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WORMS/16/07

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THE IDEA OF A CREATIVE WORKSHOP IN THE PROJECT - ENTREPRENEURIAL MANAGEMENT HIGHER SCHOOL

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ABSTRACT

Entrepreneurial skills include both entrepreneurial mindset, as well as a number of skills necessary to start and run one's own successful business. Skills are getting increasing importance, helping employees adapt to the changing needs of the economy. Education plays a key role in shaping attitudes, skills and entrepreneurial culture. Entrepreneurship should be seen not only as establishing new companies, but primarily as creating and developing skills, competencies and attitudes allowing for the effective functioning of the graduates in the labour market and working life. This paper presents the idea of a creative workshop as an instrument in education of engineers. The workshop is a space that shapes competencies, attitudes as well as innovative, entrepreneurial and social behaviours among students of technical studies. That is why we consider it as one of the pillars of the university of the third generation shaping transgressive attitudes and a tool for strengthening the links between the sector of higher education and business.

Keywords: *creative workshop, university of the third generation, entrepreneurship*

1. Introduction - The issue of education in the field of entrepreneurship

In the 21st century Polish economy is characterized by "imitative diffusion," whereas it is getting necessary to transform into the "creative diffusion" (Niedzielski, Rychlik, 2001), where creative instead of imitatvie and adaptive attitude to technology and management solutions becomes useful. The new Polish model of development must be formed also on the innovative potential existing in the social area.(Hausner 2012), which affects the level of innovation. The innovative character of the economy ought to be also considered in the dimension of the organisational structures of different management levels, as well as in the system of non-business and non-governmental organisations. When it comes to the innovation in the dimension of the system of non-business and non-governmental organizations - innovation can be considered here as the innovation of the education system, educational institutions, universities, non-governmental organizations. When discussing the innovative higher school one cannot limit to the assessment of specific institutions in terms of equipment and tools, as in this case, modern content and teaching techniques, as well as rich and differentiated educational offer have essential meaning.

The problem with education in the field of entrepreneurship is extremely complex, for on the one hand the demand for this type of education is increasing, while on the other there are not enough human resources or funds to implement this project. Action-oriented teaching is labour-consuming and expensive, and also requires special training. However, the construction of appropriate curriculum for a given field of knowledge with simultaneous comprehensiveness and

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optimality of legal, institutional and, above all, educational requirements is not an easy task. Most universities in Poland, when developing curriculum for students, must take many factors into account, such as the legal requirements, established educational standards, or even capabilities related to teaching staff or available technical solutions (classrooms, computer equipment). Yet, the most important prerequisite for creating curricula should be contentwise and cognitive issues that will properly develop students' skills and at the same time will become useful in the graduates' future workplaces, which in the long run will contribute to increasing the attractiveness of a given major of study at a particular university. (Gorski, Parkitna, Wilimowska, 2009)

In Poland, there too few academic teachers of entrepreneurship. There is a need to promote a significant number of PhD graduates of entrepreneurship studies, who could become university lecturers. There are also too few incentives to motivate and reward teachers for engaging in entrepreneurship education and interaction with students. Building a career in entrepreneurship is currently difficult as the research work remains the main criterion for promotion.

Using experience-based teaching methods is crucial for the development of entrepreneurial skills and abilities. Traditional teaching methods (like lectures) do not interact well with the development of thinking set at the entrepreneurial spirit. There is a need for an approach characterized by more interactive teaching, where the teacher becomes more of a moderator than a lecturer. An essential element of building entrepreneurial skills is crossing boundaries between disciplines, as well as multidisciplinary cooperation.

Involving practicing entrepreneurs in teaching can compensate for the current lack of practical experience among academic teachers. Although entrepreneurs and business people are generally engaged in teaching, there are few examples of practicing entrepreneurs involved full-time. They usually come to offer students a short presentation or give a lecture. Furthermore, they sometimes are members of jury in competitions for the best dissertation or internship.

Polish institutions for higher education are not sufficiently involved or effective in working with graduates who are successful in business projects and could bring expertise and funds. Finally, there is generally a low level of cooperation between academic teachers and researchers and the business world, which most often results from rigid bureaucratic framework related to the implementation of the effects instead of flexible education.

2. Going towards the entrepreneurial Higher School

From the historical point of view, the development of university was a constant search for new and more perfect formula of action. Factors that currently imply these actions are among others:

- Dynamic increase in the number of students;
- globalization of educational service and teaching offers;
- growing importance of interdisciplinary research.

The situation described above in a natural way justifies the question about the role of higher education in the process of progressive transition towards the economy based on creativity (Dogwood, Skonieczny, 2016), which is determined by: the increasing importance of intellectual resources, the development of cooperative networsk, the activity of gifted and talented people working in creative teams.

In such an economy, the task of the university is to support creative, innovative and entrepreneurial processes.

Challenges that Polish universities are currently facing are not unusual in the global academic world. Almost every national higher education system was struggling with similar issues.

Competitive rivalry is after all an inevitable consequence of limited resources (e.g. financial) and the growing demand for them. Thus, surviving and the development of any organization, including universities, depends to a large extent on its effectiveness in acquiring and effective using of limited resources.

The content of the Table 1 presents the interdependence between the economy and its processes, and the development of enterprises, organizations and institutions supporting a wider notion of entrepreneurship. These organizations are among others institutions of higher education. And so the university of the first generation dominates in the model of economy oriented at production factors. On the other hand, the university of the second generation functions in the efficiency-oriented economy. Finally, the university of the third generation is a higher school operating and implementing its functions in an innovation-oriented economy.

If we assume that there is such a dependency between the model of economy and the type of the university, it is easy to point out the differences between universities in each of these economies. These differences relate to among others: the purpose and methods of teaching, the dominant graduate's profile, the range of operations and methods of management.

Table 1. Models of economy and corresponding models of university

Type of economy	**Economy oriented at production factors**	**Efficiency-oriented economy**	**Innovation-oriented economy**
The description of the economy	The development of agriculture extraction of natural resources, building the foundations for a large-scale production	Industrialisation, domination of large companies working with small and medium enterprises	Research and development, knowledge, the development of the services sector, increase of the innovative potential of enterprises
Basic requirements	Production	Efficiency	Knowledge, entrepreneurship, innovation, creativity
The type of university	The university of the first generation	The university of the second generation	The university of the third generation
The purpose	Education	Education and research	Education, research and the use of know-how
The task	Defending the truth	Discovering Nature	Generating values
The Method	Scholasticism	Monodisciplinary modern science	Interdisciplinary modern science
Educating	Experts	Experts and scientists	Experts, scientists and entrepreneurs
Operating range	Universal	National	Global
The language	Latin	National languages	English
Organisational structure	National Guilds, departments, colleges	Departments	Academic Sections (departments)
Management	The Chancellor	Scientists and administrative staff	Specialised managing personnel

Source: Wissema J. G., *Uniwersytet Trzeciej Generacji. Uczelnia XXI wieku*, Wydawnictwo ZANTE, Zębice, 2009, s. 34; S.Singer, J.E. Amoros, D. Moska, *Global Entrepreneurship Monitor 2014, Global Report;* Dereń A. M., Skonieczny J., *Barriers for the development of an enterpreneurial University of the example of the Wroclaw University of Technology,* Slovak Scientific Journal. Management: science and education; Volume 4 (2015) No2, s. 21.

The University of the first generation is focused on education using scholastic methods and Latin. This type of university educates mainly experts, and its organizational structure resembles the national guilds (departments, colleges). The described type of university dominated in the Middle Ages and survived in the basic form until early 19th century. The University of the second generation not only educates but also carries out scientific research. It is focused on educating experts and scientists. It mainly has a national character, which is determined by running classes in national languages. Its organizational structure consists of departments with an independent status as basic units of the university. They run at least one major and PhD studies, as well as research in at least one scientific discipline. The University of the second generation is managed by scientific researchers and administrative staff. The formula of the university of the second generation still operates, especially in countries where the economic model is focused on efficiency.

The University of the third generation expanded the range and type of education, and its operating range is global. Its organizational structure consists of scientific sections and departments. Furthermore, the university is managed by specialized staff. (Wissema, 2009.)

The formula of the discussed University of the third generation hasn't been fully defined yet. It's just similar to variable and dynamic model of the economy based on creativity. The University of the third generation is often referred to as an entrepreneurial university, the functioning of which is defined by: creativity, innovation, research and academic teaching (I + R + B). The question is how to shape the entrepreneurial university, how to build social capital in higher education and how to teach entrepreneurship in the education process by gaining interdisciplinary competences: e.g. technical, managerial, communicative. How to build an ecosystem of support for creative projects, common space (creative workshop) for activities enabling cooperation between higher education and business. How to start a process of change and manage these changes?

3. Project The Entrepreneurial Higher School – Creative workshop as a creative space for shaping entrepreneurial skills and competence

Implementation of the Project Entrepreneurial Higher School requires significant changes in several areas that are related to the education process for students. In our opinion, these areas are as follows: the language of description, narrative, a set of key actions and expected results (performance). Changing the language of description and narrative means the necessity to introduce terminology and concepts of creativity, innovation and entrepreneurship. The purpose of this new language is to generate new concepts and ideas in the form of visions, missions and concepts that will form the basis for specific actions. These actions are: modelling, planning, mapping and designing. They are supposed to lead to achieving planned results that may shape into e.g. a form of a strategy, plan, model, map, or project.

These areas form the basis for discussion and development of the Project Entrepreneurial Higher School. In our opinion, the first step that should be taken is the implementation of the idea of a creative workshop as the space for developing creative skills and entrepreneurial competencies.

Creative skills include cognitive and behavioural skills, whereas entrepreneurial competencies include knowledge and engineering skills that students should have.

The purpose of the creative workshop is to provide students of technical majors with knowledge in the field of entrepreneurship and business management required to develop and implement innovative ideas. Therefore, a significant challenge is to create an interdisciplinary platform for entrepreneurship education at technical universities in Poland available for all students, establish creative teams to develop business ideas based on the mixed task groups including students of business and other majors (including technical) as well as coming from different social environments.

Another challenge is action-oriented (practice) teaching of entrepreneurship instead of providing students with pure theory. The action-oriented teaching of entrepreneurship is, due to its nature, extremely labour-intensive and costly, and requires introducing specific rules for specialized or professional training.

First attempts made by the Wroclaw University of Technology in this area are highly satisfactory, due to the results and benefits achieved (it is related to a local project "Shaping market creative attitudes in engineer education" carried out in 2010-2011 (Skonieczny. 2011). The demand for knowledge on entrepreneurship among students is increasing. However, there is shortage of human, financial and organisational resources for this type of education, especially action-oriented (practice) teaching and professional training. We believe that an effective and efficient solution to this problem is to establish a creative workshop for all students of the Technical University of Wroclaw as a space for the development of competencies, attitudes as well as innovative, entrepreneurial and social behaviours.

Considering the conditions referred to above, we propose the introduction of creative workshops in the education system for engineers. We treat it as a space to shape the competencies, attitudes as well as innovative, entrepreneurial and social behaviours among students of technical studies. We consider the workshops to be one of the pillars of the university of the third generation teaching transgressive attitudes (creative, innovative and entrepreneurial). The workshop is aimed at students of the 1st and 2nd degree and is also a creative form of practical preparation for their innovative, business and design activity as well as for running individual enterprise with the use of the potential of the university and business partnerships.

We believe that the autonomy of the university is its strength that gives institutions of higher education the ability to innovate, and hence the entrepreneurial potential.

4. The idea of a Creative Workshop - practical-useful qualities

The legitimacy and purposefulness of organizing such workshops were evaluated. The aim of the study was to determine the demand and preferences for such a form of education among students and employers. The first - pilot study covered a group of thirty students of Wroclaw University of Technology and a group of twenty-four employers in the region of Lower Silesia. The questionnaires were conducted in June 2015 with the use of CAPI methodology (Computer Assisted Personal Interviewing), which is a variation on the classic questionnaire (PAPI), in which a paper questionnaire was replaced by a laptop.

The assessment of legitimacy was conducted in accordance with the principles of measurement of needs taking into account three levels of observation of the studied phenomenon:

- level of needs of a statistical individual (which in our case is a student)
- level of needs of the population (all students)

- level of needs of the population surroundings (employers' expectations from the point of view of the student as a future candidate for a job).

The Measurement was made with the use of a normative technique and a survey. At the level of the measurement with the normative method there was a team of experts appointed who conducted in-depth query of the literature, which became a basis for clarification of theoretical assumptions of the proposed solution. They became the basis for measuring the needs of individuals and the population surroundings.

A more accurate assessment of the population needs was conducted with a survey, which was a set of questions addressed to students and entrepreneurs. Each respondent measured their individual subjective needs, whose objectification was determined by their common occurrence in the entire study population.

Owing to an appropriate questionnaire information on the following was obtained:

- the profile of a graduate of the technical university,
- skills the employers expect from the graduates,
- ways of attracting graduates to work,
- evaluation of existing training programs at the Technical University of Wroclaw,
- proposals for modifications to the adopted curricula at the Technical University of Wroclaw.

In the learning process through the entire life (Foundation for Enterprise Development, 2012) entrepreneurship is one of the eight key competences. Almost half of the EU have developed a comprehensive strategy for "social and civil competences" aimed at developing a 'sense of initiative and entrepreneurship," many of whom have implemented these national strategies in practice in these two areas. The European Union promotes entrepreneurship as a key factor for competitiveness, and also points out the importance of disseminating European entrepreneurial culture by supporting a proper mindset and entrepreneurial skills. The need to increase the potential of the citizens in the field of entrepreneurship and innovation is also underlined in three main initiatives of 'Europe 2020' strategy for sustainable growth and employment: "Innovation Union", "Youth on the Move" and "Agenda for new skills and employment." Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training is also a long-term goal of a strategic framework for European cooperation "Education and Training 2020" (The EU's strategic objectives, 2015).

Androulla Vassiliou, European Commissioner for Education, Culture, Multilingualism and Youth, said: "Education in the field of entrepreneurship is a driving factor for future growth and will help us inspire the next generation of entrepreneurs. If we are to maintain Europe's competitiveness, we need to invest in people, their skills, adaptability and innovation. This means that we need to encourage a true change of mindset in Europe into more entrepreneurial, starting from seeding entrepreneurial spirit from the earliest school years (European Commission Announcement 2015). "

About 75% of students do not attend lectures. Why? Because they think that everything can be learned from Google or Wikipedia. Indeed, one can learn a lot from the Internet, because with the access to it one can feel like a in a huge, multimedia library. Yet, with the use of the Internet one will not learn the skills that should characterize a modern engineer: creativity, teamwork or group problem solving skills.

5. Creative workshop as a space for shaping innovative, entrepreneurial, social, competences, attitudes and behaviours among students

The role of education in shaping and promoting entrepreneurial attitudes and behaviours is now widely recognized as an important development factor. However, the benefits of education in the field of entrepreneurship are not limited to establishing innovative SMEs and creating new workplaces. Entrepreneurship also means a person's ability to implement innovative ideas and is therefore a key competence for everyone, especially young people, helping them be more creative, self-confident in all economic, intellectual and social projects. Therefore at the level of higher education, the main purpose of entrepreneurship education should be to develop skills for innovative entrepreneurship.

In this context, entrepreneurship education programs may have different goals, e.g.:

- developing entrepreneurial potential among students (e.g. increasing awareness and motivation);
- teaching students abilities to start up a company and manage its development;
- developing entrepreneurial skills necessary to identify and seize the opportunities in a turbulent environment.

Currently, teaching entrepreneurship is not yet sufficiently integrated into the curricula at universities. Available data indicate that entrepreneurship classes are run mainly at business and economics majors, whereas at a small range at technical majors. The diffusion of entrepreneurship is low especially in the new EU member states, including Poland (European Commission, 2015). For example, for students of Management (second degree), Wrocław University of Technology (one of the leading Polish universities) offers a faculty / specialization: Entrepreneurship, Innovation and Projects only since 2011, while at technical majors the entrepreneurship classes are still being developed and have been offered to students for last two years only.

Many experts question that entrepreneurship can only be taught effectively at business majors, because the most innovative business ideas are come up with mainly at technical majors.

Thus, a true challenge for the development of entrepreneurship in higher education is to provide students of technical studies with knowledge in the area of entrepreneurship and business management necessary to develop and implement innovative ideas. Therefore, a significant challenge is to create an interdisciplinary platform for entrepreneurship education at technical universities in Poland available for all students, establish creative teams to develop business ideas based on the mixed task groups including students of business and other majors (including technical) as well as coming from different social environments.

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6. Evaluating the legitimacy of introducing the workshops

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7. Summary of the research (Dereń , Mazurkiewicz , Parkitna., Skonieczny, 2015)

In the group of students subjected to the survey 80% of respondents paid attention to the use of IT tools and teamwork as the most useful ability at work. When it comes to preferred values, it was indicated that creativity, responsibility and innovation are basic and the most useful at work. It was worrying though that values such as loyalty, ethics and empathy were rated very low.

In students' opinion a graduate and future employee should have intellectual skills and take responsibility for their behaviour (66% of respondents). Whereas more than 60% of the surveyed students said that the process of higher education does not prepare them sufficiently to work. Respondents believe that the process of education at the Technical University of Wroclaw (60%) should be extended to apprenticeships and the expertise supported with IT tools. In the respondents' opinion (60%) the practical experience is definitely crucial in the labour market.

The students subjected to the survey were asked to identify effective forms of professional applications. Respondents felt that the most effective way to find a job are internship and professional experience.

The second test group were employers from the region of Lower Silesia offering internships in cooperation with the Department of Computer Science and Management at Wroclaw University of Technology. The study clearly shows that from the employers' point of view it is essential to prepare graduates to solve practical problems (89% of respondents). It is equally important to work on students' mindset and stimulate their interest in self-employment and starting a business, as well as provide graduates with necessary practical tools (such as business plan competitions) and substantial support for their ideas related to business activity.

In the employers' opinion a graduate profile should be primarily characterized by the ability to work effectively in a team (100% of respondents). More than 60% of respondents also point out the ability to use IT tools at work.

According to the employers the sense of ethics and creativity are features a graduate starting their career should have. Ethics is indicated by 100% of the respondents. Whereas, 76% of respondents indicate creativity. This is a very interesting result, which is at odds with the opinion of the surveyed students, who put ethics at one of the lowest position in the hierarchy of values required at work.

The results of research conducted among employers related to ethical values are correlated with their opinion on responsibility as a basic feature and value required in professional environment (100% of respondents). Intellectual abilities of future employee (76% of respondents) and focus on self-learning and continuous development (88%) are equally valued by employers.

The employers subjected to the survey believe that accepting trainees and apprentices is the most effective method of attracting future employees along with graduates actively submitting their applications (50% of respondents).

Employers were asked to evaluate existing training programs at the technical university and indicate the curriculum content that would modify them. More than 76% of employers believe that the training programme should be enriched with practical skills. Over 99% of the surveyed employers consider these skills as a basis for gaining experience, which is important in the recruitment process.

The above-described results of our preliminary research clearly indicate the need for significant changes in the system of education at the technical university. We paid particular attention to issues related to changes in the curricula. We believe that when it comes to specific content, programmes and courses, they should be tailored to different target groups (according to

the level: first degree, second degree studies, postgraduate, PhD studies. The higher the level of education, the more complex and similar to the economic reality the content should be (including competitions offering financial support to new companies etc.).

Interdisciplinary approach should be used in teaching, where the ultimate goal ought to be to connect students from different departments and faculties, who will work together to develop joint initiatives and projects. Supporting courses and activities related to entrepreneurship addressed to all students of any major provide them with basic business skills and make them realise that entrepreneurship can be a potential career option. It is not associated only with setting up companies, but also applies to intra-entrepreneurship and encourage entrepreneurial behaviour in all areas of life.

In the institutional structure of higher education there is a wide variety of methods that complement the lectures, which are the most basic teaching tool. However, the methods used in practice appear to be different from those considered to be the most effective and appropriate. In particular, businesses and entrepreneurs should be involved more broadly, and methods based on case studies and specific projects should be used more commonly.

Innovation and efficiency derive mainly from action-oriented teaching methods with students' active participation, teaching students "know how" so they are able to better understand the theoretical aspects, students strong and active involvement in the process of learning from third parties. To some extent teachers themselves should be entrepreneurs whose teaching is based on the real-life experience.

Crossing the boundary between the university and the outside world is one of the reasons why students feel such forms in a completely different way than traditional teaching in higher education. Among many tools/methods of teaching those considered the most appropriate and effective for running programmes and courses on entrepreneurship, particularly for students of non-economic majors, are based on "group and team activities to generate new business ideas" and "case studies." Taking into account the results of studies conducted among entrepreneurs, in addition to the above tools the following should be indicated as effective methods: "workshops dedicated to the development of business plan" (which overlaps with the first proposed category, confirming the selection of teamwork, brainstorming and creating new ideas), "inviting guest speakers "(namely entrepreneurs) and "simulation of business managing."

The workshops we have developed are based on the above-mentioned methods, and what is more, we believe that methods based on undertaking certain forms of practical entrepreneurial activity and exercises leading to the development of creative ideas are effective as well. In our view, the traditional teaching methods are not synchronized with the development of entrepreneurial features and attributes. Whereas multidisciplinary cooperation is an essential element in building entrepreneurial skills. We treat these unconventional or non-traditional methods of training and education of students at the University of Wroclaw as tools shaping their active attitudes and entrepreneurial behaviour. Such attitudes and behaviour meet the expectations and needs not only of Lower Silesia labour market.

Having analysed the data obtained in the studies we recommend our workshops as a form of crossing boundaries between disciplines and teamwork. We're planning to teach entrepreneurship by connecting students of economic and non-economic majors. This kind of experience allows for mutual learning from each other and discovering new mindsets. Having considered the employers' views obtained in the research we would like to direct the workshop participants to work on real life ideas for business activities. Furthermore, the case studies used during the courses should be "live", i.e. refer to existing companies, they should also have a local dimension. Ideally, the selected case studies should provide students with role models with whom

they can easily identify. In other words, we would like to create a new platform for learning through practical acquiring of managerial skills implemented in cooperation with leading innovative companies and entrepreneurs in Lower Silesia.

We are convinced that in the process of learning the theoretical aspect should always be accompanied by a strong practical element, in particular for students of science and technology majors. It is important that in this process the courses ought to be led by people who are well oriented both in specific areas as well as in business, because any initiative taken by the students are likely to refer to their own fields of study. Owing to this entrepreneurship may be a logical continuation of the study instead of being only an addition to the education. Subject knowledge should be better co-ordinated with the process understanding, i.e. "The know how" and, what's important "with whom", because many students do not have adequate network of social contacts to fulfil their entrepreneurial aspirations. Finally, developing action-oriented and creative skills should take place in many areas beyond entrepreneurship. The issue is rather of how to teach rather than what to teach. Traditional lectures, i.e. "injecting knowledge" into passive students are a highly improper, and in a broader context, ineffective teaching method.

Therefore, we plan to conduct in-depth empirical research on a sample of n = 400 students and graduates drawn from technical universities in Poland, and employers in the region of Lower Silesia. The empirical material will be subjected to critical analysis by the research team and on this basis the conclusions and recommendations will be formulated into a report, which will cover not only the proposed workshop but entrepreneurship education in general at technical majors. We hope that the results presented in the report will be used not only in creating curricula for higher schools, but will also provide the basis for creating models of cooperation between business and universities in the area of knowledge transfer and innovation.

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