

DZIAŁALNOŚĆ PROJEKTOWA WYŻSZEGO ZAKŁADU NAUKOWEGO JAKO FORMA PRZYGOTOWANIA PRZYSZŁYCH FACHOWCÓW DO DZIAŁALNOŚCI BADAWCZO-INNOWACYJNEJ ORAZ INTEGRACJI W EUROPEJSKIEJ PRZESTRZENI OŚWIATOWO - NAUKOWEJ

Meniailo Viktoriia

docent, Zaporoski Uniwersytet Narodowy, Zaporozże, Ukraina

Hura Oleksandr

profesor, Zaporoski Uniwersytet Narodowy, Zaporozże, Ukraina

nds@znu.edu.ua

THE HIGHER EDUCATION INSTITUTION PROJECT ACTIVITIES AS A WAY TO PREPARE PROSPECTIVE PROFESSIONALS FOR THE RESEARCH-INNOVATIVE ACTIVITIES AND THE EUROPEAN EDUCATIONAL AND SCIENTIFIC AREA INTEGRATION

Victoriia Meniailo

docent, Zaporizhzhia National University, Zaporizhzhia, Ukraine

Oleksandr Gura

profesor, Zaporizhzhia National University, Zaporizhzhia, Ukraine

ПРОЕКТНА ДІЯЛЬНІСТЬ ВИЩОГО НАВЧАЛЬНОГО ЗАКЛАДУ ЯК ФОРМА ПІДГОТОВКИ МАЙБУТНІХ ФАХІВЦІВ ДО ДОСЛІДНИЦЬКО-ІННОВАЦІЙНОЇ ДІЯЛЬНОСТІ ТА ІНТЕГРАЦІЇ У ЄВРОПЕЙСЬКИЙ ОСВІТНЬО-НАУКОВИЙ ПРОСТІР

Вікторія Меньяло

доцент, Запорізький національний університет, Запоріжжя, Україна

Олександр Гура

професор, Запорізький національний університет, Запоріжжя, Україна

Streszczenie. W artykule rozpatrzono jeden z dwóch mechanizmów przygotowania badawczo-innowacyjnego kandydata drugiego oraz trzeciego stopnia kształcenia wyższego oraz ich integracji w międzynarodowej przestrzeni oświatowo-naukowej, co może zostać zrealizowane przez uniwersytety, które z jednej strony wstępują jako źródła stworzenia i poszerzenia innowacji, zaś z drugiej strony są jednym z głównych centrów nauczania i rozprzestrzeniania doświadczenia europejskiego. Na przykładzie Zaporoskiego Uniwersytetu Narodowego pokazano w jaki sposób realizacja Konceptcji rozwoju działalności projektowej w wyższym zakładzie nauczania stwarza warunki dla zwiększenia aktywności innowacyjnej młodzieży poprzez jej udział w projektach i programach regionalnych, krajowych, oraz międzynarodowych dotyczących rozwoju u studentów i doktorantów nawyków działalności projektowej oraz kształtowania kultury projektowej, a także nabywania przez nich kluczowych kompetencji XXI wieku, co jest głównym celem przygotowania fachowców typu innowacyjnego.

Słowa kluczowe: działalność projektowa, przygotowanie badawczo-innowacyjne, kluczowe komponenty, fachowiec typu innowacyjnego, europejska przestrzeń oświatowo - naukowa.

Abstract. The article explains one of the effective mechanisms of the research-innovative training of Master and Ph.D. students and their integration into the international educational and scientific area. The mechanism can be implemented by the universities, which, on the one hand, are sources of creation and dissemination of innovations, while, on the other hand, are one of the main platforms for learning and distribution of the European experience. Zaporizhzhia National University experience exemplifies how the implementation of the Development Project Activities Concept at a higher education institution creates opportunities for the innovative activities grow among the youth through participation in regional, national and international innovative projects and programs; building of a European project culture; project activity skills development among the undergraduate and postgraduate students and their acquisition of the key 21st-century competencies, which are the main objective of the training of the innovative type of specialist.

Keywords: project activity, research-innovative training, key competencies, innovative type of specialist, European educational and scientific area.

Анотація. У даній статті розкрито один з дієвих механізмів дослідницько-інноваційної підготовки здобувачів другого, третього рівня вищої освіти та їх інтеграції у міжнародний

освітньо-науковий простір, що може бути реалізований університетами, які, з одного боку, виступають джерелами створення і поширення інновацій, а, з іншого, є одними з головних центрів вивчення і розповсюдження європейського досвіду. На прикладі Запорізького національного університету показано, як реалізація Концепції розвитку проектної діяльності у вищому навчальному закладі створює умови для зростання інноваційної активності молоді шляхом участі у регіональних, вітчизняних та міжнародних інноваційних проектах і програмах, розвитку у студентів та аспірантів навичок проектної діяльності та формування європейської проектної культури, а також набуття ними ключових компетентностей XXI століття, що є головною метою підготовки фахівців інноваційного типу.

Ключові слова: проектна діяльність, дослідницько-інноваційна підготовка, ключові компетентності, фахівець інноваційного типу, європейський освітньо-науковий простір

Statement of the Problem. In the context of reforming of the Ukrainian higher education system and the need for reaching the European educational standards, the Ukrainian higher education institutions found themselves in need to work out effective mechanisms for integration into the European educational and scientific area as well as to improve the overall higher education quality and train innovative workforce able to compete in the international labor market.

Literature Review. The research carried out in 2009 by the European University Association under Howard Davies supervision studied the European approaches to higher education training in relation to master's programs in European countries for a decade of the Bologna Process [10]. The TUNING PROJECT, launched in the year 2000, has greatly contributed to European educational process. The project aims at the elaboration of a universal approach to the development, implementation, and assessment of the inclusive higher education training programs as well as defining general and specific competencies of the prospective professionals in various subject areas [12]. The Ukrainian scholars M. Kremen, V. Zgurovskii, J. Lugovoi, G. Talanova, M. Rashkevych, Vynnytskiy, Nikolaiev and others issued a number of publications on the reforming of Ukrainian higher education system and its approximation to European standards. I. Veselova, A. Zimniaia, V. Kravtsov, V. Sidorenko, V. Chenobytov and others studied the processes of project culture formation at the Ukrainian higher education institutions. However, these questions need further research in regards to more efficient practical application of the aforementioned mechanisms taking into account the European direction of the Ukrainian education.

Defining the Purpose and Objectives of the Article. The article sets to define one of the effective mechanisms of the research-innovative training of the Master and Ph.D. students and their integration into the international academic community. The mechanism is related to the development of project activities at the higher education institutions and facilitates the innovation activities among the youth; equips the prospective professionals with 21st-century key competencies; enhances their competitiveness in the international labor market.

Discussion and Findings. Article 65 of the Law of Ukraine on Higher Education establishes that the main purpose of scientific, research and development and innovation activity of a higher education institution is gaining of new knowledge through scientific explorations and research and development directing it towards creation and implementation of new competitive technologies, types of equipment, materials, etc., to ensure innovative development of the society and preparation of innovative type of specialist [4]. Though the Law does not explain the concept of "innovative type of specialist".

According to a World Bank report of 20th May 2010 [5], a move from a centralized economy to a market economy has led to a high demand for skilled professionals which are fast learners, problem solvers and can find the needed information immediately. Due to transformations in accumulation and transfer of knowledge in recent decades, the "half-life" of competency or, in other words, its decrease by 50%, has dropped to 5 years as a result of the new information emergence (on average 5% of theoretical and 20% of professional knowledge is updated each year) [6]. In this regard, some experts foresee that the concept of "Profession" itself is doomed to extinction in the future. This will be possible as the standard skill set will be not so important, as the personal ability to choose new skills each time for a certain task [1].

32 key competencies are defined within the European TUNING PROJECT. The recent graduates and employers listed and ranked these must-have competencies for contemporary professionals. The following competencies are coming first in the list [2, p.28]:

- analytical and synthesis skills;

- learning ability;
- problem-solving;
- application of theory to practice;
- adaptability;
- information management skills;
- ability to work independently;
- teamwork;
- organizational and planning skills.

The results released by experts of the World Economic Forum show that to be successful career-wise in 2020, in the first place a professional will need to have such competencies as problem-solving, critical thinking, creativity, and interpersonal skills [11].

Thus, having defined the main purpose of the research-innovative activities of a higher education institution in shaping the key 21st-century competencies among undergraduate and postgraduate students. Now we ask ourselves "Which concept should serve a basis for the research-innovation training of the professional?"

The TUNING PROJECT [2] results helped us again. They show that among the 10 main training activities in high school, the most effective ones are the individual research and project work (26%); the independent work, having a similar content with the individual, comes second (18%); the third place takes the group research and group work (14%). The important thing is that each of these methods can form the biggest number of the key competencies, where the first method can fully maximize all 100% of general competencies.

On the other hand, one of the main requirements for the NQF level 8 professionals defined by the National Qualifications Framework of Ukraine is the ability to initiate and realize the innovative projects, demonstrate leadership and the independence while implementing these projects [8].

Taking into account the aforementioned, the project activities have served a basis for the research-innovative training of Master and Ph.D. students not only as an educational method but both as a content and result of education.

Zaporizhzhia National University has designed its own Project Activities Concept. Its main purpose is to create a modern dynamic research-innovative platform for a successful fulfilling of the creative potential of the University; practical implementation of the students and researchers' creative ideas through project development; securing their funding through the grants and external financing; participation in national and international, in the first place European, projects and programs [3].

The Concept includes:

- creation of the project activities department at the University level;
- election of the project managers from the list of scientific-teaching staff and election of student project managers from the list of undergraduate and graduate students at the faculties level;
- creation of development and implementation project groups according to the annually approved plan by the Rector;
- training courses on the project activities for all participants of the educational process;
- organization of competitions and presentations of the youth projects;
- the projects portfolio building and their placement on the relevant electronic resource;
- enhancing cooperation with the public and local authorities as well as with the business sector;
- introduction of the special subjects on the project activities for the undergraduate and postgraduate students of Zaporizhzhia National University.

55 projects were designed for different national and international funds and programs by the University project groups including the undergraduate and postgraduate students during the first year of the Concept implementation after a number of workshops on the project activities were held.

Apart from that, Zaporizhzhia National University with the support of Oleksandrivskiy district administration, Zaporizhzhia, Zaporizhzhia city councilors, a number of NGOs and charity organized and conducted a few youth projects among undergraduate and postgraduate students, to name just a few:

- "The Epicenter of Students Initiatives" aimed at designing sustainable development projects in Zaporizhzhia region;

- "Dubovka: Reboot" provided a unique project design to be implemented on the territory of the city park Dubovy Hay;
- "Zaporizhzhia Vector of Students Initiatives" chose projects aimed at improving the social-economic situation in Zaporizhzhia city and the country in general.

Approximately 200 undergraduate and postgraduate students took part in the aforementioned contests both independently and as a part of the team. The best projects were rewarded with numerous diplomas and certificates as well as valuable gifts. The authors of projects-winners received monetary rewards to implement their own projects.

Zaporizhzhia National University held I regional forum "Science. Authorities. Business" to find more effective ways of cooperation among the authorities, science, and business. During the forum the practical ways of the Project Activities Concept implementation were outlined; the leading Ukrainian employers and successful entrepreneurs organized open workshops for the undergraduate and postgraduate students; round table on the problems of development of research-innovation activities gathered representatives of the higher education institutions in the region.

The next important stage in the organization of the university project activities was the approval of the Program of Development of an Open Regional Platform of Research and Production Partnership "INCUBE" (Information. Innovation. Investment). The platform was designed by Zaporizhzhia National University, Zaporizhzhia Regional State Administration, regional, and city councils to create opportunities for sustainable cooperation among innovative technologies developers, manufacturers, business, and authorities in order to effectively use Zaporizhzhia region potential for the future social-economic empowerment and intensification of the innovative-investment process in the region [9].

The Program of Development of an Open Regional Platform of Research and Production Partnership "INCUBE" is a powerful electronic resource (<http://incubeplatform.com.ua/>) [13], intended to serve a source of communication for the platform users, depending on their status:

- the customer is the one who formulates the list of issues to be addressed;
- the designer is the one who develops the innovative project or idea;
- the investor is the one willing to invest in the proposed project;
- the executor is the one who is ready to participate in the development and/or implementation of the project.

To date, the platform contains about 70 best project initiatives from the undergraduate and postgraduate students of Zaporizhzhia National University waiting for their investors.

However, the activities undertaken have shown that a significant number of designers has no special skills for the implementation of project activities, and has no experience of participation in the European projects. This fact significantly reduces the efficiency of available opportunities of European cooperation and hinders the entry of the University into the European educational and scientific area.

To this end, the project "EUROPEAN CULTURE PROJECT" has been developed at Zaporizhzhia National University, which received a three-year grant from the European Union for 2017-2020 under Erasmus+ program with funding of €30 euro.

The project involves the inclusion of a special course for the Master and Ph.Ds programs under Jean Monnet program Basics of European Project Activities comprising the following modules: European project culture as an essential factor of Ukrainian integration into European scientific area; Basics of Project Activities, EU grants for individual academic mobility and EU frame programs providing financial support for educational and scientific projects.

As a fourth module Teamwork as a means of developing project writing competences, the authors propose a project activity game for the development of a collective project Integration of Zaporizhzhia National University into the European Community, which will be submitted to the University committee for further implementation on the basis of the University.

The course designed primarily for of natural, mathematical and technical specialities that are traditionally not covered by the European studies programs. This course will familiarize them with the concept of the European educational and scientific area, the legal framework of ensuring the scientific activity in the EU as well as provide the basic skills to participate in the regional, national and foreign innovation projects, academic mobility programs. The course will also outline the existing opportunities for cooperation within the framework on the basic EU programs and the prospects for further development of the project and acquired key competencies in the sphere of

future professional activity.

In addition to the Jean Monnet module, the author has developed and presented a course for bachelors Basics of Project Activities, which about 100 students from almost all faculties of the University chose as the elective course.

A special course Basics of Research and Innovation Activities for the prospective Ph.Ds of the first year of training was introduced and tested. The course also contains the modules basics of project activities of international grant support for academic projects and involves the mandatory participation of the Ph.D. students in national and international competitions of innovative projects and programs of various kinds (educational, scientific, social, creative, etc.) [7, p. 46-85].

Conclusions and Further Research. The projects carried out shown that the development of project activities at Zaporizhzhia National University contributes both to improving the quality of research-innovative training of prospective professionals and their acquisition of the key 21st-century competencies necessary for future professional activity, including integration into the European educational and scientific area, and provides the necessary opportunities for effective cooperation among science, authorities and business on the development and implementation of innovative projects and programs at regional, national and international levels. The further research includes development of the levels, criteria, and indicators to measure the preparedness level of the prospective professionals for the research-innovative activities.

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