

Research in Area of Students Entrepreneurship at Middle and University Schools

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Abstract: - Today successful entrepreneurs do not have a high status. We can observe that there is missing a support of individual activity, initiative and reaching of individual success. This is one of the reasons of education change. Teaching process should be focused on entrepreneurship skills. The paper mentions examples from a good practice in the form of research results which were dealing with development of students' entrepreneurship skills at middle and university schools. Surveys were made at middle schools and universities in the Czech Republic and the Slovak Republic. Particular training of future teachers of specific subjects (economic and technological) presents the main meaning.

Key-Words: - research, entrepreneurship, skills, education, talent of entrepreneurship, active learning

1 Introduction

Entrepreneurship is understood as a key factor of competition, a source of growth and job positions on European level and in a context of industrial crises. The European Commission has observed a rate of education support in area of entrepreneurship in 31 European countries and five regions [13].

The European report says that eight countries Denmark, Estonia, Norway, Lithuania, Holland, Sweden, Wales and Flanders part of Belgium have started to implement specific strategies to support education in sphere of entrepreneurship. Other thirteen states: Austria, Bulgaria, Czech Republic, Finland, Greece, Hungary, Island, Lichtenstein, Poland, Slovak Republic, Spain and Turkey have implemented it as an integral part into own strategies related to life-long education of youths.

The half of target countries go through the reform of education connected with support of education in sphere of entrepreneurship. The two thirds accept it as a part of syllabus of primary education. However the subject is not as an independent subject at elementary schools, the half of countries defines education to entrepreneurship and skills (initiative, preparedness to risk and creativity) as education aims [1].

From perspective of secondary education, the half of countries has implemented education as a compulsory subject as well as economy or social sciences. In Lithuania and Romania there is

entrepreneurship taught as a compulsory independent subject [14].

There are many possible improvements. Only one third of European countries have a national directives and teaching materials for education in area of entrepreneurship. Twelve countries support initiatives connected with education of entrepreneurship, as for example a support of mutual cooperation between education sectors and entrepreneurship sphere and establishment of small companies led by students. Special specific training for teachers exists only in the Flanders community in Belgium, Bulgaria and Holland [15].

Therefore we can say, if we want to stay an equal competitors we have to invest into skills of students, their ability to adapt and innovate [12]. It means we need to support a real ideological change in Europe leading to entrepreneurship.

2 Research projects focused on the development of entrepreneurship skills

The following chapter discusses diagnostical researches processed at selected middle vocational schools and universities in the Slovak Republic and Czech Republic.

2.1 Identification of entrepreneurship potential of students at selected schools

Researches were processed as a part of grant project KEGA 3/6216/08 Implementation of the subject "Leading to entrepreneurship" to the study programme Teaching of technical professional subjects at MTF STU. In the Czech Republic the research has started in this year 2012 in the project FRVŠ 1310/2012 Innovation of the subject "Controlled pedagogical practice" in bachelor study programme of teaching at the Department of Didactics FFÚ VŠE in Prague.

Aim of research: One of the aims of diagnostic research was to prove results of Euro barometer from year 2009, which show that decision to be independent person from perspective of financial profit, would be typical for approximately 26 % of respondents in the Slovak and Czech Republic. It is the worse result from all countries of EU. The most of Slovaks and Czechs (65 %) prefer to be employed and the main reasons are: regular income, stable job position and work time. Approximately 62 % of Slovaks and Czechs did not consider establishing own company. The results of Euro barometer are similar for the Czech and Slovak Republic. Diagnostic research was made in years 2010 - 2012.

Research method: we used anonymous **questionnaire**, which was translated from Euro barometer by prof. I. Turek. The questionnaire enables us to find out what are the chances to be successful in entrepreneurship. (Are You Ready to be an Entrepreneur?). The questionnaire has 22 parts, while maximal number of gained points is 43.

Age of respondents was in a range from 17 to 22 years. *Total number of respondents: 1183* (1153 from the Slovak Republic, 30 from the Czech Republic).

Results of research (Table 1):

Entrepreneurship potential		
	Schools together	
	Number	%
Interval		
+ 35 and more	15	1.26
+15 to +34	138	11.66
0 to +14	403	34.06
-1 to -15	466	39.40
-16 to -43	161	13.63
Total	1183	100

Evaluation of quiz (Your entrepreneurship quotient EQ):

+ 35 points and more: You have all presumptions for successful entrepreneurship. You can reach extra successes in entrepreneurship.

+15 to + 34 points: Your talent, your abilities give you a good chance to become a successful entrepreneur. If you do not have Your Company, try it.

0 to + 14 points: You can be successful in entrepreneurship if you will gain needed skills and you will study the field of entrepreneurship.

-1 to - 15 points: You can be successful in business, if you will extra try to compensate own negatives and to be same like others who have better presumptions to have a company.

-16 to - 43 points: Your presumptions, your talent determine that you have to do something else than lead own company. We do not recommend to enterprise.

Interpretation of results:

As we can see only 1.26% of respondents have reached in questionnaire 35 and more points, so they have all presumptions to enterprise and 11.66% of respondents has talent and presumptions to be a successful entrepreneur.

The results prove and confirm the results of Euro barometer because 73.46% of respondents can be *successful in enterprise, but only when they do their best*, it means these respondents should follow *the important task of education to enterprise*. Then it is obvious that 13.63 % of respondents do not have entrepreneurship potential and so they are not good for enterprise.

2.2 Diagnostic research of talent for entrepreneurship

As talent we understand inherited and natal dispositions to perform in a particular area of psychological activity. If person is not dealing with a concrete activity, talent will not be developed. Many specialists say that there are specific personal features which are typical for successful entrepreneurs. There belongs also preparedness to risk, resistance and strength which help to go through negative experience.

Aim of research: the aim of research was to find out if respondents (students) have talent to lead a business and if research results of entrepreneurship potential were approved.

Diagnostic research was processed in years 2010 - 2012.

Method of research: non-standardized anonymous questionnaire was used, it was written by Dr. Ivan Sarmány – Schuller from the Institute of Experimental Psychology SAV Bratislava. The

questionnaire contains 25 parts. The parts are formulated in the form of notification sentences.

They are concrete statements and respondent selects one of three answer possibilities: *if he/she agrees* - 2 points, *if he/she agrees partially* – 1 point and *if he/she disagrees* –no point. Respondent can reach totally 50 points, while the chance of successful entrepreneurship is possibly already by the half of points.

Research respondents: Total number of respondents was 1183 and **786 respondents** took part on questionnaire.

Research results (Table 2):

Talent for entrepreneurship		
	Schools together	
	Number	%
Interval		
0 to 25	125	15.90
26 to 50	661	84.10
Total	786	100

Caption:

The higher point number (from possible 50) was gained, the higher chance is that you will be successful in enterprise. When the result is 25 points it is possible to improve it, but less points show that it is less possible that you can be successful in business.

Interpretation of results:

The results prove that approximately **16%** of respondents have no entrepreneurship talent.

When we compare the results of the first and the second questionnaire we can see a minimal difference between respondents who do not have entrepreneurship potential and who have no talent (entrepreneurship potential 14% and talent for enterprise 16%).

We can **state**, that **73.4 %** of respondents think that implementation of the teaching of entrepreneurship plays an important role in education to gain and use entrepreneurship skills. Only then they can be successful in business. Therefore we recommend emphasizing an importance of topic on development of entrepreneurship skills in education of teachers or in pre-gradual training of teachers of economical as well as technical subjects.

3 The next development possibilities of entrepreneurship skills

The development of education to entrepreneurship at universities and middle schools should be an important contribution for removing of

psychological and specific barriers of a wider entrepreneurship development and a growth of innovation potential. To be a member of the European Union means also an importance of implementation of entrepreneurship to curricula on all education levels [17].

3.1 Possibility of development of entrepreneurship skills at the Slovak University of Technology in Bratislava (SR)

There are various ways of a support of graduates with education institutes, especially in finding a good position on labour market.

The Slovak University of Technology contributed to a creation of university technological space in a project of the Grant scheme for development of innovations and technologies INTEG of the National agency for development of small and middle entrepreneurship NADSME. The project develops a segment of small innovative companies in Bratislava and Trnava region and it stimulates cooperation with Austria [16].

The Slovak University of Technology provides a space for own activity to their students and graduates. They can change entrepreneurship opportunity to create an organization creating values. It enables for students to develop own attitudes, directions and skills to become managers. The project helped to create real possibility of cooperation of pedagogical university workplaces orientated on practice in Bratislava region [3].

The next method is *an implementation of an independent subject* into study programmes on particular levels of education (middle schools and universities). This subject should develop not only knowledge but also entrepreneurship skills [11].

From long-term perspective we can see insufficient state of the subject Training of entrepreneurship in technical study fields.

Therefore we decided to implement the subject “Training of entrepreneurship” in all study programmes of technical specialization in the project KEGA 3/6216/08. The subject has been added to syllabus of the first study year of the second level as a compulsory subject for all study programmes in the complex accreditation of the Slovak University of Technology in 2009. The subject was taught the first time in the academic year 2009/2010 [17].

3.1.1 Syllabus of the subject “Training of entrepreneurship”

The specialists (management of small and middle enterprises, sociology and teaching of technical professional subjects) have participated on forming of subject content [10].

Curriculum of the subject:

- Introduction to entrepreneurship, legislative, legal forms of entrepreneurship
- Personality of entrepreneur (stress, load)
- Working groups, social relationships, managing of people, survey
- Entrepreneurship plan (Market survey, Marketing, Financial plan)
- Banking system (Banking products for entrepreneurs, Negotiation with bank clerks).

Because the subject is finished with classified credit, the condition of accomplishing of subject is 100 % participation on seminars and preparation and presenting of own business plan. Defense was processed by a three-member commission formed with a teacher and students. Presentation took 10 minutes and a presentation technology was available.

Students have to submit a printed business plan during exam by commission. At the beginning of experimental teaching we made a questionnaire with an aim to find out attitudes and expectation of students. Anonymous questionnaire contained 11 closed, open and semi-open parts. **171 students** took part, they were mostly students of technological study fields.

The most important results are:

- **75.63 %** of students of full-time study form and 100% of students of combined study form agreed with an implementation into study plan
- **54.5 %** of students of full-time study form and 55.3% of students of combined study form recommend the subject as compulsory elective
- **74.6 %** of students of full-time study form and 66% of students of combined study form recommend to provide new on-line study materials
- **78.4%** of students of full-time study form and 57,7% of students of combined study form evaluate own knowledge in area of entrepreneurship as not sufficient.

After accomplishing of experimental education students evaluated a **quality of experimental teaching** in an anonymous questionnaire.

The most important results are:

- **81%** of respondents considered an education subject content as very interesting to especially interesting
- **50%** of respondents would select the subject as optional

- **21%** of respondents consider a content as very useful and 62 % of students as useful regarding to the future practice
- **86%** of respondents were satisfied with education
- **57%** of respondents said that their expectations were fulfilled
- **100%** of respondents positively evaluated an attitude and professionalism of teachers

Positive evaluation of teaching of Training of entrepreneurship persuaded us that the subject has a position in study plans of students of magister study form, especially students of technical and technological study fields. There is a big interest in subject. We consider as very important that graduates are able to form work places and they do not stay unemployed or look for a free positions [2].

3.2 Development possibilities of entrepreneurship skills at the Faculty of Finance and Accounting VŠE in Prague (CZ)

We have cooperated with the Department of Didactics of Economical Subjects FFÚ VŠE in Prague already by solving of the above mentioned grant project. The cooperation processed with regard on long-term experience with integration of economical subjects in a form of subject exercises, training offices, practice in entrepreneurship sphere. Student and fictitious company is a workplace, a source of information and creative impulses by education structure. It is a model which is very close to a contemporary definition of student and fictitious companies where students decide about business intention, company concept. The company is established, organized and managed by students only with supervision of teachers. This model was considered by transformation and creation of a subject supporting education to entrepreneurship. We have applied experience of colleagues teaching the subject "Didactics of work in fictitious company" (it is a actual part of subject portfolio at University of Economy) by teaching of the subject "Training of entrepreneurship".

The next part contains a description of training method of future teachers so they are able to develop entrepreneurship skills of their future students.

The study programme of magister degree *Teaching of professional economical subjects* includes a compulsory subject (course) *Didactics of fictitious company* in the second school year of winter semester. The subject is orientated on seminar.

The aim of subject is to prepare students for leading of fictitious company as a specific subject from perspective of professional economical aspect as well as didactic aspect.

The students are able to apply specific knowledge and skills, to use various teaching method which are needed by teaching of the described subject. Work in fictitious company is a specific practical subject which has been implemented into curricula of Academies of Business and other middle schools from 1992.

The content of subject is:

- Fictitious company as an education subject at middle school
- Special aspects in application of teaching methods.
- Establishment of fictitious company – selection of subject of entrepreneurship and organization form.
- Documents necessary for establishment of fictitious form- content and form.
- Centre of fictitious companies, their regulation and definition of activities. Cooperation of company with CEFIF.
- Offer catalogue of fictitious company, activity of marketing department.
- Relations to other fictitious companies, billing and invoicing.
- Accounting in fictitious company.
- Fictitious company and taxes. Topic of health and social insurance.
- International contacts of fictitious companies.
- Evaluation of work quality of fictitious companies.
- Evaluations of students in fictitious company.
- Visit of fictitious company or trade fair of fictitious companies.

After accomplishing of the above mentioned study field the graduates should be ready to develop entrepreneurship skills by students of middle vocational schools and to support initiative and entrepreneurship.

Referential frame defines eight key competencies (Recommendation of the European Parliament and Council from the 18.th December 2006 on key competencies for life-long education (2006/962/ES), while *Initiative and entrepreneurship* is one of them. All key competencies are important in same level, because each of them can contribute to a successful life in knowledge society. To know key competencies in effective way, it is important to *change a content and method of teaching, new teaching methods and strategies* should be implemented. They should lead to an *interactive*

learning and they were based on experience and they are *related to real life*.

Education to entrepreneurship cannot be identified with teaching process in economics. This education must be processed at elementary, middle schools and universities, as well as in life-long education considering age aspects in all subjects – in dependence on curriculum. Leading to entrepreneurship must be implemented into curriculum of all types and grades of schools. Entrepreneurship cannot be learned by studying of textbooks and memorizing of entrepreneurship definitions. Attitude of action - learning by doing, activity of students (establishment of small companies or virtual companies), presentation of results are distinguishing for creation of entrepreneurship [3]. Efficient teaching of entrepreneurship requires a cooperation of schools and companies - business, industrial, services and training of teachers in area of entrepreneurship teaching process.

4 Conclusion

It is important that citizens of countries with market economy understood not only leading of households and personal finance but they should have also idea about possibilities of own active contribution in national industry from position of entrepreneurs as financially independent persons. Therefore it is important to secure also a quality complex entrepreneurship education by a forming of basic financial and economical ability. The qualified contribution of individuals into market processes would not be possible without a developed entrepreneurship. The efficient functioning of national industry is secured in this way.

References:

- [1] EUROPA.EU.INT, The Education and Training Contribution to the Lisbon Strategy. [online] 2010. Available on the Internet: http://www.naseevropa.cz/portal/port_data.nsf
- [2] K. Krpáľková Krelová, The entrepreneurial ratio the students of Faculty of Materials Science and Technology, *Research papers Faculty of Materials Science and Technology Slovak University of Technology in Trnava*, No.24, 2008, pp. 91-96.
- [3] K. Krpáľková Krelová, Entrepreneurship education of STU MTF students, *Annals of DAAAM and Proceedings of DAAAM Symposium*, Vol. 20, No. 1, 2009, pp. 1169-1170.

- [4] M. A. Lubis, M. Md Yunus, M. Diao, T. A. Muhamad, R. Mustapha, N. M. Ishak, The Perception and Method in Teaching and Learning Islamic Education, *International Journal of Education and information Technologies*, Issue 1 Vol.5, 2011.
- [5] M. S. Kovac, M. Kovac, Authentic Learning Environments for Teaching and Learning Sustainable Development in the Built Environment, *International Journal of Education and information Technologies*, Issue 1, Vol. 5, 2011, pp. 42-50.
- [6] G. Mastorakis, E. Pallis, V. Zacharopoulos, A. Bourdena, New Business Strategies and Marketing Opportunities Utilizing a Liberalized Spectrum Management Framework, *WSEAS TRANSACTIONS on BUSINESS and ECONOMICS*, Issue 2, Vol. 8, 2011, pp. 39-49.
- [7] D. A. Tarnaveanu, A Model of Decision Support System in Economy, *WSEAS TRANSACTIONS on BUSINESS and ECONOMICS*, Issue 4, Vol.7, 2010, pp. 444-453.
- [8] D. M. Viana, M. F. Souza E. Silva, A. C. Santana, H. Abdalla Jr, Including Integrating Projects in Engineering Curricula, *WSEAS TRANSACTIONS on ADVANCES in ENGINEERING EDUCATION*, Issue 3, Vol. 8, 2011, pp. 73-82.
- [9] M. Mazilu, The Pedagogical Skill - Another Factor of Ensuring the Quality in High, *WSEAS TRANSACTIONS on ADVANCES in ENGINEERING EDUCATION*, Issue 3, Vol. 8, 2011, pp. 83-93.
- [10] R. Drtina, *Moznosti a omezeni elektronické podpory kvality vzdělávání*. Praha. Extrasystem. 2011.
- [11] R. Drtina, Perspektivy a omezeni 3D technologii v oblasti vzdělávání. *Media4u Magazine*. Vol. 8, No. X3, 2012, pp. 3 – 9.
- [12] I. Simonova. *Styly učení v aplikacích eLearningu*. Hradec Králové: M. Vognar, 2010.
- [13] E. Šilerová, Z. Havlíček, Možnosti využití e-learningu v systému celoživotního vzdělávání. *Media4u Magazine*. Vol.7, No.1, 2011, pp. 43 – 46.
- [14] J. Sedivý, Multimedia support of parametric modeling. *WSEAS Recent Researches In Engineering Education and Software Engineering*. Vol. 11, 2012, pp. 120 – 124.
- [15] SLANINOVÁ, G., STAŠOVÁ, L., Mediální vzory současných žáků a studentů. *Media 4u Magazine*. Vol. 6, No. 3, 2010, pp. 72 – 82.
- [16] E. Tóbllová, L. Křištofiaková, Partial research result focused on the detection of interests and relationship to science, research and quality of education. In *Media4u Magazine*. 1/2009, pp. 16-18. ISSN 1214-9187.
- [17] K. Krpálková Krelová, P. Krpálek, M. Štúr, The Globalization Influence on Entrepreneurship. In *Mezinárodní Masarykova konference pro doktorandy a mladé vědecké pracovníky*. Hradec Králové, MAGNANIMITAS, 2011, pp. 254-258. ISBN 978-80-904877-7-2.