

Entrepreneurship Education (EEd) at Bachelor Level in Developing Countries

Sule Selcuk

International University of Sarajevo, Dept. of Mechanical Engineering,
Hrasnička cesta 15, 71210 Sarajevo,
Bosna i Hercegovina

Ali Gursel

Duzce University, Dept. of Mechanical Engineering,
Konuralp Yerleskesi, 81620 Duzce,
Turkey

Abstract

Entrepreneurship has been drawing attention of academia, business circles, policy makers and general public at an increasing rate as it is valued as an engine of economic developments. Although some argue that it can be learnt just by doing it, many types of EEd programs are being offered to high school students, university/college students and adults with various backgrounds and future plans. For efficient and effective EEd applications, various factors, such as local socio-economic conditions and degree of technological development in the country, need to be taken into consideration in tailoring EEd curricula and how to implement them. For example, EEd programs designed for developed countries need to be different from those for developing countries. This article focuses on EEd programs at higher education institutions in developing countries, for which entrepreneurship is a vital issue as it is one of the most effective tools for such countries to catch up with developed countries.

Keywords: Entrepreneurship education, developing countries, higher education.

1. Introduction

One of the most valuable assets of a national economy is its entrepreneurs, who stimulate economic life by initiating and developing business ventures at the expense of taking risks of different sorts. Their undertakings create jobs and wealth as seen in many recent success stories of the brave and bright entrepreneurs. A part of the current crisis is attributed to the lack of entrepreneurial dynamism in modern, western, economies [1].

Contribution of entrepreneurship to economic growth differs for countries in different stages of economic development [2] and between countries according to GDP, and between regions according to economic development level within countries [3, 4] 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 [5]. 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.

There seems to be a consensus on the value of entrepreneurship in the society however the question is how to transform individuals into entrepreneurs and how to equip entrepreneurs-to-be with the required knowledge and skills. These issues can be addressed by purpose-built education programs that can be delivered at various levels, namely high-school, university/college and adult education levels. Regardless of the level of the student, an EEd program should be able to deliver the following objectives:

- to provide the necessary technical and managerial knowledge & skills

- to expose students to the real world as much as possible
- to motivate
- to increase awareness

This study compiles and describes important characteristics of an effective EEd programme at Bachelor level in developing countries.

2. Entrepreneurs, Entrepreneurship and Entrepreneurship Education

Entrepreneurs are people who have a business idea and brings all the necessary resources together so as to realize that business idea. In their endeavour, they take various types of risks. When they succeed, gains of the successful venture benefit many individuals and the whole society in many ways. Kirzner [6] stated that in economic development „the entrepreneur is to be seen as responding to opportunities rather than creating them; as capturing profit opportunities rather than generating them”. Later, Gilder [7] considered that the entrepreneur is a superman who knows the hidden laws of economy and who contributes to progress. Also, he fights against poverty by creating new jobs. Other researchers adopted different approaches as follows:

Entrepreneurship is a concept with many dimensions and, consequently, there are various definitions of it. In order to be able to discuss the issue of entrepreneur education thoroughly, it would be useful to present a few of these definitions:

“Entrepreneurship is a purposeful activity to initiate, maintain and develop a profit oriented business.” [8] “Entrepreneurship is the set of behaviours that initiates and manages the reallocation of economic resources and whose purpose is value creation through those means.” [9] “Entrepreneurship is the resource, process and state of being through and in which individuals utilize positive opportunities in the market by creating and growing new business firms.” [10]. “Entrepreneurship is a process that involves the discovery, evaluation, and exploitation of opportunities to introduce new products, services, processes, ways of organizing, or markets” [11].

Entrepreneurship is a creative human process, one which mobilizes resources from one level of productivity to another, a superior one. It implies the individual’s will of taking on responsibilities and the mental ability of carrying out the task from idea to implementation. Another component of entrepreneurship consists in identifying opportunities where other people find only chaos, contradictions, or confusion.

As for entrepreneurship education, there are various approaches to the issue. As Hostager and Decker [12] stated general business management education seems to have no significant influence on entrepreneurial propensity that entrepreneurial education programs create. Some research showed that starting a business is related not only to education but also to tacit knowledge and individual abilities [13, 14]. 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 [15], so education on these issues can enable the realization of this potential into business creation. As Drucker [16] also stated, entrepreneurship is risky hence it needs to be managed in a systematic approach for achieving these competencies. Hence he [17] 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, in spite 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 organizational life cycle that can also be called entrepreneur dominant period) on their way to institutionalization 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.

3. Entrepreneurship Education at Universities and Colleges

The interest of university graduates in entrepreneurship has traditionally been low [18]. The challenge of how to encourage young people to launch new firms that exploit their acquired skills as

well as academic research results, spinoffs, confronts academics and policy makers.

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 [19]. Since then, entrepreneurship began to take place in the agenda of business schools all over the world. Although entrepreneurship education is traditionally located in the business schools, engineering schools are also offering EEd programs as engineers themselves are the most suitable party in commercializing new technologies due to their extensive knowledge in technology. By equipping them with social, managerial and communicative skills, supported by relevant theoretical knowledge, engineering graduates can be turned into successful entrepreneurs. Entrepreneurship education in engineering schools have already become a popular issue [20, 21]. In recent years change appears to take place in technology intensive sectors where innovative new entrepreneurial endeavours disrupt industries and markets. A large part of this has been traced to the information and communications technology sector, which provides business opportunities for small innovative enterprises [22] (Karhunen, Ledyeva, Gustafsson-Pesonen, Mochnikova, & Vasilenko, 2008).

It should be noted that, regardless of engineering or business school based, significant portion of entrepreneurship education is based on the context of formal education [23, 24] providing knowledge inputs required for entrepreneurship. It means that universities traditionally teach entrepreneurship as a subject, they share knowledge with students in the courses [25]. Education programs that are specifically designed for entrepreneurship with different content and teaching methods from traditional business courses [26] are needed. As Carlsson et al. [27] 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 [28]. In the U.S., academic institutions act as catalysts for start-ups [14]. However in developing countries entrepreneurship education is rarely sufficient even in teaching entrepreneurship in the traditional way [25].

Academic entrepreneurship (also referred to as university spinoffs or academic spinouts) is defined as new venture formation by faculty, staff or students who innovate in an academic or non-profit research context, and subsequently found a firm that directly exploits this knowledge [29]. Although technology transfer and university-firm relationships date back to the creation of land-grant universities and the Morrill Act of 1862, academic norms were strongly against both ownership and commercialization of technologies created for most of the post industrial revolution era [30, 31].

EEd at Bachelor level can be in the following forms [32]:

- Elective Minor program in entrepreneurship for all students.
- Bachelor program in Entrepreneurship or with a focus on Entrepreneurship.
- Extracurricular courses for interested students.

There are two types of entrepreneurship education models [33], out of which the university/college make its choice:

- the magnet model, where a single entity facilitates entrepreneurship classes for all departments
- the radiant model, where individual departments develop their own offers.

4. Conclusions

Designing an EEd program is a complex task, which involves addressing to meet various needs of an entrepreneur-to-be. In order to be able to develop an effective EEd program, first things first these needs must to be identified clearly. These needs can be outlined as follows (adopted from Smith, Schallenkamp and Eichholz [34]):

- **ICT Skills:**
 - Ability to use ICT to search, share and publish information
 - Interest in learning with computer based technologies
- **Managerial Skills:** Leadership, planning, organizing, supervising, directing, networking, Marketing/Sales, identifying customers, distribution

channels, supply chain management, managing financial resources, accounting, budgeting

- **Legal Skills:** establishing company, patent issues, privacy and security, employee-employer relations,
- **Personal Maturity Skills:**
 - **Self-Awareness:** ability to reflect and be introspective
 - **Accountability:** ability to take responsibility for resolving a problem
 - **Emotional:** ability to cope with a problem, tolerance for frustration
- **Technical Skills:** Operational skills necessary to produce the product or service related to issues of supplies/raw materials, office/Production Space, Equipment/Plant/Technology, logistics etc.

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 [35]. But as Volkmann [36] pointed out, successful entrepreneurship education programs from various countries and regions are expected to serve to creation of an appropriate model for a global entrepreneurship education model. Raichaudhuri [37] introduced some basic required characteristics for creating an entrepreneurship education program that can create value:

- **The Theory-Practice Balance:** The primary requisite for an entrepreneurship course / program is to combine the rigours of academia while

References

- [1] “Global Entrepreneurship Monitor (GEM)”. *Global report*, 2012.
- [2] Van Stel, A., M. Carree, and R. Thurik. “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, 2004.

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 programs. Moreover, entrepreneurship education stresses the importance of the stage of development, an issue which is not dealt exclusively in conventional management programs. Therefore, courses and programs 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 institutionalizing 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.

[3] Carree, M., A. van Stel, R. Thurik, and S. Wennekers. “The Relationship Between Economic Development and Business Ownership Revisited”. *Entrepreneurship & Regional Development* 19(2), 81-91, 2007.

[4] Valliere; D. and Peterson R. “Entrepreneurship and economic growth: Evidence from emerging and developed countries”. *Entrepreneurship & Regional Development: An International Journal*, Vol. 21, (5 & 6), 2009, pp. 459 – 480, 2009.

- [5] Wong, P.K., Y.P. Ho, and E. Autio. "Entrepreneurship, Innovation and Economic Growth: Evidence from GEM data". *Small Business Economics*, 24: 335–50, 2005.
- [6] Kirzner, I. M. "Competition and Entrepreneurship", *University of Chicago Press*, Chicago, p. 246, 1973.
- [7] Gilder G. "L'esprit d'entreprise", *Fayard*, Paris, p. 286, 1986.
- [8] Cole, H. "The Entrepreneur: Introductory Remarks". *American Review of Economics*, LVIII-2, 1968, p.64-71, 1968.
- [9] Herron, R. B., Robinson Jr. A. "Structural Model of the Effects of Entrepreneurial/Characteristics on Venture Performance". *Journal of Business Venturing*, VIII (3), p.281-294, 1993.
- [10] Gries, T., Naudé, W. "Entrepreneurship and human development: A capability approach". *Journal of Public Economics*, 3(1), pp. 216-224, 2011.
- [11] Shane, S. A., Venkataraman, S. "The promise of entrepreneurship as a field of research". *Academy of the Management Review*, 25 (1), pp.217-226, 2000.
- [12] Hostager, T.J and Decker, R.L. "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>), 1999.
- [13] Shaver, K.G. / Scott, L.R. "Person, process, choice: The psychology of new venture creation". *Entrepreneurship Theory and Practice*, 16 (2). 23-45, 1991.
- [14] Lüthje, C. and Franke, N. "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*, 2002.
- [15] Shapero, A. & Sokol, L. "The Social Dimensions of Entrepreneurship". In C.A. Kent, D.L. Sexton, & K.H. Vesper (eds.), *Encyclopedia of Entrepreneurship*, 72-90, 1982.
- [16] Drucker, F. "Innovation and Entrepreneurship", *Elsevier Ltd.*, UK, 1985.
- [17] Drucker, F. "The Frontiers of Management: Where Tomorrow's Decisions are Being Shaped Today". *Elsevier Ltd.*, UK, 1986.
- [18] Tonttila, K. "Mita mielta yrittäjyydestä? Yliopistosta valmistuvien nuorten asenteet yrittäjyyteen ja itsensa työllistämiseen. Helsingin yliopiston tutkimus- ja koulutuskeskus" *Palmenia. Raportteja ja Selvityksia*, 36 (in Finnish), 2001.
- [19] Katz, J.A. "The Chronology and Intellectual Trajectory of American Entrepreneurship Education 1876–1999". *Journal of Business Venturing*, 18 (2), 283–300, 2003.
- [20] Gokhale, A. "Collaborative learning enhances critical thinking". *Journal of Technical Education*, 7(1), 1995.
- [21] Korhonen-Yrjanheikki, K., Tukiainen, T and Takala. M. "New challenging approaches to engineering education: enhancing university-industry cooperation". *European Journal of Engineering Education*, 32(2), 167-179, 2007.
- [22] Karhunen, P., Löfgren, J., & Kosonen, R. "Revisiting the relationship between ownership and control in international business operations: lessons from transition economies". *Journal of International Management*, 14(1), 78e88, 2008.
- [23] Vesper, K. H. "Research on Education for Entrepreneurship". In C. A. Kent, D. A. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of Entrepreneurship: 321–351*. NJ, 1982.
- [24] Gorman, G., Hanlon, D., King, W. "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, 1997.
- [25] Ying L., Y. "How Industry Experience Can Help in The Teaching of Entrepreneurship in Universities", *Sunway Academic Journal*, Vol. 5, pp. 48-64, 2008.
- [26] McMullan, W.E. and Long, W.A. "Entrepreneurship education in the nineties". *Journal of Business Venturing*, 2 (3). 261-275, 1987.
- [27] Carlsson, B., Acs, Z.J, Audretsch, D., Braunerhjelm, P. "Knowledge Creation, Entrepreneurship, and Economic Growth: A Historical Review", *Industrial and Corporate*

Change, 18 (6), 1193–1229, 2009.

[28] Rasmussen R.A. and Sorheim R. “Action-based Entrepreneurship Education”. *Technovation*, 26(2), 185-194, 2006.

[29] Shane, S.A. “Academic Entrepreneurship: University Spinoffs and Wealth Creation”. Edward Elgar Publishing, Northampton, MA, 2004.

[30] Nelson, R. “The simple economics of basic scientific research”. *Journal of Political Economy*, 67, 297–306, 1959.

[31] Stokes, D.E. “Pasteur’s Quadrant: Basic Science and Technological Innovation”. *Brookings Inst Press*, Washington, DC, 1997.

[32] Van der Sijde, P., Ridder, A., Blaauw, G., Diersberg, G. “Teaching Entrepreneurship”. *Physica-Verlag*, 2008.

[38] *cision*, 32 (2), 73- 84, 2005.

[33] Potter, J. “Entrepreneurship and Higher Education”. *Local Economic and Employment Development-LEED*, (OECD), 2008.

[34] Smith, W. L., Schallenkamp, K. A., Eichholz, D. E. “Entrepreneurial Skills Assessment: An Exploratory Study”. *Inderscience Enterprises Ltd.*, 4(2), 179-201, 2007.

[35] Rasmussen R.A. and Sorheim R. “Action-based Entrepreneurship Education”. *Technovation*, 26(2), 185-194, 2006.

[36] Volkmann, C. “Entrepreneurship Studies - An Ascending Academic Discipline in the Twenty-First Century in Higher Education in Europe”, *XXIX* (2), 2004.

[37] Raichaudhuri, A. "Issues in Entrepreneurship Education", *De*