Development of Entrepreneurship Education in Estonian Universities: Case of University of Tartu

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Abstract

There are different opinions on how entrepreneurship education (EE) should be organized in a curriculum and how to create interdisciplinarity within different curricula. It depends on several aspects, included what is the aim of entrepreneurship education – is it about entrepreneurship or education for or through entrepreneurship? How should the curriculum be designed to be more effective for teaching entrepreneurship, including different dimensions: environmental factors, personal relations, their network, development of one’s entrepreneurial behavior, personality and learning process itself? The purpose of this paper is to provide an overview of contemporary trends how entrepreneurship education is integrated in different university curricula and how different stakeholders are involved into the process. For that purpose first, the authors provided a comprehensive literature review of research in entrepreneurship education in higher education institutions (HEIs). Secondly, they analyzed University of Tartu faculties’ curricula to analyze full time programs teaching entrepreneurship. Thirdly, the authors adopted a qualitative research approach, where they conducted semi-structured interviews with programme leaders from all faculties from the University of Tartu in 2016. The main result is that, EE should be more interdisciplinary and integrated in different specialty subjects and the teaching/practice-oriented subjects should be embedded in the curricula; EE should be supported by the ecosystem, teaching methods must change etc. The concept “entrepreneurship education” has been understood in a narrow sense, aiming to give people the knowledge and skills needed to become self-employed and develop a new business in the long term.

Keywords: Entrepreneurship education; higher education institution; curriculum.

1. Introduction

Following the Europe 2020 strategic plan, the Lisbon agenda and the modernization agenda of European universities, the European Union has recognized how important the role of HEIs (through education, research and innovation) is in the transfer of knowledge to society and their vital
contribution to Europe’s economic competitiveness. (Davey et al., 2011) Developing new entrepreneurs is one of the major strategic tasks in the entrepreneurship and educational policy programs of Estonia too. In the narrow sense, the concept of “entrepreneurship education” has been understood as aiming to give people the knowledge and skills needed to become self-employed and in the long term, develop a new business.

Entrepreneurial learning pedagogy is typically characterized by interactive and experiential methods, which require students to take an active role in the learning process and are based on real-life situations and simulations. These include: group learning and assignments; interactive methods with businesses and entrepreneurs, including visits to companies; practical, hands-on learning (trial and error); developing creativity; problem-solving; business simulations and games; student-run businesses and business competitions. New teaching pedagogies and cross-disciplinary content present challenges for educators and institutions. (Guidance supporting Europe’s aspiring…, 2011) Bikse et al. (2014) add to previous that EE elements must be integrated at all levels of education and into all subjects; it is carried out according to the principle of consecutiveness and is available to every student.

2. Entrepreneurship education in higher education institutions

It has been said that entrepreneurship education should include the following elements (the list can be continued, it is not exclusive):
- development of entrepreneur’s personal abilities and skills, forming the entrepreneurial mindset (like risk-taking, creativity, leadership, team spirit and so on);
- development of participants’ awareness of self-employment and similar possible entrepreneurship career perspectives;
- developing particular enterprise projects and also activities;
- development of participants’ business skills and their abilities to launch an enterprise and manage it successfully (European Commission, 2008).

Across Europe, entrepreneurship is being taught through four main channels (Guidance supporting Europe’s aspiring …, 2011):
- as a separate subject/course/qualification, with a focus on learning the skills and know-how of setting up and running a business, or having a more theoretical focus;
- as an extra-curricular, usually voluntary/elective subject;
- as a mainstream subject in the curriculum, typically focusing on the development of transversal competences related to entrepreneurship such as initiative, confidence and creativity;
- as a non-formal course delivered in the adult education or private sphere.

It can be said that there are no limits for entrepreneurial knowledge. Scholars diverge about the objective of EE – when we teach individuals who will be able to practice entrepreneurship, then we can talk about learner centered, interdisciplinary, process-based, co-creation oriented, experiential and socially situated pedagogy (Kyrö, 2008; Mwasalwiba, 2010; Ollila & Williams-Middleton, 2011; Gibb, 2011) and business plan competitions (Russell et al., 2008) and involvement of mentors (Barbosa et al., 2008).
Referring to our previous research (Raudsaar & Kaseorg, 2016) there is a growing attempt to teach both about entrepreneurship and for entrepreneurship – and also through entrepreneurship, having new programs of education is helping participants obtain a wider range of business mindset and transferable competences and skills. For EE, focusing on institutions of higher education offers the chance to develop knowledge intensive high-growth enterprises from all academic disciplines, not just technical ones. HEIs should create an environment that fosters entrepreneurial mind-sets, skills and behaviors across their organizations. Universities can teach students how to start and grow enterprises in ways that benefit the society. Technical universities in particular provide potential breeding grounds for high technology and high-growth companies or “gazelles”.

Entrepreneurial universities enhance regional development and international competitiveness and their role is especially important in structurally weak and peripheral regions where universities tend to have a monopoly over the production of intellectual capital. (Baptista, Lima, & Mendoça, 2011) HEIs can foster greater entrepreneurship through EE, knowledge transfer, academic spin-offs, spin-ins, the commercialization of R&D, campus incubators and/or indirectly through networking and training. They are regarded as seedbeds of innovation fostering new knowledge and ideas which could be translated into commercial entities and exploiting the intellectual assets and enhancing economic growth. (Fenton & Barry, 2014)

3. Problem statement

EE has been considered as being one of the key instruments to increase the entrepreneurial attitudes of both potential and nascent entrepreneurs (Ahmad, 2013). It is a direct consequence of the need to prepare graduates from various types of HEIs to operate in rapidly changing social and economic conditions by equipping them with knowledge and skills related to operations of enterprises as well as running one’s business. Development of entrepreneurship-related competences at all stages of education seems particularly important from the point of view of the young generation on the brink of its professional activity, with social and economic environment which requires continuous adaptation to ever-changing market requirements and response to an increasing competitive pressure. (Płaziak & Rachwał, 2014)

Entrepreneurship courses and programs appear to be a mainstay of modern HEIs, and they are increasingly attracting interest and intervention from policy makers and higher education management (Gibb & Hannon, 2006). By offering new EE programs, most initiators follow the idea that participating in an entrepreneurship course can increase the intention to become an entrepreneur and equip would-be entrepreneurs with relevant skills. (Lorz et al., 2013)

Like Gibb & Hannon (2006) stated, EE is in the focus of policy makers and HEI stakeholders and so in 2016, the Estonian Ministry of Education and Research launched the program “Systematic Development of Entrepreneurship Education (EE) on All Levels of Education in Estonia” financed through European Social Fund. In this program, the entrepreneurship competence framework is also developed. According to that framework we defined five major competences: motivation and mind-set; thinking skills; social competences; conceptualized knowledge about the environment and the ability to apply it; ethic and values. There are different opinions on how EE should be organized within a
curriculum and how to create interdisciplinarity in different curricula. Mainly, it is a question of developing entrepreneurship competences and whether the competences should be developed during entrepreneurship courses or is it a task of the whole curriculum. One course cannot develop all these competences, but in the context of a curriculum it is more reasonable.

4. Research question and purpose of the study

If the EE has a central role as the mobilizer of individuals, there is a need to have a closer look at specific competences which should be included among the outputs of current entrepreneurial educational system. There are different opinions on how EE should be organized within a curriculum and how to create interdisciplinarity in different curricula. How to design the curriculum to be more effective for teaching entrepreneurship, including different dimensions, e.g. environmental factors, personal relations in potential and established entrepreneurs and their network, development of one’s entrepreneurial behavior and personality and of course the learning process itself?

By offering new EE programs, most initiators follow the idea that participating in an entrepreneurship course can increase the intention to become an entrepreneur and equip would-be entrepreneurs with relevant skills. The purpose of this paper is to provide an overview of contemporary trends how entrepreneurship is integrated in different university curricula and how different stakeholders are involved in the process.

5. Research methods

The majority of EE surveys in higher education are based on quantitative methods. This study is unique because it combines two parts. In the quantitative part the authors:

- provided a comprehensive literature review of research in EE and HEI;
- analyzed the homepages of faculties, documented materials and curricula of the University of Tartu to study full time programs that are teaching entrepreneurship;
- looked through an internet based questionnaire on how many and what kind of entrepreneurship subjects are implemented in programs.

The questionnaire was sent to entrepreneurship lecturers from all faculties of University of Tartu in 2016 spring. First, the authors asked to mark all entrepreneurship subjects in which they are teaching and second, mark if the subject about, for or through entrepreneurship in order to evaluate what is the goal of EE in all subjects (a choice of options 1−3).

1. To provide entrepreneurial knowledge (about entrepreneurship). This approach covers a broader understanding on entrepreneurship, including entrepreneurs and the role of entrepreneurship in society and in the economy. This concept refers to the process of learning where traditional learning methods are used (e.g., lectures) and instead focuses on the development of learner’s knowledge about entrepreneurship.

2. To provide the knowledge and tools to start a business, to found a company, to become self-employed, etc. (for entrepreneurship). According to this method the student participates actively in the learning process, learning “by doing”, i.e. by acquiring experience. Learning takes place through team
work, combining conceptual, practical and socio-cultural knowledge. Student passes his/her business idea through the basis of the entrepreneurship process (market research carried out considering the actual market and customers, business model and a business plan) and solves the problems inherent in the process (team work). In this approach, a variety of active learning methods (including project-based learning) can be used, supporting the active participation of the learner in the learning process.

3. Encourage entrepreneurial attitudes and mind-set by doing entrepreneurship through participation (through entrepreneurship). According to this method, the student either establishes an enterprise or participates as a member of a team in the creation of an enterprise (e.g. student firm creation), learning the business process in order to know the product/service market entry related to real-life problem-solving. Learning takes place through conceptual, practical and socio-cultural knowledge through a combination of team work and creation of real-world business experience.

In the qualitative part, program leaders interviewed from all faculties of University of Tartu describe the best practices of entrepreneurship teaching in programs. The semi-structured interview (carried out during 2016 spring) consisted of eight basic questions and were fully transcribed and analyzed by using targeted thematic analysis method (Eteläpelto, Vähäsantanen, & Hökkä, 2015). Coding methods were used to identify the dimensions and their elements and variables. The gathered data and analyzed conceptualization was circulated and through the interviewed program leaders, the validity of the conceptualization was confirmed.

6. Findings and discussion

Education plays an important role in the process of building entrepreneurial capacity. (Hannon, 2006) The rationale behind the push to widen the knowledge of entrepreneurial and enterprise development is to build up confidence to develop the required managerial skills that will give them the capacity to function effectively in the fast changing, competitive and entrepreneurial economy and labor markets of the twenty-first century (without necessarily starting up a business). (Ahmad, 2013)

University of Tartu (UT) has four faculties – Faculty of Arts and Humanities (incl. Viljandi Culture Academy), Faculty of Social Sciences (incl. Pärnu College and Narva College), Faculty of Medicine and Faculty of Science and Technology and 60 bachelor, 72 master and 34 doctoral study programs available in 2015/2016, including 17 programs in English (University of Tartu, 2016). The authors analyzed the curricula of faculties of UT, looking at what entrepreneurship themes and subjects are covered. All together 396 entrepreneurship subjects were marked. According to the levels of study the situation with entrepreneurship subjects was the following (see Table 1).

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Levels of study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bachelor’s studies (BS)</td>
</tr>
<tr>
<td>Arts and Humanities</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>37</td>
</tr>
<tr>
<td>Medicine</td>
<td>1</td>
</tr>
<tr>
<td>Science and Technology</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: authors’ calculations based on the questionnaire.
As we can see, more subjects are meant for bachelor or applied higher education and master level students, especially in the Faculty of Social Sciences and Faculty of Arts and Humanities. According to our survey, only one subject was found in the Faculty of Medicine. However, the applied higher education, bachelor and master level students can find entrepreneurship subjects even if they are missing these from their own curriculum. The situation in doctoral study level is very poor – only few subjects were found. Also subjects were missing for integration of master and doctoral students. When we came to the aim of entrepreneurship teaching, the situation was the following (see Table 2).

Table 2. The aim of entrepreneurship teaching in UT.

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Aim of entrepreneurship teaching</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>about entrepreneurship</td>
</tr>
<tr>
<td>Arts and Humanities</td>
<td>45</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>105</td>
</tr>
<tr>
<td>Medicine</td>
<td>2</td>
</tr>
<tr>
<td>Science and Techn</td>
<td>12</td>
</tr>
</tbody>
</table>

Source: authors’ calculations based on the questionnaire.

Most of the entrepreneurship subjects were aimed at developing knowledge about entrepreneurship. In the faculties of Social Sciences and Arts and Humanities subjects for developing skills and knowledge for entrepreneurship were also present. But in all faculties there were only few practical subjects teaching through entrepreneurship. As a result, UT does not have a lot of spin-off companies either.

In 1999, the Spin-Off Program of UT was launched with 9 projects/companies formed. After this, 2–3 new companies have been created every year. However, UT has no ownership in the companies itself, the ownership of a university member (academician) is considered to be sufficient. It could be said that UT expects indirect returns and socio-economic impact for society. Between 2010 and 2013, 3–4 companies per year were added to the list of spin-off companies on average. Six more companies were added to the list of university spin-off companies in 2014. In 2015, as of 01 July already six more new companies have been added to the list – the total number of spin-offs as of 01 July 2015 was therefore 54. (Pere, 2016)

University of Tartu had 166 programs in spring 2016. Entrepreneurship courses were found in 94 curricula (start of studies at 2016/2017 version): in Faculty of Medicine 6 curricula, in Social Sciences 30 curricula, in Humanities 25 curricula and in Science and Technology 33 curricula. Therefore, 56.6% of curricula have some entrepreneurship courses, but mostly the aim of the courses is to provide knowledge about entrepreneurship, not practical entrepreneurship by developing mind-set and attitudes. As Bikse et al. (2014) had pointed out that EE elements must be integrated at all levels of education and into all subjects, we still have a long way to go.

Our purpose was to analyze how the entrepreneurship is taught within different subjects, but unfortunately we just got some examples how teaching is integrated in specialty courses. One example was from economics master program, where three lecturers co-operated with the courses they taught and the student teams developed their entrepreneurship projects under these courses. Also,
entrepreneurs’ problems or tasks in which students tried to solve these problems were taken to lectures quite sparsely. But the best example we received from Viljandi Cultural Academy and we continue to analyze this case.

7. Best practices of entrepreneurship teaching in University of Tartu

UT Viljandi Culture Academy (UTVCT) is one of the four colleges of the UT. The UTVCT provides applied higher education since 1952. According to their webpage (Viljandi Culture Academy, 2016) the UTVCT offers graduate and undergraduate study programs in such fields as theatre and dance arts, Estonian native crafts (textile, metal, construction and inherited crafts), music (jazz, traditional, pedagogy), sound engineering, leisure-time manager-teacher and culture management. The UTVCT started to teach entrepreneurship in 2004, but in 2013 they decided to make entrepreneurship a compulsory part for all students and curricula. First, the pilot was carried out with culture management and leisure-time manager-teacher students and the aim of teaching was to learn skills, knowledge and develop entrepreneurial attitude through entrepreneurship. Students formed teams, generated ideas, developed their products or services, asked feedback from real customers and prototyped products and it all ended with a real sale.

In 2015/2016 autumn semester, the first school-wide entrepreneurship course started with 110 students from different programs. The introductory two-day session was already carried out in spring semester. During this session, students listened stories and experiences from entrepreneurs, searched and generated ideas and tried to develop a business model for their ideas using Osterwalder business canvas as a basis. In all stages mentors from local Development Center and entrepreneurs were involved and all teams got mentoring sessions from different entrepreneurs. 27 student teams (3–5 students in team) were formed and they started developing their idea and entrepreneurship studies in autumn semester 2016 (Rõigas, 2016). The rule was that a maximum of 2 members of team could be from the same program to ensure interdisciplinarity of teams.

In autumn semester, the teams continued to work on their ideas and followed the process of entrepreneurship – the learning process consisted of lectures, feedback from lecturers and peers, mentoring from entrepreneurs and mentors and real communications with potential customers and partners (Rõigas, 2016). Students had to work with the ideas, but they also had to reflect their own personal development. In spring semester, they had an entrepreneurship practice course under different lectures, mentoring and practical tasks – all supporting their idea development. Also, in some cases, the students were supported with specialized courses, where they developed their products (for example textile or metal handicraftsmen, or culture managers).

It came out from the students’ feedback that the hardest part for them was connected with their own attitude. Some examples from 1) motivation and mind-set competences: the hardest that were named were emotion regulation and self-determination or autonomous motivation; 2) thinking skills: planning; 3) social competences: cooperation and communication; 4) conceptualized knowledge about the environment and the ability to apply it: economy.

The first course was successful and showed the importance of ecosystem and stakeholders. Several partners were involved in delivering the course: Development Centre of Viljandi County, Viljandi
Creative Incubators Foundation and several enterprises. But the attitude of schools’ lecturers and staff is also important – whether they support students’ initiatives or not. Viljandi Culture Academy has succeeded in developing a good network with important partners. Next year, the second school-wide course will start with 80 students, but 30 pupils from gymnasium will also participate. Such a model of teaching entrepreneurship is effective and they try to develop it further and this is supported by Lorz et al. (2013) stating that participation in such practical entrepreneurship courses where students can develop their specialized ideas can increase the intention to become an entrepreneur and equip would-be entrepreneurs with relevant skills.

8. Conclusions

Entrepreneurship development is a key factor for the economic and social development of a country. Every state is interested in a strong and developed economy and civic society. A strong economy is based on well-developed entrepreneurship. As Monika Pramann Salu (2005) has stated – country and its economy are only as successful, as developed its entrepreneurship is.

EE is a complex set of measures that affects all levels of education (including teacher training), all subjects and all parties involved in education – the creators of educational policy, educational administration, school administrations, teachers, students, the neighboring communities and so on. This implies the necessity to organize the management of this process. (Bikse et al., 2014) Many researchers have found a link between EE and new venture creation.

Learning requires consciousness and the capacity to utilize what we know and leads to change in both what and how we know. EE and the learning process are seen as fundamental for developing the entrepreneurial culture. EE should be more interdisciplinary and integrated in different specialty courses; there should be a certain place for teaching/practice-oriented courses in curricula; the EE should be supported by the ecosystem, teaching methods must change etc.

To successfully start up and operate a business, entrepreneurs need to use a wide range of skills. This skill-set includes skills that are required from employees in any workplace, but also those skills needed to respond to the additional demands of running a business. While some of these skills may not be absolutely necessary for successfully operating a business, possessing them is likely to increase the quality of an entrepreneur’s business and the chances that it will be sustainable and growing. It is therefore important to identify the skills needed by entrepreneurs and consider how they may be acquired and strengthened, and how this can be supported by public policy. Both understanding of business mindset and obtaining relevant skills and competences for students should be the aim of practical EE programs. Entrepreneurial capabilities and competences can be supported and nurtured through education and training. (Building entrepreneurship skills, 2014)

The approach of “learning by doing” including developing students specialty business ideas can be considered as the best practice, offering both theoretical skills for writing the business plan and personal abilities necessary for entrepreneurial career (like negotiation skills, managing the changing environment and so on) and development of specialized skills (Raudsaar & Kaseorg, 2012).
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