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# Forming Entrepreneurial Competences: Interaction of Universities and Business

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## Abstract

The paper discusses the issues of forming entrepreneurial competencies and the solving problems of entrepreneurial education in the interaction between universities and business. The analysis of the advantages and disadvantages of the competency-based approach from theoretical and practical positions is undertaken. Approaches to identifying entrepreneurial behavior are proposed. The necessity of revising a number of provisions that are currently considered as the integral characteristics of entrepreneurial activity is substantiated. Forms of interaction between universities and business are proposed, which allow building relationships on a mutually beneficial basis. The necessity of expanding the use of active and interactive teaching methods in entrepreneurial education is substantiated. The requirements to the level of entrepreneurial competencies of a university teacher involved in the training of entrepreneurs are formulated.

**Keywords:** education, university, entrepreneurship, competence approach, entrepreneurial competences, forms and methods of entrepreneurial education, business education

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## Introduction

Entrepreneurship is an individual professional activity in establishing and managing the own business, organized on the basis of self-employment and aimed at providing and creating new products and values, manufacturing and selling goods, performing work and providing services, as well as creating and maintaining jobs and bearing the responsibility to society and the state. Skurikhina and Skurikhina (2014) noted that among young people the skills to conduct their entrepreneurial activity are becoming more in demand and that the modern young generation seeks to become business people, achieve success, wants to be economically independent on the state.

Entrepreneurial competencies are generalized professional functions performed only by business owners, but not by employees working in another's business. These functions constitute the framework of the professional nature of entrepreneurship because entrepreneurs carry these functions out regardless of the scale of their business or the form of business ownership.

The competencies of the entrepreneur are closely intertwined with the core business competencies of companies, the basis for a modern understanding of which was laid by Hamel and Prahalad (1994), who defined them as the skills and abilities allowing the company to provide fundamental benefits to the consumer. Thus, the core business competencies of the company are associated with the competencies of core personnel. Gusev and Parshina (2013) define competencies as a kind of internal knowledge, inaccessible to consumer's direct perception. This knowledge is indirectly expressed in the value of the final product through the efficient use of personal resources and capabilities in the specific configuration of production and organizational system.

Today entrepreneurial education is an intensively discussed field either from the standpoint of its content or from the standpoint of its participants – teachers, trainers, and trainees. Nevertheless, an interaction of universities and business in forming entrepreneurial competences generates more questions than answers and more tasks than decisions.

The concept of core competencies and the competency-based approach has gained popularity in European education systems. European countries have made significant progress in incorporating core competencies in national curricula and other guidance documents. However, different countries use different approaches and in varying extent. In Cubico et al. (2015), a close connection between the features of using the competency-based approach and the national educational policy is discussed.

The objective of the current paper is to identify the universities' development challenges and opportunities originated from their interaction with business in forming entrepreneurial competences.

## Methodology

As the current paper represents the first stage of investigating the interconnections between the universities and business in forming entrepreneurial competences the descriptive methods were mostly used. Context analysis of scientific opinions was undertaken for generalizing the problems and logical analysis was applied for substantiating the ways of solving them.

The author's personal experience of teaching in the university was also taken into account when discussing and suggesting certain measures and steps.

## Results

In the report of the European Commission (Komarkova et al., 2015) the wide review of the theoretical works on entrepreneurial competencies is given as well as the results of the case study are described. From the one hand, it was found that there is no common definition of entrepreneurship but from the other hand widening the range of activities considered as entrepreneurship takes place. The common opinion is that entrepreneurship is and should be focused on value creation, but the common understanding of what is the value is absent.

What about entrepreneurial competences there is no common vision what should be included in the mandatory set though many authors whose works were analyzed say about the dominance of financial and economical competences. Arguing of such dominance is more often commented as negative and preventing orientation on social entrepreneurship, but it's impossible to deny that for successful and long-living the social enterprise it should be based on the solid economic foundation and have reliable and well-organized scheme of financing.

Entrepreneurial competencies may be distinguished by multiple criteria but groups and efforts Entrepreneurial competencies may be distinguished and grouped by multiple criteria but efforts focused on classification and group making continue. However, in parallel, the tendency to interpret the entrepreneurship as an integrated competence is observed. The attempts to separate competency-based educational approach from the traditional approaches based on KSA (Knowledge, Skills, and Abilities) concept are undertaking but in the description of the competence-based approach, the same terms are widely used, though the term "abilities" is often replaced by "attitudes".

The lack of the uniform understanding of what competencies an entrepreneur should have given freedom for multiple implementations within the wide framework building and testing models using competition and cooperation between universities.

Table 1 represents an example of grouping competencies used in the universities of the Netherlands, the country that has profound traditions and high authority in business education. In our opinion, this set of the competences includes no one of them, which is not necessary and useful for an entrepreneur through entrepreneurship is represented only by one position included into the group of competences on realizing and evaluating.

In VSNU (2011), the term entrepreneurship is associated with daring, and behavioral indicators characteristic for an entrepreneur and allowing distinguishing the most capable students are formulated as follows:

- looks for opportunities and possibilities;
- dares to take up new things;
- comes forward with new ideas for knowledge and areas of application, products and services;
- researches marketing and environment;
- indicates which investments are needed to capitalize on market opportunities;
- dares to take a big risk to achieve specific advantages.

From the practical standpoint the entrepreneurial behaviour manifests in such activities and actions as putting forward and approving business ideas; developing a business model and business plan for a new business; establishing a business unit and acting as its member; providing the development and market launch of products/services; creating a business team; providing resource support for the business; ensuring business security; providing competitiveness and competitive

stability of business; ensuring the smooth running and development of intra-company and inter-company business processes and business communications; exiting the business.

Table 1

Groups of competences the universities are focused on

1. Analysing and Devising	2. Communicating and Influencing	3. Realizing and Evaluating
<ul style="list-style-type: none"> <li>• Vision</li> <li>• Conceptual capacity</li> <li>• Analytical capacity</li> <li>• Inventiveness</li> <li>• Capacity to learn</li> <li>• Environment orientation</li> </ul>	<ul style="list-style-type: none"> <li>• Empathy</li> <li>• Persuasiveness</li> <li>• Cooperating</li> <li>• Networking skills</li> <li>• Organizational sensitivity</li> <li>• Written fluency</li> <li>• Verbal communication</li> <li>• Presenting</li> <li>• Negotiating</li> </ul>	<ul style="list-style-type: none"> <li>• Planning and Organizing</li> <li>• Monitoring</li> <li>• Result orientation</li> <li>• Cost-consciousness</li> <li>• Commitment to client</li> <li>• Accuracy</li> <li>• Initiative</li> <li>• Entrepreneurship</li> </ul>
4. Managing and Supervising	5. Personal Effectiveness	
<ul style="list-style-type: none"> <li>• Managing for results</li> <li>• Coaching</li> <li>• Binding leadership</li> <li>• Delegating</li> <li>• Decisiveness</li> </ul>	<ul style="list-style-type: none"> <li>• Flexibility</li> <li>• Integrity</li> <li>• Stress-resistance</li> <li>• Self-reflection</li> </ul>	

Source: VSNU (2011)

Following the Kirzner's business theory (Kirzner, 1973), entrepreneurs are constantly looking for, finding and evaluating new business opportunities and this process is called as entrepreneurial discovery. The questions allowing to identify the manifestation of entrepreneurial behaviour and to assess the practical experience of the students may be divided into two groups where the first describes the participation in the generation of entrepreneurial ideas and promoting them and the second describes the participation in the enterprise implementation (Table 2).

Forming entrepreneurial competences force, the universities to respond to the challenges tied with the aims of education as well as with its forms and methods.

According to an with the "classic" understanding, an entrepreneur is a person who transforms the resources inventing unusual and non-standard combinations of them to the results – traditional or new – using existing or new transformation process. Karagiannis and Grigiroudis (2016) pay attention that the process of resources transformation to results is not homogeneous in dynamics. Hence, temporary imbalance gives opportunities for an entrepreneur. Entrepreneurial education should form the competences for balancing the components of entrepreneurial activity:

- universities should contribute to the involvement of young people as potential entrepreneurs in entrepreneurial activity;
- modules for entrepreneurship and innovative entrepreneurship training should be embedded into the most promising educational programs of universities.

The university faces two tasks according to the narrow and wide concepts of entrepreneurial competencies:

- the narrow task of forming entrepreneurship competences supposes forming an entrepreneur;
- the wider task of forming entrepreneurship competences supposes forming an entrepreneurial spirit and positive perception of entrepreneurship.

Table 2

Questions on entrepreneurial experience

Participation in ideas	Participation in implementation
<ul style="list-style-type: none"> <li>• Where did you get your ideas?</li> <li>• What developments have you noticed in your field recently, the application of that knowledge and the (commercial) possibilities? How have you made use of them?</li> <li>• Have you ever proposed supplying new services or exploring new markets for existing knowledge or products?</li> <li>• What services or markets were they for?</li> <li>• Why did you make these proposals? How did you try to convince others?</li> </ul>	<ul style="list-style-type: none"> <li>• Have you ever launched a new product on the market (even if the original idea for the product was not your own)? What role did you play in this?</li> <li>• Have you ever made proposals to for the development of new applications, services or products? What were your proposals?</li> <li>• Have you ever been in a situation when you had the final responsibility as a manager and the results were not achieved? What did you do? What did you do to improve the results?</li> <li>• Have you ever had to take a risky business decision? Why was that? What was the risk?</li> </ul>

Source: VSNU (2011)

The question related to the personal incentives and motivation of an entrepreneur remains open as well as the question of whether it is possible to form an entrepreneur in the consumption-oriented society? Who is an entrepreneur in such a society – an unsatisfied consumer who had not found in the market the wanted product, a person striving to subjugate the lives of the others or a creator striving to make his dreams come true?

In the papers (Zięba, 2017) and (Zięba & Golik, 2018), analysing the images of the future business drawn by the students the authors makes a distinction between entrepreneurial aspirations and intentions. The first is not fully perceived wish, rather dream, while the second is a more founded plan supported by resources and preparations. It may be supposed that the difference may be connected with the extent of entrepreneurial competencies formed.

Analysing the changes of the intensions showed by students in the course of entrepreneurial training, Sánchez concluded that “the mean values of the programme sample in the post-stage for self-efficacy, proactivity, risk-taking and intention of self-employment are significantly higher concerning the pre-stage” (Sánchez, 2011). However, the results do not argue that competences inevitably cause individuals to start-up. It may be interpreted that *ceteris paribus* the stronger competences correspond the higher likelihood that, when the person will pursue entrepreneurship, he attains some advantage relative to those who lack such competencies (Sánchez, 2011).

In our opinion, to form a realistic perception of what is entrepreneurship some mandatory conceptual changes are required. General vector of the changes should be directed from understanding entrepreneurship as an extremal activity requiring an exclusive talent to more technological understanding, which supposes revealing routine elements of entrepreneurial activity and this way decreasing its dependence on personal and environmental random factors. Such reorientation, not diminishing the role of talent and intuition as well as the risk, may lower the level of psychological stress and provide more sustainability of results.

It is also important to percept entrepreneurial competences in integrity and complexity, so entrepreneurship should be understood as an active element of the economic and social system (Table 3).

Table 3

Revising emphasis in forming entrepreneurial competencies

Existing emphasis	Required emphasis
Risk-taking	Risk management
High risk	Lowering uncertainty
Readiness for losses	Responsibility, liability
Competition and negative stimuli	Cooperation and positive stimuli
Ruling and governing	Networking and delegating
Personal benefits and material welfare	Hardworking and lifelong learning
Universal manager	A competent leader in a certain field

Source: composed by the author

One more direction of forming a realistic attitude to entrepreneurship should become the ties with the functioning business. University heads “need to make industry-university partnerships a strategic priority and communicate the message regularly to the entire academic community” (Edmondson et al., 2012). Design incentives for university faculty and provide resources to manage a cultural shift that does not undercut basic research but puts a clear priority on engaging with industry for mutual benefit and the benefit of society is needed.

According to Ahrens et al. (2018), the partnership of the universities and business may serve as a solution in identifying and filling in the gap between the products of education institutions and the needs of the economy. The possible forms of interaction between universities and business are shown in Table 4.

Table 4

Forms of university and business interaction

University to business	Business to university
<ul style="list-style-type: none"> <li>• Training in certain professional fields (technical)</li> <li>• Training in economy and finance</li> <li>• Training in information technologies and data processing</li> <li>• Providing trained personnel and apprentices</li> </ul>	<ul style="list-style-type: none"> <li>• The base for training students</li> <li>• Data for descriptive and constructive research</li> <li>• The base for testing and implementation ideas and R&amp;D results</li> </ul>

Source: composed by the author

In our opinion, it is relevant to pay attention to the potential of apprenticeship in a certain business as a form of practical training for part-time students. After training in certain business the student has three opportunities:

- to stay in the business of the practical tutor – the owner of the business with the prospect of becoming the partner or successor;
- to start their own business using the former experience and taking into account all positive and negative impressions;
- to conclude that the readiness for starting an enterprise is not enough yet.

Entrepreneurial education is focused not only on the students who have no entrepreneurial experience but also on those who are experienced but need to expand the competencies they possess to the moment. Hence, alongside full-time and part-time education, the university should suggest and promote lifelong

education, thematic seminars, additional vocational education, distant learning, consulting and so on.

Rubin (2014) writes that "entrepreneurship training in secondary vocational education institutions can be focused on the formation of skills to create and conduct business at the micro-level, as well as on the management of primary teams of middle managers. At the undergraduate level, advanced programs may appear in the field of social or technological entrepreneurship and the conduct of small innovative, medium and large businesses. In the system of master's studies and graduate school, one can also master research problems and prepare for pedagogical activity in the field of entrepreneurial education".

Dubolazov and Neelova (2014) find it reasonable to combine forming entrepreneurial competencies and technical education embedding entrepreneurial training into the system of training engineers. They argue that focusing engineering educational programs on the development and stimulation of business and entrepreneurship skills, including through the introduction innovative entrepreneurship in the curriculum, will contribute to the emergence of promising startups and the small innovative entrepreneurship development.

Teaching entrepreneurial education alongside with the traditional ones needs active educational methods - case studies, business plan creation, problem-solving, simulation and games, team-based or group discussions, guest speaker, seminars, individual and group projects, role-play and lectures on advanced issues.

Useful practical training may be dedicated to following;

- interviewing and questioning actual entrepreneurs about signals they pick up from their contacts regarding potential new services;
- collecting information from the Internet, newspapers and professional literature relating to trends and markets and concluding about what knowledge, products or services will be required in the short term;
- taking part in projects requiring an entrepreneurial approach;
- arguing why an application, product or service has a chance of success regarding the market developments and formulating a plan for its introduction on the market.
- formulating new ideas for satisfaction the certain need or the given product, market etc.;
- analysing the ideas in comparison;
- developing the idea into a plan: how and by whom will the idea be further developed, what budget is required, what are the expectations, how will the application, product or service be launched and supplied etc.;
- discussing ideas, services and products with interested parties/clients aiming to find possible (new) desires or needs they may have.;
- talking to those who have entrepreneurial skills about their ideas and thoughts;
- discussing on daring and/or not daring for a certain undertaking.

Situational diagnostic methods based on monitoring the behaviour of subjects in simulated situations allow evaluating the level of entrepreneurial competence manifestation in an activity. The study of Parshina and Maruschak (2007) showed that the weaknesses of students' professional competence are their inadequate skills to articulate thoughts in oral presentations, communication skills, and the ability to put knowledge into practice. Besides, there is an incomplete correspondence of behavioural competency components that are in demand in practice, such as willingness to responsibility for the actions taken and independence in the work. We can assume that the identified training shortcomings can be eliminated by expanding the use of active teaching methods in the educational process,



especially those related to group work and the presentation solutions of business problems and situations. To form and train the skills which are weak to the moment the methods of blended learning and flipped classes may be engaged.

Sánchez (2011) argues that "training in entrepreneurial competencies implicitly entails an inspirational component. Inspiration is what gives rise to attitude and intention and increases the students' interest in trying out an entrepreneurial career".

The material base of training is also significant. Thus, training of bachelors and masters in innovation and innovative entrepreneurship can be successfully organized in technical universities having the appropriate material base and professional teaching staff in technical, technological and research disciplines, in engineering and economic and similar departments with infrastructure, traditions and qualified teaching staff in the field of preparation of bachelors and masters in production management, logistics, industrial marketing, quality management, entrepreneurship etc. Such universities should have the appropriate infrastructure: an industrial park, a business incubator, an accelerator, a centre for student entrepreneurship that contribute to bringing an entrepreneurial product to the market and introducing teaching and student developments on the market.

## Conclusion

Summarizing the analysis of problems and opportunities for interaction between the universities and business in forming entrepreneurial competence it is necessary to mention that this process requires the large extent of creativity and initiative of both parties.

To form entrepreneurial competencies successfully, a university teacher engaged in the process should be more an entrepreneur than his students as well as he should know the practice better than his students (including those who are practitioners) and foresee the entrepreneurial trends at least one step before. This means that the teacher should possess entrepreneurial competences in the full extent. The teacher should be also able to adopt and amend the forms and methods of training according to the entrepreneurial community's changes.

Interaction of universities and business in the formation and efficient application of the entrepreneurial competencies is a multifaceted problem including economic, social, psychologic and pedagogic aspects. The further investigation of the issue requires the transition to the qualitative estimates and the proper metrics and indicators should be worked out for this purpose.

A better understanding of the opportunities of interaction can allow both the universities and business to increase the efficiency of solving their tasks and counteracting the challenges.

## References

1. Ahrens, A., Melnikova, J., Zašcerinska, J. (2018), "Development of students' innovative competence in university studies of social sciences, applying industry-based technologies' learning resources", *Regional Formation and Development Studies*, Vol. 24, No. 1, pp. 52-61.
2. Cubico, S., Gadioli de Oliveira, J., Bellotto, M., Formicuzzi, M., Favretto, G., Sartori, R. (2015), "Entrepreneurial competencies and business creation: a research on policies and applications", *Journal of Economics, Business and Management*, Vol. 3, No. 11, pp. 1087-1092.
3. Dubolazov, V. A., Neelova, N. V. (2014), "Проблемы подготовки специалистов в области инновационного предпринимательства" (Problems of training specialists in the field of innovative entrepreneurship), *International conference The Formation of*

- Professional Entrepreneurial Competencies of Youth in the Process of Entrepreneurship Training, Moscow Financial and Industrial University "Synergy", Moscow, pp. 206-216.
4. Edmondson, G., Valigra, L., Kenward, M., Hudson, R. L., Belfield, H. (2012), Making industry-university partnerships work: Lessons from successful collaborations, Science & Business Innovation Board, Brussels.
  5. Komarkova, I., Gagliardi, D., Conrads, J., Collado, A. (2015), Entrepreneurship competence: an overview of existing concepts, policies and initiatives - Final report, Publications Office of the European Union, Luxembourg.
  6. Gusev, A. A., Parshina, V. S. (2013), "Теоретико-методологические и организационно-методические аспекты подготовки лидеров на основе предварительной оценки их компетенций в процессе обучения" (Theoretical and methodological and organizational and methodological aspects of leadership training based on a preliminary assessment of their competencies in the learning process), УрГУПС, Ekaterinburg.
  7. Hamel, G., Prahalad, C. K. (1994), "Competing for the Future", Harvard Business Review, Vol. 72, No. 4, pp. 122-128.
  8. Karagiannis, E., Grigorioudis, E. (2016), "Четырехзвенная спираль инноваций и «умная специализация»: производство знаний и национальная конкурентоспособность" (The four-link spiral of innovation and "smart specialization": knowledge production and national competitiveness"), Foresight, Vol. 10, No.1, pp. 31-42.
  9. Kirzner, I. M. (1973), Competition and entrepreneurship, The University of Chicago Press, Chicago
  10. Parshina, V. S., Maruschak, T. B. (2007), "Формирование требуемых качеств у выпускника вуза на основе модели его компетенций" (The formation of the required qualities of a graduate based on a model of his competencies), Bulletin of Chelyabinsk State University, Vol. 19, pp. 121-130.
  11. Rubin, Y. B. (2014), "Компетентностный подход в обучении российской молодежи предпринимательству" (The formation of professional entrepreneurial competencies of youth), International conference "The Formation of Professional Entrepreneurial Competencies of Youth in the Process of Entrepreneurship Training", Moscow Financial and Industrial University "Synergy", Moscow, pp. 5-14.
  12. Sánchez, J. C. (2011), "University training for entrepreneurial competencies: its impact on intention of venture creation", International Entrepreneurship and Management Journal, Vol. 7, No. 2, pp. 239-254.
  13. Skurikhina, T. G., Skurikhina, A. M. (2014), "Формирование предпринимательских компетенций у студентов" (Formation of entrepreneurial competencies among students), International conference "The Formation of Professional Entrepreneurial Competencies of Youth in the Process of Entrepreneurship Training", Moscow Financial and Industrial University "Synergy", Moscow, pp. 157-161.
  14. VSNU. (2011), "Competence instrument for the Dutch universities", available at [https://vsnu.nl/files/documenten/CAO/Competence\\_Instrument\\_Dutch\\_Universities\\_april\\_2011.pdf](https://vsnu.nl/files/documenten/CAO/Competence_Instrument_Dutch_Universities_april_2011.pdf) (access date)
  15. Zięba, K. (2017), "High growth aspirations of nascent entrepreneurs: why do they fall?" Studia i Materiały, Vol. 1, No. 3, pp. 94-102.
  16. Zięba, K., Golik, J., (2019), "Determinants of business growth aspirations among Polish students: An empirical analysis", 14th European Conference on Innovation and Entrepreneurship (Vol. 2), 19-20 September, University of Peloponnese, Kalamata, pp. 1143-1150.

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