorial inclinations should be identified. At the universities focusing on entrepreneurship, the courses should not only be based on theory but also on project assignments. In this context, trainers should guide students and uncover their inclinations towards entrepreneurship. A coaching system should be established within universities for precise guidance in setting up businesses upon graduation.

I am capable of making effective business decisions for the future.

An entrepreneur is someone who conducts thorough research and plans their future well. When the entrepreneur decides to make a future plan, s/he has to make the time and business plan and take the necessary steps to reach their target. It is anticipated that the students who take the entrepreneurship course will have higher scores in making more effective business decisions. The comparison between the groups has been made through Wilcoxon Signed Rank Test. The test scores are given in Table 25.

Table 25. The impact of taking the entrepreneurship course on making effective decisions

	Mean	S.D.	Mean Rank	Z	p
Control Group	4.13	1.016	33.89	-1.318	0.189
Experiment Group	4.37	0.768	39.56		

According to Table 25, there is no statistically meaningful relation between taking the entrepreneurship courses at the VCs and taking effective business decisions ($p=0.189>0.05$). According to these scores, the entrepreneurship course offered at the VCs does not have any impact on enabling students to make effective business decisions. It is important that universities provide youth with the means required in entrepreneurship, and that the entrepreneurship training be also supported with in-school activities. Aside from the fact that the entrepreneurship courses

offered at universities are merely based on theory, students also lack support in problem solving and business set-up skills. One of the most important factors for the establishment of enterprises is the ability to make a market and competitor analysis, a skill that requires improvement among students.

I do my best at times when my duties challenge me at the utmost level.

An entrepreneur would be willing to achieve the duties assigned to them in the best way possible since success is one of the biggest enjoyments for an entrepreneur. An entrepreneur is supposed to research into the methods required for an enterprise's success and not to avoid spending time in concluding a task. It is anticipated that among the students that take the entrepreneurship courses, the resolution to do their best under hard work circumstances will be higher. The comparison between the groups has been made through Wilcoxon Signed Rank Test. The test scores are given in Table 26.

Table 26. The impact of taking the entrepreneurship course on the resolve to do the best thing possible under hard work circumstances

	Mean	S.D.	Mean Rank	Z	p
Control Group	4.27	0.948	32.00	-0.779	0.436
Experiment Group	4.38	0.877	32.91		

According to Table 26, there is no statistically meaningful relation between taking entrepreneurship courses and resolving to do their best under hard work circumstances. According to these scores, the entrepreneurship course offered at the VCs does not have any impact on the resolution to do their best under hard working circumstances.

The ambition and self-esteem qualities that every entrepreneur needs also involve resolving any challenge and developing the enterprise during the setting up stage of businesses. If a person gives up on establishing or sustaining a business when faced with a minor challenge, it is inevitable for the entrepreneur to fail within a short period of time. For this reason, under challenging circumstances, the entrepreneur needs to use their intellect, problem solving skills and techniques, thus overcoming the hardships and developing their business.

I am generally assured that I will be able to carry out the plans I make.

An entrepreneur is advanced in time and business planning. To ensure this, the entrepreneur prioritizes the existing tasks and makes an effort to finish the significant tasks. If necessary, they receive help from the people around them and ensure that the work is finalized. It is anticipated that the students that take the entrepreneurship course have higher confidence in the working-out of their plans.

The comparison between the groups has been made through Paired Samples T-Test. The test results are provided in Table 27.

Table 27. The impact of taking the entrepreneurship course in the reassurance of the person about his/her plans working out

	Mean	S.D.	t	df	p
Control Group	4.06	0.904	-0.695	100	0.489
Experiment Group	4.15	0.853			

According to Table 26, there is no statistically meaningful relation between taking the entrepreneurship course and being assured that the plans will work out ($p=0.489>0.05$). According to these scores, the entrepreneurship course offered at the VCs does not have any impact on the reassurance level of the individual about their plans working out. This is because the existing course on entrepreneurship is not adequately effective in the determination of targets and increasing the motivation for entrepreneurship. The time management and planning skills that every entrepreneur should have should be developed and improved with the course offered at the university. Since the existing university system is most generally based on learning theoretical information, students have problems when they establish businesses and become entrepreneurs.

I do not let my life be affected by external factors.

An entrepreneur is a conscious individual. S/he does not act under the influence of people around them. However, s/he also gives importance to the opinions of the people around them and analyzes these opinions and designates their own business. It is anticipated that, among the students that take the entrepreneurship course, the tendency to not let their lives be affected by external factors will be high. The comparison between the groups has been carried out through Wilcoxon Signed Rank Test. The test scores are offered in Table 28.

Table 28. The impact of taking the entrepreneurship course on the individual's tendency to be affected by external factors

	Mean	S.D.	Mean Rank	Z	p
Control Group	3.95	1.071	31.87	-2.138	0.032
Experiment Group	4.30	0.961	37.01		

According to Table 28, there is a statistically meaningful relation between taking the entrepreneurship course and not letting one's life be affected by external factors ($p=0.032<0.05$). Accordingly, the entrepreneurship courses offered at the VCs have an impact on the individual's not letting their life being affected by

external factors. This is because of the fact that entrepreneurship training supports the formation of some of the ideas about entrepreneurship despite not providing full guidance for students. Another qualification of an entrepreneur is the necessity to have a flexible thinking structure. Entrepreneurs with fixed ideas are generally close to opinions of others, and therefore, in some cases, they tend to fail in interpreting the course of developments correctly.

Additionally, the main problem among the entrepreneurs who lack management skills is that they may tend to remain under the influence of their family and acquaintances. The entrepreneurs that do not have their own ideas may have business sustainability-related problems in the long term. For this reason, an entrepreneur that has taken the entrepreneurship course and achieved the required level of consciousness receives the opinions from the people around them and analyzes the problem. However, entrepreneurs make the final decision by themselves without being strongly influenced by the people around them.

Conclusions

In Turkey, the entrepreneurship qualification is offered to individuals through institutional training and curriculum courses taught at universities. The graduates that pass the entrepreneurship courses taught at vocational schools and other academic institutions have the opportunity to establish their businesses with the grants offered by KOSGEB (Small and Medium Enterprises Development Organization) within the scope of the „Enterprise Development Support Program”.

In the body of research conducted at the VCs, contradictory findings regarding the quality of the entrepreneurship qualifications offered at the entrepreneurship courses exist. The fact that these findings have been collected from micro-level studies reveals that the general problems in the education and training system are also dominant in the activities offering entrepreneurship qualifications.

Another significant element in the entrepreneurship skills acquisition by the VC students is that courses do not provide practical activities. The fact that students are unable to carry out practical activities throughout the entrepreneurship courses prevents them from observing the mistakes/deficiencies in the business ideas that they design. As such, even when a student takes action after graduation, s/he may not turn out to be successful because of lack of experience. These kinds of consequences are harmful both to the individual’s own economy and to the national economy, as the government support is not appropriately used.

There are also differences in terms of aims and targets among entrepreneurship trainees attending specialized courses and students who take the entrepreneurship courses offered in schools. The trainees that attend training courses on entrepreneurship are focused on putting their business plans into practice and receiving the grants whereas the main focus of the VC students is to qualify for a pass and graduate. This difference among these groups makes it harder for VC

students to acquire skills for entrepreneurship, combined with the students' lack of general consciousness about entrepreneurship. Therefore, the assessment of the entrepreneurship course outcomes should be based not only on the theoretical content but also on the practical class activities.

Despite the aforementioned disadvantages, the groups of trainees with the highest inclination for entrepreneurship in Turkey are university graduates. Because the research data cannot be obtained without the distinction of the two-year degree and the bachelor's degree, the entrepreneurship rates among the VC (two-year degree) graduates are unknown. According to this score, it is estimated that most of the aforementioned graduate entrepreneurs are bachelor's degree graduates. Additionally, this score may also be explained with the indirect contribution of other courses in the university curricula. The students who study medicine and engineering may take their first steps in the business market and entrepreneurship with the value-added projects for TÜBİTAK (the Scientific and Technological Research Council of Turkey) whereas the students at the VCs do not have such major opportunities.

The students in VCs do not have much experience in the business market. For this reason, the theoretical information taught throughout the entrepreneurship courses are not perceived so well. However, it is anticipated that the on-the-job trainings offered at the VCs that include the long-term employment in labor markets are anticipated to have an indirect contribution to the entrepreneurship courses as well as a direct contribution to the entrepreneurship tendencies of students. That students are thus enabled to learn about the market and to find the opportunity to put their theoretical capacities into practice offers a significant opportunity for them to develop their business establishment ideas. For this reason, it is suggested that the on-the-job trainings offered at a low number of VCs be mainstreamed in all VCs.

During their undergraduate years, students need to be provided by universities with opportunities to earn money. As entrepreneurs generally start their activities with a lack of knowledge and experience, they are challenged in keeping up with the obstacles during the initial phase of business. Business incubators stand out with their guidance throughout this initial phase, which is the hardest and most fragile period for enterprises. Business incubators are the first-phase guides for the enterprises of those new in business. The foundation of these business incubators targeting a variety of sectors within the universities will be a significant factor in increasing the entrepreneurship tendency among students.

Today, the inclusive entrepreneurship movement is on the rise. Inclusive entrepreneurship is a way of doing business within the „services” classification with a motive to preserve the ecosystems of settlements, to include coaching for personal or group enterprises and to be active physically and/or online. University programs can be restructured to also include these inclusive entrepreneurship activities.

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