



7th International Strategic Management Conference

Insights On Entrepreneurship Education In Public Universities In Turkey: Creating Entrepreneurs Or Not?

"Bige Aşkun, Nihan Yıldırım"

^a*Marmara University, Faculty of Economics and Administrative Sciences, B.evler, Istanbul, Turkey*

^b*Bahcesehir University, Ciragan Caddesi, Besiktas 34353, Istanbul, Turkey*

Abstract

Entrepreneurship acts as a remedy for unemployment and growth problems that are caused by the recent global economic crisis are the major issues in the political agenda of all countries today. However, for improving entrepreneurship and creating entrepreneurs that can create new jobs, adequate human resources and knowledge base are strongly required on national level. Entrepreneurship education gains importance for building entrepreneurship driven economy by making individuals acquire entrepreneurial skills, knowledge and mindsets. As a significant part of the formal education on creating entrepreneurs, entrepreneurship courses in higher education need to be focused and priorly improved. In this context, this study aims to explore entrepreneurship education in public universities in Turkey. By this aim, we searched and analysed Web sites of 360 academic units including business administration and engineering faculties, science and technology, social sciences institutes of 95 public universities in Turkey. Research findings showed that entrepreneurship courses in public universities in Turkey are not sufficient to provide skills or mindsets that are required for creating entrepreneurs that can contribute to economic growth and employment for students.

© 2011 Published by Elsevier Ltd. Selection and/or peer-review under responsibility of 7th International Strategic Management Conference

Keywords: *Entrepreneurship education, unemployment, higher education, courses*

1. Introduction

Recent global economic crisis threatened the competitiveness of economies, employment rates and social welfare. Although, various business/industrial strategies for overcoming the negative effects on economic recession on employment and growth have been discussed in literature recently, just a few studies emphasized the importance of incorporating the solutions with social infrastructures and individual skills. For improving entrepreneurship as a remedy for unemployment through creating entrepreneurs that can create new jobs, adequate human resources and knowledge base are strongly required on national level. Entrepreneurship education as a basic component on the supply side of entrepreneurship climate is the major provider of the required infrastructural resources of

entrepreneurship-driven economy by enabling the creation of entrepreneurial skills, knowledge and mindsets in individuals. Being a significant part of entrepreneurship education is centered on the context of formal education in high education institutions, entrepreneurship courses in higher education need to be focused and improved. In this framework, this study aims to explore the current status and characteristics of entrepreneurship courses in higher education in Turkey from a developing country perspective for determining the availability of required human resources and skill sets in Turkey. By this aim, first we reviewed the theoretical background. Secondly we searched and analyzed the offered entrepreneurship courses and their patterns in business administration, engineering faculties and science and technology, social sciences institutes of public universities in Turkey. Finally, we discussed our findings in light of theoretical background and in regard with their contributions to the development entrepreneurship in the country by acting as a facilitator of creating new entrepreneurs.

2. Literature Review

2.1. *Entrepreneurship, economical performance and growth*

Entrepreneurship is a process and purposeful activity [1] that combines risk, creativeness, personal success and/or innovation and requires taking financial, moral and social, responsibility to set up a new and profitable business idea [2].

As Malecki [3] stated, there is an intimate relation between entrepreneurship and regional and local development. Cole [1] pointed out that entrepreneurship provides the utilization of one productive factor of the other productive factors for the creation of economic goods. Entrepreneurship as a mechanism that converts economic knowledge into economic growth, [4] may contribute to growth through a diverse range of behaviours of entrepreneurs, including exploitation of innovation and purely imitative ventures that harness under-used resources [5], also through combination of resources and increased competitive pressures. Hence as Reynolds et al. [6] found high start-up rates are necessary condition for economic growth. As a result of the above mentioned behaviours, entrepreneurship as a global phenomenon [1] affects the national economical growth performance (like in GNP [7]) by realizing industrial competition, enabling business creation, the creation of organizations [1] and innovative activities [8] [9]. Through the creation of new products and business models, Entrepreneurship employs the Schumpeter's [8] "gale of creative destruction" that its activities replace inferior practices across markets and industries and drive the dynamism of industries and long term economic growth.

However, it must also be noted that contribution of entrepreneurship to economic growth differs for countries in different stages of economic development [10] and between countries according to GDP, and between regions according to economic development level within countries [11][12] as economic growth depend on local conditions at national and regional levels. Business creation and innovation are distinct determinants of national economic growth in developed countries [9]. For example entrepreneurial activity plays a more important role in some countries (e.g. the United States) than in others (Europe and Japan) because the rate of economic development is based on deviations from an 'equilibrium' rate of business ownership.

As there is still to much to understand about this close interaction, the research in the entrepreneurship field needs to develop a better understanding of the important relationship between innovation, entrepreneurial activities and economic development [13] [14].

2.2. *Entrepreneurship and Unemployment:*

Unemployment is regarded as a major social and global economic problem [15]. The interaction between entrepreneurship and unemployment came into focus back in XIX century when people who had lost their jobs or the ones who received low salaries, chose to start the business of their own [2]. Numbers

of researchers pointed out that entrepreneurship brings employment opportunities [16] [17] [18] [19] [20] and creating job possibilities or self-employment [51] through business creation and creation of organizations [1].

First dimension of interdependence between unemployment and entrepreneurship is Schumpeter's "Push Effect" [8] that entrepreneurship reduces unemployment (increased number of enterprises decreases the unemployment) while the second dimension is the "Refugee or Pull" effect which unemployment fosters entrepreneurship [21] [9], as Oxenfeldt [22] stated that unemployed individuals may become entrepreneurs as an alternative of being employed. Increase of unemployment encourages practice of business [23]. Wennekers et al. [24] emphasized this kind of self-employment or business ownership rate as the most important static indicator of entrepreneurship, as new firm creation and business ownership are components of the entrepreneurship.

However, as Lucas [25] concluded high rate of unemployment may not cause creation of new businesses in every circumstance. As well known, entrepreneurship has a supply side that include the deployment of required resources of capital, knowledge, experience, expertise hence business ideas (typical characteristics of an entrepreneur) that unemployed people rarely have. Besides the other factors like the emerging industries, accessible capital, regulative structure of the country, accumulated knowledge of individuals on technology, know-how and business and their education level plays a major role for benefiting from entrepreneurship in creating employment.

2.3. *Education on entrepreneurship:*

During the last two decades, entrepreneurship education has grown from a marginal academic discipline to a dynamic center piece in many U.S. business schools. Entrepreneurship development has attracted the attention of academicians, policy makers, technologists, and economists and the role of education in fostering entrepreneurship has been widely studied [26]. On the other hand, entrepreneurship education in engineering schools became a popular issue as engineers need business, social and interpersonal skills besides technical skills to operate effectively [27] [28]. Considering the new roles of engineers it is evident that entrepreneurship education is required for commercializing new technologies that are introduced by engineers [29].

Audretsch et al. [30] distinguished between two sides of entrepreneurship: the demand side that refers to opportunities available for starting a business while the supply side refers to the pool of relevant preferences, skills and resources embedded in the individuals of a population, hence that includes the entrepreneurship education as the resource of skill development and knowledge creation. Lack of supply like limited availability of competent individuals to manage projects and become entrepreneurs can stand as a restricting factor in deploying entrepreneurship. Therefore, entrepreneurship education is a major issue that will be increasingly important in the coming years as the need of entrepreneurship increases in all economies [31].

Some research showed that starting a business is related not only to education but also to tacit knowledge and individual abilities [32] [33]. On the other hand, all organizations and individuals that can perform initiative-taking, resource gathering, autonomy, and risk taking have the potential to be entrepreneurial [34], so education on these issues can enable the realisation of this potential into business creation. As Drucker [35] also stated, entrepreneurship is risky hence it needs to be managed in a systematic approach for achieving these competencies. Hence he [36] saw entrepreneurship in terms of management methodologies and defined the entrepreneurship as a discipline and concluded that it can be learned as a discipline or methodology, inspite of the former beliefs on the nontransferable nature of entrepreneurship ability due to its totally tacit characteristics. However it is often observed that the entrepreneurs lack the methodological skills and rely on their perceptions and moods. These are the obstacles of firms that are in the early phases of their organisational life cycle that can also be called entrepreneur dominant period) on their way to institutionalisation and growth that are needed for creating

sustainable profitability, hence sustainable jobs and businesses. At this point, the education of entrepreneurs on business, management and administrative topics gains critical importance. However as Hostager and Decker [37] concluded general business management education seems to have no significant influence on entrepreneurial propensity that entrepreneurial education programmes create.

Universities are important in the education of entrepreneurship as they can increase the motivation and competence of their graduates to become key persons in innovative and entrepreneurial activities [38]. Other institutions than universities also contributed to entrepreneurship education by providing practical insights to theoretical content of higher education courses. Infrastructure of entrepreneurship education has emerged in U.S. institutions of higher learning since an entrepreneurship course was first offered to Harvard MBA students in 1947 [39]. Since then, entrepreneurship began to take place in the agenda of business schools all over the world.

Significant portion of entrepreneurship education is based on the context of formal education [40]; [19] providing knowledge inputs required for entrepreneurship. That means universities traditionally teach entrepreneurship as a subject, they share knowledge with students in the courses [41]. On the other hand, as Carlsson et al. [4] stated universities should entail actual opportunities for students to set up businesses and have to go beyond teaching and researching entrepreneurship and turn collaboration with industry into the catalyst for economic growth. But many initiatives in developed countries are increasingly becoming more action-oriented, emphasizing learning by doing [38]. In the U.S., academic institutions act as catalysts for start-ups [33]. Education programs that are specifically designed for entrepreneurship with different content and teaching methods from traditional business courses [42] are needed. However in developing countries entrepreneurship education is rarely sufficient even in teaching entrepreneurship in the traditional way [41].

On the other hand, regional development is closely tied to the entrepreneurial activities in the region. In this respect, entrepreneurship education in regional universities gains importance, especially in developing countries and developing regions of these countries. Surely, teaching entrepreneurship and innovation in higher education should stay as the basic step, but besides for supporting theoretical learning with tailor-made practices, building links, creating projects in collaboration with regional industry would highly serve to creation of required human resources and knowledge for raising regional entrepreneurship capacity. By fostering entrepreneurship, regional universities can provide the catalyst for a flexible, creative, motivated, and well-educated workforce that will enhance the economic development of the regions they serve [20].

Because the discipline of entrepreneurship is still not as mature as the other disciplines of business as an academic topic and because it requires a well-defined and linked multidisciplinary approach, there still exists no common base and a agreed, successful model on how the entrepreneurship education should be [38]. But as Volkmann [43] pointed out, successful entrepreneurship education programmes from various countries and regions are expected to serve to creation of an appropriate model for a global entrepreneurship education model.

Raichaudhuri [26] introduced some basic required characteristics for creating an entrepreneurship education programme that can create value:

- The Theory-Practice Balance: The primary requisite for an entrepreneurship course / programme is to combine the rigours of academia while maintaining a reality-based focus and entrepreneurial climate in the learning experience. The challenge lies in balancing the abstracted general knowledge of academics with the specific knowledge and situational logic of practitioners. Since entrepreneurship combines the romance of new ideas with the reality of the business world, it is strongly recommended that the programme content be based on, and regularly modified by, a think-tank that includes both competent academics and practitioners.
- Content: Content design has to take into account the fact that entrepreneurial education requires integration of a variety of functional skills and knowledge instead of the functional specialist focus of standard management programmes. Moreover, entrepreneurship education stresses the importance of

the stage of development, an issue which is not dealt exclusively in conventional management programmes. Therefore, courses and programmes in entrepreneurship education have to illustrate early lifecycle challenges such as opportunity recognition; identifying and acquiring financial, human and technical resources; market entry; protecting intellectual property; legal requirements of new business, and strategic choices under resource constraints. Courses must also deal with subsequent development challenges including growth issues; new market development and expansion strategies; and institutionalising innovation.

- **Skills:** In terms of skill inputs, entrepreneurial education must include courses in negotiation, leadership, creative thinking and ambiguity tolerance. It is also essential that students have exposure to the forefront of environmental changes, including technological developments, so as to identify emerging opportunities.

2.4. Supporting and enhancing entrepreneurship:

Beside the incentive mechanisms that have been perceived as the main tool for supporting entrepreneurship for years, declarations of the recent Global summits and initiatives exposed the necessity of social and educational infrastructure that can lead to the creation of the appropriate environment for entrepreneurship.

Due to its impact on economic growth, public and private initiatives had always been in the agenda of policy makers to promote entrepreneurial activity for accelerating innovation, technology development and job creation [6]. The public debate often focuses on R & D activity, public and industrial infrastructure, or venture capital to develop new economic activity. None of this would have much effect, however, without committed and competent persons to develop and manage new firms and new business activity. This brought attention of governments to education of entrepreneurship. In Turkey, strategic development plan covers the objectives for improving and encouraging entrepreneurship within a holistic approach [44].

*2.5. Entrepreneurship education in Turkey: **

There is limited data available regarding entrepreneurship education in Turkey. There is a few research on primary education and very few initiatives in secondary education to teach entrepreneurship and developing skills for entrepreneurship. Entrepreneurship gains in the new primary education course programmes developed by Turkish Ministry of Education in 2004 were directed to developing some properties of entrepreneurship, but that were insufficient in facilitation of some properties [45]. In Vocational High Schools, entrepreneurship is one of the common courses that are developed within the scope of MEGEP project [46]. There are also some basic initiatives for fostering entrepreneurship content in higher education like MEB-YOK project that recommended entrepreneurship courses to 15 pre-graduate schools [46]. Additionally some universities have focused activities directed to entrepreneurship education. For example Anadolu (Anatolia) University opened an entrepreneurship certificate program [47]. Projects within EU Framework programmes also cover some activities for promoting entrepreneurship education. “Innovet Global Entrepreneurship Project” which is a “Innovation Transfer Project” aiming to improve and create relevant entrepreneurship courses in accordance with EU criteria in vocational high schools and pre-graduate Schools.

According to 9th Strategic Development Plan [44], in order to improve quality in education, course programmes that are based on innovativeness and creativity should be expanded throughout the country and the students should be encouraged to make scientific research and to be entrepreneurs. TOBB [48] announced a roadmap for deploying entrepreneurship in the country in Entrepreneurship Week Declaration. In this agenda that defined the basic steps that Turkey has to take for improving and deploying entrepreneurship nationwide, one of the major topics was the need of inclusion of

entrepreneurship education in all educational levels, while building collaboration of industry and academia for creating required resources for entrepreneurship education. However, in 2010 Turkey Industry Strategy Document 2011-2014 [49] entrepreneurship education was not emphasized and linked to ongoing entrepreneurship support programmes and projects.

3. Methods and Research

- Major discussion: Study investigates the level of existence and patterns/characteristics of entrepreneurship courses in undergraduate and graduate level in business administration and engineering faculties of public universities in Turkey from a developing country perspective.
- Data collection method: We visited the web sites of each business administration faculties, engineering faculties for undergraduate courses and science/technology institutes and social sciences institutes for graduate courses of public universities in Turkey. These are taken as four basic categories of academic units. There is no sample size and 360 academic units in 95 public universities are searched.
- Research method: Based on the qualitative content analysis of the related faculty Web sites, courses that cover terms and topics related to entrepreneurship in their name or content were determined.
- Limitations: We collected, organized, classified and filtered the information of the courses those are offered in academic year of 2010-2011 and those information are published in related academic unit web sites. (The study focuses on the business administration and engineering education that are most related disciplines to entrepreneurship issues. Courses of the pre-graduate programs were neglected.

We decided to put the limitation of public universities because of the fact that public universities are prior implementers of national education strategies that are directed by science and technology policies. Also the offered courses that were not announced in faculty web sites were not included in this study. Although there are serious attempts and advancements in Universities for creating academic web content in accordance with Bologna process to conform to EU standards in higher education, a significant amount of information is missing. In 26 academic units 19 (that counts to one-fifth of whole) universities, there is no available online information on courses (5 Science Institutes, 6 Business Faculties, 6 Engineering Faculties, 9 Social Sciences Institutes). Also 67% of announced entrepreneurship courses has no lecturer information, and content is unavailable for 37% of the announced courses.

3.1. Data Analysis and Hypothesis Test Results

In the end of our research in 95 universities and their 360 academic units, totally 118 courses that cover issues on entrepreneurship has been found including their patterns or characteristics like name, the faculty/institution/department/program, type (elective or required), term that they are given and credits, the content, lecturer profile/background, that offer the course. Study is based on the testing of the hypotheses that are created by collecting different approaches from literature research from a developing country perspective.

3.2. Basic characteristics of entrepreneurship courses:

At first, we tested the hypotheses that presents the basic characteristics of entrepreneurship courses like education level, type and institution type.

H1: Entrepreneurship courses are widely offered in business schools rather than engineering schools:

ACCEPTED

Table 1. Distribution of Entrepreneurship Courses to types of Academic Units in Public Universities

Academic Unit	Number of Entrepreneurship Courses	% in total
Business Schools	57	48,31%
Engineering Faculties	13	11,02%
Social Sciences Institutes	47	39,83%
Science and Technology Institutes	1	0,85%

H2: Entrepreneurship courses are required courses rather than being elective : ACCEPTED

Table 2. Distribution of Entrepreneurship Courses for being Elective or Required

Type	Number of Entrepreneurship Courses	% in total
Elective	82	69,49%
Required	36	30,51%

H3: These courses are offered in graduate level rather than in undergraduate level: REJECTED

Table 3. Distribution of Entrepreneurship Courses in levels of education

Level of Education	Number of Entrepreneurship Courses	% in total	
Postgraduate	51	43,22%	P1
Undergraduate	67	56,78%	P2

Because of the fact that P1 and P2 is close to each other the difference is tested for being significant or not by applying statistical testing on the significant difference between two rates [50] (Bowen and Starr, 1994). New hypotheses of this testing are as follows:

$$H_0: P1=P2$$

$$H_1: P1 < P2:$$

$$Formula : \sigma_{\frac{p_1 - p_2}{n_1 + n_2}} = \sqrt{\frac{p_1 q_1}{n_1} + \frac{p_2 q_2}{n_2}} \quad ve \quad z = \frac{p_1 - p_2}{\sigma_{\frac{p_1 - p_2}{n_1 + n_2}}} \tag{1}$$

Though it seems like P2 is bigger than P1, when statistically tested, it is found out that there is no significant difference between the proportions of postgraduate and undergraduate courses. By using the above formula, Z-test statistics has been found as “-1,47” from Formula (1). Therefore, in 5% and 1% significance levels, this value is smaller than the numbers in standard normal distribution table. That is why Ho hypothesis can not be rejected.

In Table 4, detailed distribution of courses in education levels and academic units is given for providing a closer look at the entrepreneurship education classifications.

Table 4. Detailed Distribution of Entrepreneurship Courses in levels of education

Level of Education by academic units	Number of Entrepreneurship Courses	% in Total		
Graduate Education	51	43,22%	% in Graduate	
Master	40	33,90%	78,43%	% in Master
Master of Science	1	0,85%	1,96%	2,50%
Master of Business Administration	39	33,05%	76,47%	97,50%
Doctorate	11	9,32%	21,57%	
Social Sciences Doctorate	11	9,32%	21,57%	100,00%
Engineering Doctorate	0	0,00%	0,00%	0,00%
Undergraduate Education	67	56,78%	% in Under Graduate	
Business Schools	54	45,76%	80,60%	
Engineering Faculties	13	11,02%	19,40%	

3.3. Relevancy of Content of Entrepreneurship Courses:

We tested the following hypotheses that are derived from the theoretical background:

H4: The content of the courses is relevant for theory-practice balance creating value (References: [26] [40] [19] [41]). REJECTED

Table 5. Availability of Content of Entrepreneurship Courses on Web

Availability of Content	Number of Entrepreneurship Courses	% in total
Content is unavailable on web	43	36,44%
Content is available on web	75	63,56%

Table 6. Theory-Practice Intensity of Content of Entrepreneurship Courses (with available content)

Theory-Practice Intensity of Content	Number of Entrepreneurship Courses	% in total
Contains only theoretical issues	58	77,33%
Contains practice or case studies	17	22,67%
Contains practice	7	5,93%
Contains case studies	14	11,86%
Contains both	4	3,39%

Table 7 presents detailed distribution of course contents (available on web) by education levels and academic units for providing a closer look at the theory-practice balance of entrepreneurship education.

Table 7. Detailed distribution of Theory-Practice Intensity of Content of Entrepreneurship Courses (with available content) in Education Levels and Academic Units

Theory-Practice Intensity of Content	Number of Entrepreneurship Courses	% in total		
Contains case studies or practice	17	22,67%		
Number of entrepreneurship courses which contains practice	7	9,33%	% in courses with case studies or practice	
Undergraduate	2	2,67%	28,57%	
Graduate	5	6,67%	71,43%	
Number of entrepreneurship courses which contains case studies	14	18,67%		
Undergraduate	9	12,00%	64,29%	
Graduate	5	6,67%	35,71%	
Number of entrepreneurship courses which contains practice and case studies	4	5,33%	23,53%	
Contains only theoretical issues	58	77,33%	% in courses with only theory	
Undergraduate	35	46,67%	60,34%	% in Undergraduate
Business Schools	27	36,00%	46,55%	77,14%
Engineering Schools	8	10,67%	13,79%	22,86%
Graduate	23	30,67%	39,66%	% in graduate
Social Sciences Institute	22	29,33%	37,93%	95,65%
Science and Tech. Institute	1	1,33%	1,72%	4,35%

H5: Lecturers of these courses are mostly from academia and (contribution from entrepreneurship practitioners as lecturers is limited : (Reference: [26] ACCEPTED

Table 8. Distribution of Entrepreneurship Courses by Lecturer Profile

Profile of Lecturer	Number of Entrepreneurship Courses*	% in total
Practitioner/Entrepreneur	0	-
Academician	39	100%
Professor	14	35,90%
Associate Professor	7	17,95%
Assistant Professor	15	38,46%
PhD, Lecturer	3	7,69%

Table 9. Availability of Content of of Lecturer Information on Web

*Availability of Lecturer Information	Number of Entrepreneurship Courses	% in total
Lecturer information is unavailable on web	79	66,95%
Lecturer information is available on web	39	33,05%

H6: These courses cover issues on strategic choices under resource constraints, initiative-taking, autonomy, and risk taking (Reference: [34] [35] [36] : REJECTED

Table 10. Distribution of decision making related topics/Issues in Entrepreneurship Courses with available content on web

(Content for decision making related topics/Issues *	Number of Entrepreneurship Courses	% in total
Contains issues for strategic choices under resource constraints, initiative-taking, autonomy, and risk taking	13	17,33%
Does not contain issues for strategic choices under resource constraints, initiative-taking, autonomy, and risk taking	87	82,67%

H7: These courses integrates a variety of functional skills and knowledge instead of the functional specialist focus of standard management programmes (Reference: [26]: REJECTED

Table 11. Content of entrepreneurship courses for integrating a variety of functional skills/knowledge

Critical Topics/Issues *	Number of Entrepreneurship Courses	
	Number of Courses	% in total
Stage of development, illustrate early lifecycle challenges,	39	52,00%
Opportunity recognition	17	22,67%
Identifying and acquiring financial, human and technical resources	35	46,67%
Market entry	4	5,33%
Protecting intellectual property	6	8,00%
Legal requirements of new business	6	8,00%
Growth issues; new market development and expansion strategies	7	9,33%
Institutionalising innovation	18	24,00%

4. Conclusion

Though there are some serious attempts of government, industry and NGOs on the development of entrepreneurial climate in Turkey, still in terms of legislative, collaborative, knowledge and human resources infrastructure, entrepreneurial inclination is not sufficient relative with other developing countries from far east and eastern Europe. Lack of coordinated nation-wide education strategies and actions that are integrated with industrial strategies and actions causes a weakness in improvement of entrepreneurship.

This study explored the relevancy, status and characteristics of entrepreneurship courses in undergraduate and graduate education on business administration and engineering schools of public universities by conducting web based search in university web sites. Entrepreneurship courses are mostly given as electives in business schools and social sciences institutes rather than engineering faculties (H1, Table 1; H2, Table 2). However, they are equally distributed to graduate and undergraduate level. (H3, Table 3 and Table 4).

Though case-based learning is the most valuable component for entrepreneurship education as done in most of the leading business schools in developed world, the content of these courses is not relevant in terms of theory-practice balance and they cover terminology and theoretical background rather than practical issues and case studies (H4; Table 6 and Table 7). Hence these courses is not capable of providing the required skills for making the students acquire basic entrepreneurship competencies. Also lecturers of entrepreneurship courses are mostly the academicians from management and organisation discipline (H5; Table 8). However, there is almost no contribution of actual entrepreneurs to courses as lecturers.

Theoretical content of the entrepreneurship courses in universities is also insufficient for mostly they do not contain critical issues on entrepreneurship that are referred in literature. Most of the courses do not cover topics related to decision making like strategic choices under resource constraints, initiative-taking, autonomy, and risk taking (H6; Table 10). On the other hand, these courses lack the relevant content for integrating a variety of functional skills/knowledge (H7; Table 11). For example, legal issues or requirements of new business and protecting intellectual property are not included in most (92%) of the courses. Similarly, topics on market entry, market creation or new market development or expansion that are required for corporate growth are available in limited number of (15%) entrepreneurship courses. As an introduction step for entrepreneurship, opportunity recognition is also an important topic in entrepreneurship education. However majority of courses do not cover opportunity analysis and recognition. Only one-fifth of courses covers issues on creativity, managing or institutionalising innovation that is the most critical start point of entrepreneurship process. However, as Turkish economy

is widely based on SMEs and business professionals often deal with the structural, cultural and operational growth and transformation problems of SMEs, topics that are related to Stage of development and early lifecycle challenges are covered almost in 40% of the courses. Also topics on identifying and acquiring financial, human and technical resources are included in 35% of courses as they are closely related to and widely covered in traditional business management education.

Research findings showed mainly that entrepreneurship courses syllabus of public universities in Turkey is not sufficient to create skills or mindsets, and even to inform the students on entrepreneurship. This is critically important that these students are the candidates of future's entrepreneurs or managers. For overcoming the above mentioned weaknesses related to content of entrepreneurship courses, there is a need for collaborative and supported improvement processes and projects on content design in universities. It is sure that, for creating the required professional, well-educated human resource supply for an entrepreneurship oriented economy, more focus and resource should be allocated to higher entrepreneurship education.

In further research, we aim to expand this study to private universities and pre-graduate schools in Turkey, hence to provide an overlook to entrepreneurship education covering all higher education institutions in the country. Although, there are advancements for creating academic web content in accordance with Bologna process that is still continuing in most of the universities, we faced challenges and limitations for acquiring data and information on some characteristics (lecturer, content details etc.) entrepreneurship courses in this study. In further steps of this research, it is aimed to complement web content analysis with interviews with program coordinators and lecturers in the universities. By this way it will be possible to compare the entrepreneurship syllabus in Turkish universities with the entrepreneurship education in developed countries that are highly effective and capable of guiding entrepreneurs of the future. The findings of this kind of research is expected to serve policy makers in educational and academic institutions for understanding the best practices and consider major success factors in developing appropriate strategies for increasing the effectiveness of entrepreneurship courses and practices, therefore supporting entrepreneurship through education.

References

- [1] Cole, A., (1953) Committee on Research in Economic History. *The Journal of Economic History*, 13, 79-87.
- [2] Remeikienė, R. and Startienė, G. (2008). Relationship Between Entrepreneurship and Unemployment, *Economics And Management*, 13, 643-651.
- [3] Malecki, E.J. (1997) Entrepreneurs, Networks, and Economic Development: A Review of Recent Research. In: Katz, J.A., Borckhaus, R. (Eds.), *Advances in Entrepreneurship, Firm Emergence and Growth*. JAI Press, Greenwich.
- [4] Carlsson, B., Acs, Z.J, Audretsch, D. and Pontus Braunerhjelm. (2009) Knowledge Creation, Entrepreneurship, and Economic Growth: A Historical Review, *Industrial and Corporate Change*, 18 (6), 1193–1229.
- [5] Minniti, M., and M. Levesque. (2006) Entrepreneurial Types and Economic Growth. Paper Presented at The International Conference on Entrepreneurship in Emerging Regions, December 5-7, in Hyderabad, India.
- [6] Reynolds, P., Storey, D.J., Westhead, P. (1994) Cross National Comparisons of The Variation in New Firm Formation Rates. *Regional Studies* 28, 443– 456.
- [7] Bosma, N., Stam, E. and Schutjens, V.,(2006), "Creative Destruction and Regional Competitiveness", EIM SCALES-- paper N200206, Zoetermeer.
- [8] Schumpeter, J. A. (1934) *The Theory of Economic Development*, Harvard Business School Press, Cambridge, MA.
- [9] Wong, P.K., Y.P. Ho, and E. Autio. (2005) Entrepreneurship, Innovation and Economic Growth: Evidence from GEM data. *Small Business Economics* 24: 335–50
- [10] Van Stel, A., M. Carree, and R. Thurik. (2004) The Effect of Entrepreneurship on National Economic Growth: An Analysis Using the GEM Database. Discussion papers on entrepreneurship, growth and public policy, No. 3404. Jena: Max Planck Institute for Research into Economic Systems.
- [11] Carree, M., A. van Stel, R. Thurik, and S. Wennekers. (2007) The Relationship Between Economic Development and Business Ownership Revisited. *Entrepreneurship & Regional Development* 19(2), 81-91.
- [12] Valliere; D. and Peterson R. (2009). Entrepreneurship and economic growth: Evidence from emerging and developed countries , *Entrepreneurship & Regional Development: An International Journal*, Vol. 21, (5 & 6), 2009, pp. 459 – 480.
- [13] Acs, Z.J., and D.J. Storey. (2004) Introduction: Entrepreneurship and Economic Development. *Regional Studies* 38:, pp. 871–7.

- [14] Acs, Z and Szerb, L., (2009), The Global Entrepreneurship Index, *Foundations and Trends in Entrepreneurship*, 5, 341-- - 435.
- [15] Blackburn R. M. (1999) The Vicious Circle of Competitive Unemployment. *International Journal of Sociology and Social Policy*, 19(1), 1-26.
- [16] Carrasco R. (1999) Transitions to and From Self-Employment in Spain: An Empirical Analysis. *Oxford Bulletin of Economics and Statistics*, 61(3), 315-341.
- [17] Thurik, A. R. and Verheul I. (2003) The Relationship Between Entrepreneurship and Unemployment: The Case of Spain (in Spanish). In Urbano, D. ET AL. (eds.), *Entrepreneurship (Creació'n de Empresas)*. Barcelona: Servei de Publicacions de la UAB, 521–547.
- [18] Van Praag, M. and Versloot, P., (2007) What is the Value of Entrepreneurship? A Review of Recent Research', *Small Business Economics*, 29, 351382.
- [19] Gorman, G., Hanlon, D., King, W., 1997. Some research perspectives on entrepreneurship education, enterprise education and education for small business management: a ten year literature review. *International Small Business Journal* 15 (3), 56–77.
- [20] Binks, M., Starkey, K. and Mahon, C. L. (2006) Entrepreneurship education and the business school. *Technology Analysis & Strategic Management*, 18(1), 1-18.
- [21] Verheul I., Stel A. and Thurik R. (2006) Explaining Female and Male Entrepreneurship at The Country level. *Entrepreneurship and Regional Development*, 155-163.
- [22] Oxenfeldt, A. (1943) New Firms and Free Enterprise. American Council on Public Affairs, Washington, D.C.
- [23] Evans, D. and Leighton, S., (1989) Some Empirical Aspects of Entrepreneurship' *American Economic Review*, 79, 519-535.
- [24] Wennekers S, Uhlaner L. M. and Thurik R. (2002) Entrepreneurship and Its Conditions: A Macro Perspective. http://www.people.few.eur.nl/uhlaner/articles/e%20and%20cond_ijee%202002.pdf
- [25] Lucas, R.E., (1978) On the Size Distribution of Business Firms, *Bell Journal of Economics*, 9, 508-523.
- [26] Raichaudhuri, A. (2005) "Issues in Entrepreneurship Education", *Decision*, 32 (2), 73- 84.
- [27] Gokhale, A. (1995) Collaborative learning enhances critical thinking. *Journal of Technical Education*, 7(1).
- [28] Korhonen-Yrjanheikki, K., Tukiainen, T and Takala, M (2007) New challenging approaches to engineering education: enhancing university-industry cooperation. *European Journal of Engineering Education*, 32(2), 167-179.
- [29] Papayamakis, L., Kastelli, I., Damigos D. And G. Mavrotas (2009) Entrepreneurship education in Greece: Experience and challenges for a technical university. DIME-LIEE/NTUA Athens Conference, Athens, Greece.
- [30] Audretsch, D.B., R. Thurik, I. Verheul, and A.R.M. Wennekers. (2002) *Entrepreneurship: Determinants and Policy in a European–US Comparison*, Dordrecht: Kluwer Academic, Boston, MA:
- [31] Tchouvakhina, M. (2004). KfW and the Promotion of Entrepreneurship Training in Germany in Higher Education in Europe, XXIX (2).
- [32] Shaver, K.G. / Scott, L.R. (1991) Person, process, choice: The psychology of new venture creation. *Entrepreneurship Theory and Practice*, 16 (2). 23-45.
- [33] Lüthje, C. and Franke, N. (2002) Fostering Entrepreneurship Through University Education and Training: Lesson from Massachusetts Institute of Technology", *European Academy of Management, 2nd Annual Conference on: Innovative Research in Management*.
- [34] Shapero, A. & Sokol, L. (1982). The Social Dimensions of Entrepreneurship. In C.A. Kent, D.L. Sexton, & K.H. Vesper (eds.), *Encyclopedia of Entrepreneurship*, 72-90. Englewood Cliffs, NJ: Prentice Hall.
- [35] Drucker, F. (1985) *Innovation and Entrepreneurship*, Elsevier Ltd., UK.
- [36] Drucker, F. (1986) 1986: *The Frontiers of Management: Where Tomorrow's Decisions are Being Shaped Today*, Elsevier Ltd., UK.
- [37] Hostager, T.J and Decker, R.L. (1999) The Effects of An Entrepreneurship Program on Achievement Motivation: A Preliminary Study, SBIDA, San Francisco, CA: Small Business Institute Director's Association, (cited from the internet, <http://www.sbaer.uca.edu/Research/1999/SBIDA/sbi28.htm>).
- [38] Rasmussen R.A. and Sorheim R., (2006) Action-based Entrepreneurship Education, *Technovation*, 26(2), 185-194
- [39] Katz, J.A. (2003) The Chronology and Intellectual Trajectory of American Entrepreneurship Education 1876–1999, *Journal of Business Venturing* 18 (2), 283–300.
- [40] Vesper, K. H. (1982) Research on Education for Entrepreneurship. In C. A. Kent, D. A. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of Entrepreneurship*: 321–351. Englewood Cliffs, NJ: Prentice-Hall.
- [41] Ying L., Y. (2008). How Industry Experience Can Help in The Teaching of Entrepreneurship in Universities, *Sunway Academic Journal*, Vol. 5, pp. 48-64.
- [42] McMullan, W.E. and Long, W.A. (1987) Entrepreneurship education in the nineties. *Journal of Business Venturing*, 2 (3). 261-275.
- [43] Volkmann, C. (2004). *Entrepreneurship Studies - An Ascending Academic Discipline in the Twenty-First Century in Higher Education in Europe*, XXIX (2).
- [44] DPT, (2006) 9th Development Plan (2007-2013). State Planning Organization, Ankara.
- [45] Güven, S. (2009). New Primary Education Course Programs and Entrepreneurship. *Procedia - Social and Behavioral Sciences*, Volume 1, Issue 1, pp. 265-270 World Conference on Educational Sciences, Nicosia, North Cyprus, 4-7 February 2009 - New Trends and Issues in Educational Sciences.

- [46] Berk, E. (2009) Evaluation on the Effectiveness Of Entrepreneurship Courses (Giriřimcilik Dersinin Etkililiđinin Deđerlendirilmesi), EARGED Republic of Turkey Ministry of National Education Research and Development Centre T.C. Millî Eđitim Bakanlıđı Eđitimi Arařtırma Ve Geliřtirme Dairesi Bařkanlıđı, Ankara.
- [47] Anatolia University (2009). Brochure for E-Certificate Program on Entrepreneurship, <http://e-sertifika.anadolu.edu.tr/D4202.htm>
- [48] TOBB, 2010. Entrepreneurship Week Final Declaration, İstanbul.
<http://www.tobb.org.tr/TOBBGençGiriřimcilerKurulu/Sayfalar/AnaSayfa.aspx>
- [49] STB (2010) Industry Strategic Document of Turkey (Türkiye Sanayi Strateji Belgesi)2011-2014, Republic of Turkey Ministry of Trade and Industry, Ankara.
- [50] Bowen, E. K., Starr M. K. (1994) Basic Statistics for Business and Economics, McGraw-Hill Inc., 367.
- [51] Masuda T. (2006). The Determinants of Latent Entrepreneurship in Japan. *Small Business Economics*, 26, 227-240.