

Alexander Yashin

Ural Federal University
Institute of Public Administration
and Entrepreneurship
19 Mira Street,
620002 Ekaterinburg, Russia
a.a.yashin@urfu.ru
Phone: +73433711003

Anna Bagirova

Ural Federal University
Institute of Public Administration
and Entrepreneurship
19 Mira Street,
620002 Ekaterinburg, Russia
a.p.bagirova@urfu.ru
Phone: +73433711003

UDK: 37:658.114.1](470+571)

Original scientific article

Received: February 5, 2018

Accepted for publishing: June 6, 2018

This work is licensed under a
Creative Commons Attribution-
NonCommercial-NoDerivatives 4.0
International License



Alexey Klyuev

Ural Federal University
Institute of Public Administration
and Entrepreneurship
19 Mira Street,
620002 Ekaterinburg, Russia
a.k.klyuev@urfu.ru
Phone: +73433711003

DESIGNING ENTREPRENEURIAL EDUCATION IN RUSSIA: HARD AND SOFT SKILLS

ABSTRACT

The paper presents the results of analysis of entrepreneurial curricula delivered at Russian universities.

The analysis yielded the following results. The proportion of credits aimed at developing hard skills significantly outweighs the proportion of soft skill-focused credits. The share of credits for forming hard and soft skills at both undergraduate and graduate levels is roughly the same. There are large differences between state and private universities as regards the proportion of credits aimed at forming hard skills: this proportion is higher at state universities than private ones. The analysis also confirmed a significant difference in the proportion of credits for hard skills disciplines for generalist entrepreneurial curricula and specialist programmes: it is higher in general curricula and lower in specialized ones. At the same time, these curricula are not noticeably different as regards the proportion of credits focused on forming soft skills.

Our research showed that Russian universities have a low potential for influencing and supporting innovative entrepreneurship through their activities. One of the major persisting challenges for Russian universities as regards entrepreneurial education is the delivery of learning outcomes sought after on the market. Another problem is linked to a critically low share of courses aimed at developing soft skills in curricula for future entrepreneurs. We found that the presence of a rather high proportion of private education providers in the Russian higher education system has not prompted the development of entrepreneurial curricula. Their role in producing an active economic class of entrepreneurs and fostering self-employment is clearly insufficient.

Keywords: Entrepreneurial education, Russian universities, correlation analysis

1. Introduction

The effectiveness of today's economies, particularly in countries with transitional development models, is inextricably linked to the pace of development and activ-

ity in the entrepreneurial sector. The entrepreneurial sector of the Russian economy is characterized by low level of activity among new business owners, low level of youth entrepreneurship, high level of "forced entrepreneurship" (when setting up a business is prompted

by the lack or absence of other opportunities to receive income) and low level of consistent long-term entrepreneurship (Zemcov et al., 2009).

This state of the entrepreneurial sector of the Russian economy significantly limits the scope for socio-economic development, the transformation of a natural-resources based economy into a knowledge economy. Evidently, the present state of the development of entrepreneurship in the country provokes the search for systemic solutions in creating entrepreneurial ecosystems and overcoming barriers of 'anti-entrepreneurial' lifestyle choices among young people (Willias, Kluev, 2014).

One such systemic solution is the development of entrepreneurial education in the country. Undoubtedly, the quality of education, and entrepreneurial higher education in particular, has a significant impact on the development of entrepreneurship in the country, at the very least by encouraging young people to choose entrepreneurial professional and career trajectories.

At present, Russia does not have a framework for developing entrepreneurial education at the state or tertiary education level. Even leading universities deliver entrepreneurial education through short-term courses and professional re-training programmes. At the same time, there are no undergraduate or graduate entrepreneurial curricula, which have long become standard practice in developed countries (Rubin, 2015).

According to GUESS (Global University Entrepreneurial Spirit Students' Survey) research, around 60% of surveyed Russian university students said that throughout their studies, they had no entrepreneurial courses at all, while the other 40% were given the option of just one course. Yet over 30% of those polled said they were willing to spend time studying entrepreneurship-focused courses or curricula. This figure is higher than an analogous indicator for countries with long-established market economies (25%) (Rubin, 2015). Thus, the Russian higher education system is unable to fully cater for existing demand among young people for developing entrepreneurial competencies.

The low level of young people's involvement in the development of the entrepreneurial sector of the economy could also be explained through insufficient development of entrepreneurial competencies at all levels of professional education, including vocational and university level. For the most part, the system of professional education is traditionally aimed at "producing" future employees, rather than at preparing people for self-employment or for starting their own

business. This is a key problem that limits the growth of entrepreneurship in Russia.

Another key unresolved issue that obstructs the development of entrepreneurial education in Russia is the problem of forming soft skills and hard skills in the education process. Moreover, the debate about the ratio of soft to hard skills continues in international research on the effectiveness of entrepreneurial education. Our research was aimed at analysing the structure of entrepreneurial curricula at Russian universities and their focus on forming hard and soft skills among graduates.

2. Theoretical Framework

Research focused on developing business competencies in entrepreneurial curricula has two main strands. Adherents of one view argue that entrepreneurial education should be mostly focused on developing soft skills. Their logic is obvious: soft skills are the key to developing pivotal entrepreneurial skills, including communication, risk-taking and the ability to gauge development prospects. Thus, one of the leading theoreticians of entrepreneurial education, Johannisson, has identified five fundamental competencies that an entrepreneur needs: understanding why they want to be an entrepreneur; knowing how to go about doing it; knowing who to engage with to make their business successful; having a sense of when to launch their business; being aware of the need for general skills and knowledge (Johannisson, 1991).

Many contemporary researchers have examined the importance and role of soft skills in forming entrepreneurial competencies in the education system. For example, Kusmintarti et al. (2016) focused on this very aspect, studying the influence of courses that develop soft skills on the effectiveness of recently graduated entrepreneurs. The authors place a major significance on such disciplines and state that entrepreneurial education curricula should be chiefly focused on developing soft skills.

At the same time, the role of soft skills in today's curricula is often discussed in the context of forming universal competencies (including entrepreneurial ones) outside of business disciplines, namely in technical and engineering education. This is examined in works by Subach et al. (2007) and Pedrazzini (2012).

Adherents of the other point of view argue that developing hard skills among future entrepreneurs is of major significance. Supporters of this view believe that an entrepreneur cannot be successful

without the instrumental skills relevant to their particular area of business. From this point of view, the main goal of entrepreneurial education is to develop specialized professional skills in a particular area, whereas soft skills are afforded a secondary role. It is believed that such competencies can be developed in an extra-curricular context through direct business activities. Certainly, proponents have not suggested excluding courses focused on developing soft skills from entrepreneurial curricula. However, they note that such disciplines should not be prolific and they should provide a set of minimum requisite soft skills – for example, communication and basic psychological skills. This viewpoint is presented in works by Carassa (1987), Bowe et al. (2003) and Sampson (2006), among others.

However, entrepreneurial curricula not only include modules and courses aimed at forming hard or soft skills. In essence, the structure of any curriculum, including entrepreneurial curricula, comprises three groups of subjects. The first includes modules and courses aimed at developing hard skills. The second includes disciplines focused on generating soft skills. And finally, the third group is not focused on specific skills, but rather general natural and humanitarian knowledge, such as mathematics, physics, history or cultural studies. Thus, the analysis of curricula revolves around assessing the relative weights of these three sets of disciplines, where one provides general knowledge, while the other two are aimed at forming skills expected of a qualified expert. As such, the distribution of subjects within a given curriculum between the three groups determines its focus, characteristics and outcomes.

In light of this, we note a new trend emerging in Russia, alongside market demand for traditional entrepreneurs. Economic sectors that emerged recently and are developing rapidly, including the intellect-based economy, the knowledge economy and the innovation economy have emerged and are steadily growing. As such, the market is turning to universities to train specialists for these new sectors of the economy. Entrepreneurship in these new fields of economic activity calls for new, more creative and more complex competencies. As such, there is a need for new, non-traditional approaches to building entrepreneurial curricula. The main issue here is finding the right balance between courses that form fundamental knowledge, hard skills and soft skills to enable students to gain the necessary competencies.

We analysed publications on entrepreneurial curricula indexed in international citation databases

Scopus and Web of Science for the last 10 years, starting from 2007. The topic of entrepreneurial education in contemporary universities is examined in over 700 articles in these databases. The research is focused on the following areas:

1. Descriptions of specific entrepreneurial education practices at specific universities in specific countries, the identification of relationships between these practices and the level of economic development in these countries. Such works include, for example, research by Fuller et al. (2017), Matsheke et al. (2017) and De Jager et al. (2017). The mentioned works consider examples of universities in the UK and South Africa. The authors come to the conclusion that the design and content of curricula is directly dependent on the economic development of a particular country, as well as the prevailing economic system. Moreover, laws and regulations that apply to entrepreneurial activity in a particular country are also directly related to the stability of its economic system. The authors conclude that creating an effective entrepreneurial curriculum in a particular country is only possible if all of these factors are taken into account.
2. Research into how a country's socio-cultural environment influences national entrepreneurial education. These studies argue that entrepreneurial curricula should factor in the socio-political and cultural background in a particular country. Moreover, the formation of necessary entrepreneurial competencies is only possible when entrepreneurial curricula are organically integrated into this context. The diversity of the types of entrepreneurial cultures in different countries is in turn dependent on a country's (or even a specific region's) social, political and cultural context. Such results are obtained by Wadee (2017), who uses the example of South Africa to conclude that socio-cultural specifics should be reflected in forming and delivering entrepreneurial education. RezaeiZadeh et al. (2016) compare the influence of cultural norms in Ireland and Iran in shaping key entrepreneurial competencies among business students in each country.

3. Research into entrepreneurship among young people and university students. For example, Morris et al. (2015) look into the role of student business in the ecosystem of a contemporary entrepreneurial university. A study by Beliaeva et al. (2016) and Shirokova et al. (2016) examines the role of national culture in the development of student entrepreneurship, identifying clear links between the level of a university's entrepreneurial activity and the development of student entrepreneurship therein. There is an interesting body of research on the influence of the content of entrepreneurial curricula on forming motivation and sustained interest in entrepreneurial activities among students. Research by Baum et al. (2004) presents interesting results in this area. In the course of this research, the authors identified a close relationship between skills and competencies that an entrepreneurial curriculum forms among students and establishing a sustained interest in entrepreneurial activities. Moreover, researchers found a positive correlation between the motivation to engage in entrepreneurship and the development of an economic sector of innovative companies.
4. Another vector of research is the study of processes for the development of curricula of entrepreneurial education in response to challenges of a rapidly changing economy. For example, a paper by Rao et al. (2017) studies the role that universities play in training entrepreneurs for the innovation sector of the economy. The researchers also analysed the influence of entrepreneurial curricula on the establishment and development of new venture capital companies in the innovation sector of the economy, and the relationship between the rate of growth of the innovation sector of the economy and the activity of universities as regards the development of specialized training programmes for entrepreneurs. Autio (1997) examined this using the example of France.

Russian research into entrepreneurial education is focused on three main areas. The first area looks into the subject of entrepreneurial education in the system of Russian higher education and its compo-

nents. Challenges and problems faced by Russian universities that are interested in delivering entrepreneurial education are considered in detail. There are also attempts to analyse educational practices used by universities in Europe, the USA and other advanced economies and developing countries, which are presently not utilized in Russia. For example, Rubin (2015) and Williams et al. (2015) examine this very topic. Another area of research is a discussion of competencies and technologies of entrepreneurial education and their comparison to entrepreneurial curricula abroad. Such results are presented in works by Pavlova et al. (2009) and Carayannis (2009). There is also ample research into the role that higher education plays in developing an innovative entrepreneurial environment, including the entrepreneurial environment within universities. For example, papers by Williams et al. (2015) and Pavlova et al. (2016) analyse the phenomenon of entrepreneurship and the role of higher education in developing an entrepreneurial environment and argue for the development of a new institutional status for Russian universities – that of entrepreneurial higher education institutions (HEIs).

However, none of the works we reviewed looked at how the relationship between the aforementioned three groups of disciplines influences the formation of professional competencies in entrepreneurial curricula. The embedding of hard and soft skills on the basis of corresponding modules and disciplines continues to be researched independently of one another.

It is thus obvious that there is a problem in defining the effective balance between soft and hard skills, as well as disciplines aimed at forming fundamental knowledge in entrepreneurial curricula. This problem is relevant in the context of building entrepreneurial competencies among university graduates. Moreover, little research has been done into this important issue. Our research aims to analyse the relationships that exist within the entrepreneurial education system that is presently offered at universities around Russia.

The hypotheses of our research were as follows:

1. Given the differences between state and private sectors of higher education in Russia, we supposed that private universities were more flexible and responsive to market demands.

2. The presence of general entrepreneurial and specialized curricula in higher education programme catalogues led us to expect that general curricula would be less flexible and less focused on client needs.
3. Soft skill-focused training has the more significant proportion than training in hard skills for graduate entrepreneurial curricula.

As it seems, non-state universities should more actively develop and promote entrepreneurial curricula. There is a commonly held view in the Russian academic community that private universities actively engage with the entrepreneurial sector, seeing it as their number one client and main pillar of support. Moreover, the private education system in Russia is relatively young. These factors led us to hypothesise that private universities were not bound by the traditions and restrictions of the Soviet-era universities; they are better at analysing the demands of the labour market and employers; they are more effective in developing modern teaching formats. As such, the research hypothesis stated that private universities develop more practical entrepreneurial curricula and ensure the development of a higher level of soft and hard skills than state universities.

We formed the second hypothesis that in comparison to specialized curricula, general curricula have less focus on forming specific skills, with learning outcomes dominated by IT and knowledge-based components. We supposed that specialized curricula more precisely reflect the competency structure that the market expects graduates to have. In this context, we expected that specialized curricula develop a greater volume of hard and soft skills in the overall structure of learning outcomes and ensure a better balance of soft and hard skills.

Our third hypothesis regarding the difference between undergraduate and graduate curricula was as follows: soft skill-focused training outweighs training in hard skills for graduate entrepreneurial curricula. We also supposed that at the graduate level, soft skills have a much greater role in developing entrepreneurial competencies than in undergraduate entrepreneurial curricula.

3. Methodology

For our analysis, we looked at all entrepreneurial training delivered by Russian universities, both un-

dergraduate and graduate curricula. It should be noted that the Russian education system does not have a defined educational field called "Entrepreneurship". Thus, we selected curricula that, based on the name, presumably provide entrepreneurial instruction. For example, we ascribed courses called "The economics of entrepreneurship", "Entrepreneurship in innovations", "Small business management", "Organising entrepreneurial activities", "Innovations and entrepreneurship", "Technological entrepreneurship" etc. to entrepreneurial curricula. All information was taken from official university websites. We identified 117 curricula in 77 Russian universities where students can attain certain entrepreneurial competencies.

To test our hypotheses, we divided all curricula of entrepreneurial education into several groups, including:

1. Entrepreneurial curricula delivered at state and private universities.
2. General and specialized entrepreneurial curricula. General curricula included courses such as "Entrepreneurship", "The economics of entrepreneurship", "Small business management", "Organising of small business" and other similar examples. On the other hand, specialized curricula comprised courses such as "Technological entrepreneurship", "Entrepreneurship in innovative activities", "Setting up and managing a tourism business", "Organising an agricultural business" and others.
3. Degree majors. There are currently over 190 bachelor's and master's degree curricula in Russia. This is an open list, with new curricula added every year. However, Russian universities have finite capacity to launch new educational programmes. Universities have to adhere to federal education standards in their work, which complicates the development and launch of entrepreneurial curricula. Universities are forced to train entrepreneurs within existing undergraduate and graduate tracks. In our research, we aimed to ascertain which undergraduate and graduate curricula are actually used to train entrepreneurs and which could potentially be used for this purpose.

We analysed two key indicators of educational programmes:

1. The proportion of credits within an entrepreneurial curriculum allocated to learning hard skills. We analysed learning plans for each undergraduate and graduate curriculum to identify courses, which, judging by their names, were aimed at forming hard skills. For example, such courses included “Managing business development”, “Contractual relationships in business”, “Managing sales of innovative products”, “Commercialisation and venture financing”, “International business” and so on;
2. The proportion of credits within an entrepreneurial curriculum allocated to learning soft skills. Soft skills include training in motivation, leadership, people management, team work, time management, public speaking, sales, personal development, communication and so on. Thus, we reviewed training plans for entrepreneurial curricula at the undergraduate and gradu-

ate levels, to identify courses titled “Business communications”, “Verbal and business communication”, “Business ethics”, “The psychology of business relationships”, “Time management”, “Critical thinking” and so on.

For our analysis, we used descriptive statistics (we calculated means, medians and standard deviation). Given that we had an insufficient sample size to require parametric tests, we applied nonparametric testing. To study differences between groups of programmes, we used independent sample tests. In particular, we used the Mann-Whitney U Test, the Kruskal-Wallis Test and Median test (depending on the type of analysed variables). To assess the normality and choice of correlation coefficients we used the standardized skewness coefficients and the standardized kurtosis coefficients.

Data was analysed using IBM SPSS Statistics 22.0.

4. Results

1. The sample size and structure of the analysed curricula are presented in Table 1.

Table 1 Sample size and structure of analysed curricula

Curricula groups	n	%
<i>By degree level</i>	117	100.0
Undergraduate	78	66.7
Graduate	39	33.3
<i>By specialization</i>	117	100.0
General	72	61.5
Specialised	45	38.5
<i>By type of university</i>	117	100.0
Delivered at state universities	100	85.5
Delivered at private universities	17	14.5
<i>By major</i>	117	100.0
Management	63	53.8
Economics	25	21.4
Innovations	12	10.3
Business IT	6	5.1
Trade and commerce	5	4.3
Other	6	5.3

Source: Authors' analysis

2. Medians, minimum and maximum values and standard deviations pertaining to the

two variables of interest are presented in Table 2.

Table 2 Descriptive statistics

Variables	n	Median	Minimum	Maximum	Std. Deviation
Proportion of credits aimed at developing hard skills	117	16.00	0.00	27.00	6.18
Proportion of credits aimed at developing soft skills	117	2.50	0.00	7.50	1.81

Source: Authors' analysis

The data in Table 2 shows a significant difference in the median and maximum proportions of credits aimed at forming hard and soft skills. The median proportion of credits aimed at forming hard skills is 5.5 times as high as the same indicator with respect to soft skills.

3. Both analysed variables were not indicative of serious departures from normality. Accordingly, a parametric procedure, the Pearson correlation coefficient, was used to identify

potential relationship between them. At the same time, for higher resilience of results, we also calculated Spearman's rho Correlation Coefficient. The results of correlation analysis of the two named variables showed that they have a direct, but not very close statistical correlation – the higher the proportion of curriculum credits aimed at developing hard skills, the higher the proportion of credits focused on soft skills (Table 3).

Table 3 Correlations between proportions of entrepreneurial curriculum credits aimed at forming hard and soft skills

Coefficient	Value
Pearson Correlation	0.296*
Spearman's rho Correlation Coefficient	0.256*

* - correlation is significant at the 0.01 level (2-tailed).

Source: Authors' analysis

4. The proportion of credits forming hard and soft skills is roughly the same for undergraduate and graduate programmes. Nonparametric Mann-Whitney U Test did not confirm a significant difference between them.

5. We identified significant differences in the proportion of credits forming hard skills between state and non-state universities: it is higher for state universities and lower for private education providers. At the same time, there are no significant differences in these groups as regards credits for soft skills (Table 4).

Table 4 Test Statistics for proportions of credits for developing hard and soft skills in entrepreneurial curricula (Mann-Whitney U Test)*

	Proportion of credits forming...	
	hard skills	soft skills
Chi-Square	247.500	420.500
Asymp. Sig.	0.002	0.148

* Grouping variable: Type of university

Source: Authors' analysis

Nonparametric Mann-Whitney U Test confirmed the significance of differences in the proportions of credits forming hard skills in general and specialized programmes: it is higher in general pro-

grammes and lower in specialized ones. At the same time, there is no significant difference in the proportion of credits for forming soft skills (Table 5).

Table 5 Test Statistics for proportions of credits for developing hard and soft skills in entrepreneurial curricula (Mann-Whitney U Test)*

	Proportion of credits forming...	
	hard skills	soft skills
Chi-Square	1002.000	1209.500
Asymp. Sig.	0.029	0.396

* Grouping variable: Programme specialisation

Source: Authors' analysis

Median values for credits aimed at forming hard skills where we identified significant differences are

presented in Table 6.

Table 6 Median proportions of credits aimed at forming skills in groups of entrepreneurial curricula

Indicator	Programme group	Median	Mann-Whitney U Test Statistics	
			χ^2	Sig.
Proportion of credits aimed at forming hard skills	Delivered at state universities	18.00	247.500	0.002
	Delivered at non-state universities	11.00		
	General	18.00	1002.00	0.029
	Specialised	12.50		

Source: Authors' analysis

5. Discussion

Russian universities are currently actively developing their entrepreneurial curricula. This is driven by three key factors: heightening crisis trends in the Russian economy, which are manifested in growing unemployment among salaried employees; the delivery of state programmes to raise the global and regional competitiveness of universities; higher demand from the entrepreneurial sector of the national economy for proficient graduates. The development of entrepreneurial curricula is today one of the foremost change trends for Russian universities. At the same time, this process is very inconsistent, with a high degree of variability across universities as regards their involvement in the development and delivery of entrepreneurial curricula.

Entrepreneurial and innovative universities are most interesting for our research, because the pro-

cess of development and implementation of entrepreneurial education is one of the key priorities for these universities and an important part of their mission.

The data we obtained about the role of non-state players in the Russian higher education system in training specialists for the entrepreneurial sector overturn stereotypes that prevail in the university community. We can see that private HEIs play virtually no role in preparing entrepreneurs. Yet according to official statistical data, the number of state and non-state higher education providers in Russia is approximately the same (for example, in 2016 around 500 higher education organisations were state-owned, with just over 500 being privately-owned). At the same time, our results showed that non-state universities delivered just approximately 15% of entrepreneurial curricula. Educational practices in post-Soviet countries (both former USSR

republics and countries of Central and Eastern Europe) show that non-state universities are more heavily geared towards educational programmes to serve a new market economy and show greater flexibility in developing curricula that reflect market demand. This is noted, for example, in works by Okorokova (2009) and McCarthy (2013). The papers by Kopycińska et al. (2009) and Bernat et al. (2009) observe that in post-socialist countries of Eastern Europe, universities swiftly respond to demand for specialists in the entrepreneurial sector. This response manifests itself in the development of various specialized entrepreneurial curricula. Our research has shown that Russian universities do not have comparable flexibility as regards the delivery of entrepreneurial education. Our results also highlighted the fact that Russian non-state universities have not been able to become leaders in generating curricula for entrepreneurial education. We believe the key reasons for low activity of non-state universities in creating and developing entrepreneurial curricula include the following:

- economic weakness of the non-state higher education sector. Russia does not have a student loan system, the costs of paid education are generally covered from a household's current income. This creates a great deal of instability in the economy of the non-state higher education sector. In turn, the instability of the economy of a non-state university prevents it from creating sufficient resources to develop new curricula and fill them with relevant content;
- private universities are copying development strategies and types of activities of state universities;
- a narrow scope of educational activities in which Russian non-state universities participate in. One of the peculiarities of the Russian HEIs is that such universities generally develop their curricula in the humanities and social sciences. They are generally unable to offer modern curricula to prepare entrepreneurs for participation in the creative economy and the high-tech industry.

It should be noted that under Russian legislation, the Russian HEIs train specialists across eight educational areas, including social sciences, engineering, agriculture, humanities, art and culture, mathematics and natural sciences, medicine and

pedagogy. Approximately 200 specific undergraduate and graduate degree majors are aggregated into 54 larger educational groups of higher education. Our assessment of federal educational standards applicable to graduate and undergraduate curricula has shown that of around 190 bachelor degree majors, at least 68 could have educational trajectories linked to entrepreneurship. As regards graduate curricula, almost half of all master's level degrees could have an entrepreneurship focus – around 90 programmes out of 186 federal educational standards for this level. A comparison of the scope for development of entrepreneurial education across undergraduate and graduate curricula in the Russian HEIs and the status quo indicate a huge untapped potential. We can see that at present, graduate and undergraduate entrepreneurial curricula are only delivered through eight areas – mostly economics, management and law.

The results of our analysis have shown that most entrepreneurial curricula today are linked to the service industries – they train specialists in management, law and economics. Russian universities have virtually no educational programmes aimed at preparing entrepreneurs for the most highly sought-after areas of economic activity – for example, the innovation economy and smart technologies. In our view, such a situation is mostly the product of the slow development of entrepreneurship in the country, as well as its concentration in narrow sectors of the economy (mostly retail and services). Large Russian business has weak links with small enterprises, preferring innovation strategies borrowed from abroad.

The low overall level of the development of entrepreneurship in the country is also the reason why entrepreneurial curricula are dominated by general programmes, which develop skills of a broad nature. The information we obtained shows that non-specialised curricula aimed at forming general entrepreneurial competencies account for over 60% of the total number of entrepreneurial programmes. At the same time, we believe that this is a suitable proportion for undergraduate curricula. However, specialized entrepreneurial training programmes linked to the knowledge economy should prevail at the graduate level. Yet this area of entrepreneurial education does not show much diversity at this point.

Our analysis of the credits system in entrepreneurial curricula showed a large prevalence of courses

that provide generalist training. Moreover, our research showed little variety and choice in modules and courses aimed at developing hard skills and soft skills in entrepreneurial curricula. Furthermore, the content of these courses often does not match the description, and is rather of an imitative nature. We believe that this is a consequence of a lag between the modernization of educational activities at universities, and social and economic processes.

Undoubtedly, the dominance of credits aimed at fostering hard skills over the analogous soft skills indicator is a factor that significantly limits the effectiveness of entrepreneurial education curricula overall. Experts involved in training entrepreneurs clearly see that entrepreneurial education should establish a broad spectrum of soft skills.

We believe that the sub-optimal nature of this relationship, particularly typical of Russian HEIs, is also linked to the fact that in technological terms Russian universities are lagging behind their foreign counterparts (by this we mean technical capacity to use modern educational technologies). Soft skills training is biased towards active educational technologies, which are traditionally underrepresented in the Russian professors' pedagogical toolkit. Russian HEIs infrequently use alternative training formats, including business cases, simulations and games in the education process. Given significant critical pressure from employers who have a negative assessment of traditional education technologies and the dominance of theoretical teaching materials and methods, many instructors at Russian universities have opted for a placement-focused approach, chiefly aimed at developing hard skills. Without doubt, developing courses that help build hard skills also helps to foster the growth of soft skills. Yet Russian university instructors encounter many difficulties in this. There is a large number of problems in assessing the level and quality of soft skills, organizing the process of their development and achieving requisite educational outcomes in this field. All of this creates a cautious approach in the teaching community to working with soft skills in delivering entrepreneurial education programmes.

However, while we have taken note of the imbalance between disciplines forming soft and hard skills, there is no definitive answer as to what that optimal relationship might be. Clearly, the problem of this relationship should be studied additionally on the basis of the existing practice of training en-

trepreneurs in other educational systems, as well as with account of requirements for training competencies put forward by the labour market.

Our analysis has shown that when it comes to the relationship between hard and soft skills training, there is little difference between undergraduate and graduate entrepreneurial curricula at Russian universities. The strict controls imposed by educational standards on the content of undergraduate and graduate curricula cannot explain this situation. It is known that master's curricula are more flexible and more adaptable as regards forming the required competencies and attaining certain learning outcomes. Most likely, the absence of differences shows an underdevelopment of graduate education in the country. We note that expert opinion confirms the information we obtained. When it comes to graduate curricula, there is a widely held opinion in the university community that in today's Russia, there is no fully formed view of the specifics of these programmes. In many universities graduate curricula are seen as an extension and continuation of bachelor degrees. Similar approaches to forming hard and soft skills at both levels of training indirectly confirm this.

As regards the results we obtained after comparing credit proportions for hard skills in state and non-state private universities, we would like to highlight the following. We believe that the focus on integrating work placements into learning – a major trend emerging in the Russian higher educational system – has achieved much greater momentum at state universities. The problem is that such a focus is mostly realized through the development of hard skills and state universities show a greater level of activity in this area than private ones.

We also received rather interesting results in analysing the proportion of hard skills in general and specialized curricula. Despite the prevailing stereotype that specialized programmes are more inclined towards meeting practical demands of the labour market, we found that general programmes are more geared towards forming hard skills than specialized ones.

6. Conclusion

Our analysis of entrepreneurial curricula at Russian universities is one of the first studies in this area of research in our country. Our research enables forming a rather full and accurate picture of the

role of universities in training specialists for an economic segment as significant as entrepreneurship in Russia. At the same time, the hypotheses of our research were not confirmed. This fact confirms authors' presupposition that the system of entrepreneurial education in Russian universities does not have a systemic nature and does not meet the needs of the labour market. We have identified a large number of major problems and flaws in this area of Russian higher education system. The conclusions of our research are as follows:

1. Russian universities have a low potential to influence innovative entrepreneurship and provide virtually no support for this sector. They are not training specialists for the innovative and creative economy, hi-tech industry and business.
2. At present, Russian universities use a very narrow segment of degree majors to train entrepreneurs – mostly management, economics and several trade and service-oriented fields. A major unresolved issue for Russian universities in entrepreneurial education is providing learning outcomes sought after by the market, especially labour market in the sphere of entrepreneurship.
3. The relationship between soft and hard entrepreneurial skills with other learning

outcomes and between each other shows a major imbalance. Yet the proportion of hard and soft skills in the overall structure of learning outcomes for entrepreneurial curricula is generally insufficient. Knowledge-focused, subject-matter expertise prevails. Another key problem is a critically low level of courses that help build soft skills in entrepreneurial curricula.

4. A significant proportion of non-state providers in the Russian higher education sector has not advanced the development of entrepreneurial curricula. Private universities make a rather small contribution to training entrepreneurs. Their role in the production of an active economic class of entrepreneurs and the development of self-employment (particularly among young people) is clearly insufficient.

The results of our analysis of entrepreneurial education in Russian universities are the basis for further research in this sphere. Among the suggested topics of further research are the role of future skills in entrepreneurial curricula of Russian higher education institutions and a comparative analysis of the potential to develop future skills exhibited by undergraduate and graduate curricula in the sphere of entrepreneurship education in Russia and EU countries.

REFERENCES

1. Autio, E. (1997), "New, technology-based firms in innovation networks symplectic and generative impacts", *Research Policy*, Vol. 3, No. 26, pp. 263-281.
2. Barnes, R., De Villiers Scheepers, M. J. (2017), "Tackling uncertainty for journalism graduates: a model for teaching experiential entrepreneurship", *Journalism Practice*, Vol. 12, No. 1, pp. 94-114.
3. Baum, J. R., Locke, E. A. (2004), "The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth", *Journal of Applied Psychology*, Vol. 4, No. 89, pp. 587-598.
4. Beliaeva, T., Laskovaia, A., Shirokova, G. (2016), "Entrepreneurial learning and entrepreneurial intentions: A cross-cultural study of university students", *European Journal of International Management*, Vol. 5, No. 11, pp. 59-86.
5. Bernat, T., Šavriņa, B., Bilan, Y., Koren, A., Korpysa, J., Grundey, D. (2009), "Researching students' entrepreneurship skills in post-socialist countries: A multi-country survey (part 2)", *Transformations in Business and Economics*, Vol. 8, No. 3, pp. 104-130.
6. Bowe, N., Taylor, L., Smith, K., Zuckerman, R., Moore, D. (2003), "Getting engineers to think and act like entrepreneurs", in *ASEE Annual Conference Proceedings*, June 22-25, 2003, American Society for Engineering Education, Nashville, pp. 5913-5924.
7. Carassa, F. (1987), "The Education of Engineers and the Relationship with industry and services", *European Journal of Engineering Education*, Vol. 12, No. 3, pp. 231-235.
8. Carayannis, E. G., Cherepovitsyn, A. Y., Ilinova, A. A. (2016), "Technology commercialization in entrepreneurial universities: the US and Russian experience", *Journal of Technology Transfer*, Vol. 41, No. 5, pp. 1135-1147.
9. De Jager, H. J., Mthembu, T. Z., Ngowi, A. B., Chipunza, C. (2017), "Towards an innovation and entrepreneurship ecosystem: a case study of the Central University of Technology", *Science, Technology and Society*, Vol. 2, No. 22, pp. 310-331.
10. Fuller, D., Beynon, M., Pickernell, D. (2017), "Indexing third stream activities in UK universities: exploring the entrepreneurial/enterprising university", *Studies in Higher Education*, pp. 1-25.
11. Johannisson, B. (1991), "University training for entrepreneurship: Swedish approaches", *Entrepreneurship & Regional Development: An International Journal*, Vol. 3, No. 1, pp. 67-82.
12. Kopycińska, D., Bernat, T., Korpysa, J. (2009), "Researching students' entrepreneurship skills in post-socialist countries: a multi-country survey (part 1)", *Transformations in Business and Economics*, Vol. 8, No. 2, pp. 21-44.
13. Kusmintarti, A., Thoyib, A., Maskie, G., Ashnar, K. (2016), "Entrepreneurial characteristics as a mediation of entrepreneurial education influence on entrepreneurial intention", *Journal of Entrepreneurship Education*, Vol. 19, No. 1, pp. 24-37.
14. McCarthy, D. J., Puffer, S. M. (2013), "Business and management in Russia: A review of the post-Soviet literature and future research directions", *European Journal of International Management*, Vol. 7, No. 1, pp. 74-111.
15. Matsheke, O., Dhurup, M. (2017), "Entrepreneurial-related programmes and students' intentions to venture into new business creation: finding synergy of constructs in a University of Technology", *Science, Technology and Society*, Vol. 2, No. 22, pp. 259-283.
16. Morris, M., Shirokova, G., Tsukanova, T. (2015), "Student entrepreneurship and the university ecosystem: A multi-country empirical exploration", *European Journal of International Management*, Vol. 11, No. 1, pp. 65-85.
17. Okorokova, G. P., Klikunov, N. D., Okorokov, V. M. (2009), "Adaptation of higher education in Russian Federation to labour market needs: problem of credible signals", *Actual Problems of Economics*, Vol. 2009, No. 9, pp. 274-284.

18. Pavlova, I., Chernobuk, V. (2016), "Project education in entrepreneurial universities: an exploratory analysis", in Proceedings of the 28th IBIMA Conference - Vision 2020: Innovation Management, Development Sustainability, and Competitive Economic Growth, November 9-10, International Business Information Management Association, Seville, pp. 3196-3204.
19. Pavlova, O., Prichislenko, A., Kazin, P., Hagen, S. (2016), "Using social media for nurturing civic entrepreneurial spirit and motivation among the students", in Proceedings of the International Conference on Electronic Governance and Open Society: Challenges in Eurasia, November 22-23, Association of Computing Machinery, Saint Petersburg, pp. 194-201.
20. Pedrazzini, S. (2012), "Emphasizing soft skill learning and training as part of an engineering curriculum revision", in Proceedings of the 40th SEFI Annual Conference 2012 - Engineering Education 2020: Meet the Future, September 23-26, 2012, European Society for Engineering Education, Thessaloniki, pp. 128-139.
21. Rao, B., Mulloth, B. (2017), "The role of universities in encouraging growth of technology-based new ventures", *International Journal of Innovation and Technology Management* Vol. 14, No. 4, pp. 175-184.
22. RezaeiZadeh, M., Hogan, M., O'Reilly, J., Cunningham, J., Murphy, E. (2016), "Core entrepreneurial competencies and their interdependencies: insights from a study of Irish and Iranian entrepreneurs, university students and academics", *International Entrepreneurship and Management Journal*, Vol. 13, No. 1, pp. 35-73.
23. Rubin, Yu. B. (2015). *Entrepreneurial education in Russia and abroad: history, content, standards, quality*. Moscow: Synergy Moscow Finance and Industry University.
24. Sampson, B. (2006), "Brainwaves for sale", *Professional Engineering*, Vol. 19, No. 4, pp. 22-23.
25. Shirokova, G., Tsukanova, T., Morris, M. (2016), "The Moderating role of national culture in the relationship between university entrepreneurship offerings and student start-up activity: an embeddedness perspective", in *USASBE Conference Proceedings*, January 8-12, United States Association for Small Business and Entrepreneurship, Boca Raton, pp. 1-29.
26. Subach, J., Munukutla, L., Magrane, J., Popovich, C. (2007), "Universities and industry create engineer-entrepreneurs to fuel innovation", in *Proceedings of the 2007 ASEE Annual Conference and Exposition*, June 24-27, American Society for Engineering Education, Honolulu, pp. 1518-1528.
27. Wadee, A. A., Padayachee, A. (2017), "Higher Education: catalysts for the development of an entrepreneurial ecosystem, or ... are we the weakest link?", *Science, Technology and Society*, Vol. 2, No. 22, pp. 284-309.
28. Williams, D., Bedny, A., Terlyga, N. (2015), "Evaluation of institutional factors shaping entrepreneurial university: A tale of two universities and regional development in Russia", in *Proceedings of the 10th European Conference on Innovation and Entrepreneurship*, September 17-18, Academic Conferences and Publishing International, Genoa, pp. 731-739.
29. Williams, D., Kluev, A. (2014), "The entrepreneurial university: evidence of the changing role of universities in modern Russia", *Industry & Higher Education*, Vol. 4, No. 28, pp. 1-10.
30. Zemcov, A. A., Makasheva, N. P., Makasheva, Y. S. (2009), "Innovation-focused economy: problems in developing and supporting the science education complex", *Tomsk State University Magazine*, Vol. 3, No. 7, pp. 71-80.

Alexander Yashin

Alexey Klyuev

Anna Bagirova

PODUZETNIČKO OBRAZOVANJE U RUSIJI: TVRDE I MEKE VJEŠTINE

SAŽETAK

U radu su predstavljeni rezultati analize poduzetničkih kurikuluma koji se primjenjuju na ruskim sveučilištima.

Analizom smo utvrdili da udio kreditnih bodova povezanih s razvojem tvrdih vještina uvelike premašuje udio kreditnih bodova usmjerenih na meke vještine. Udio kreditnih bodova povezanih s razvojem mekih vještina otprilike je jednak na preddiplomskoj i diplomskoj razini. Između državnih i privatnih sveučilišta postoje velike razlike u pogledu udjela kreditnih bodova koji su povezani s razvojem tvrdih vještina, naime, taj je udio na državnim sveučilištima veći. Nadalje, analiza je potvrdila značajnu razliku u udjelu kreditnih bodova za discipline tvrdih vještina između općih poduzetničkih kurikuluma i specijalističkih programa: taj je udio veći kod općih kurikula, a manji kod specijalističkih. Istodobno, ti kurikuli nisu zamjetno različiti kad je riječ o udjelu kreditnih bodova usmjerenih na stvaranje mekih vještina.

Naše je istraživanje pokazalo nizak potencijal ruskih sveučilišta da svojim aktivnostima potiču i utječu na inovativno poduzetništvo. Jedan od trajnih izazova za ruska sveučilišta u pogledu poduzetničkog obrazovanja jest ostvarivanje ishoda učenja koji se traže na tržištu. Drugi je problem povezan s upadljivo malim udjelom kolegija kojima se razvijaju meke vještine u kurikulima namijenjenima budućim poduzetnicima. Zaključili smo da relativno velik broj privatnih pružatelja obrazovanja u ruskom visokoškolskom sustavu nije pokrenuo razvoj poduzetničkih kurikula. Očigledno je da taj sustav ne uspijeva u dovoljnoj mjeri proizvoditi aktivnu ekonomsku klasu poduzetnika i poticati rast samozapošljavanja.

Ključne riječi: poduzetničko obrazovanje, ruska sveučilišta, korelacijska analiza