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DOCTORAL STUDIES IN THE HOMELAND HIGHER EDUCATION: EXPERIENCE AND PROSPECTS OF THE EUROPEAN DIMENSION

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Abstract

Purpose: Ensuring compliance of doctoral training in Ukraine with the European standards is an objective condition for the complete integration of our state into the united educational and scientific environment. In order to ensure the effectiveness of this process, the necessity of research conducted on the European experience as well as the first achievements and difficulties in the national high school, the determining factors, in particular, the state and prospects of the legal area development for the implementation of the new model appears to be urgent. Methods: general and specific scientific (special) methods were used to achieve the research target. Applying the methods of the first group made it possible to outline the tendencies of the doctoral training transformation in European countries and in Ukraine. By means of the comparative legal method, the peculiarities of the development of the normative-legal field of doctoral training in the national high school were analyzed, and the areas of its improvement were determined. Results: The features of development of doctoral training in the European educational space and the prospects of its introduction in the national higher education were considered. The formation of the legal area of doctoral training in Ukraine was argued, and the ways of its improvement were outlined. Exemplified on the National Aviation University, as one of the leading research institutions, the first experience of introducing a European model for training scientific staff is summarized. Discussion: In doctoral training, one of the leading trends is the issue of ensuring the quality of the implementation of curricula of the Doctor of Philosophy, enhancing the autonomy and responsibility of postgraduate students and academic leaders, improving the academic and geographical mobility of scholars, increasing funding for research and enhancing its innovation. In the projection of this issue on the national university education, the problem of the methodology of doctoral training, aimed at the personality of a young scientist as a leading subject of creating new knowledge, implementation and development of normative and legal support of this process, is required. Keywords: curricula; doctoral training; doctoral training at the National Aviation University; European standards for the training of Doctors of Philosophy; normative and legal support of doctoral training in Ukraine.

1. Introduction

Enhancement of the integration and globalization processes leads to both the extension of opportunities for cooperation of the particular countries in solving urgent socio-economic, environmental, and multicultural problems at a qualitatively new level and the intensification of competition between national economic systems. Under these conditions, education appears to be a determining factor and a driving force for the progressive development of society. It is education that plays a leading role in promoting an innovative personality that is competent enough for a successful and harmonious co-ordination with society and nature. Leading European countries as well as the other states of the world are focusing their efforts on streamlining educational systems, which should be aimed at training professionals who are mobile and competitive in the modern labor market.

Correspondingly, considerable attention is paid to the development of doctoral training systems at leading universities, which is aimed at the intensification of the vocational training of a higher education graduate and fostering the scientific activity of young scholars. After all, their subsequent activity is associated with the dynamic development of both science and all social life areas.
Integration of the national higher education system into the European educational space causes the preconditions for the implementation of the European model of training scientific and pedagogical staff of higher qualification. At the same time, among the priority directions of institutional principles development, the introduction of international standards for doctoral training in Ukraine as well as the formation of the legal and regulatory framework of this process is particularly urgent.

2. Analysis of the latest researches and publications

The issues of development of doctoral studies are researched by the foreign and the homeland scholars. In the papers written by A. Bitusikova, J. Eggermont [1, 3], the peculiarities of reforming and ensuring the quality of doctoral training in university education of European countries are highlighted.

The experience of the leading universities of the world in the implementation of doctoral studies, its trends and prospects of development is summarized in the papers of such homeland scientists as V. Luhovyi, A. Pozhyvilova, I. Reheilo, S. Sysoeva Zh., Talanova [12, 14, 15]. The achievements and the problems of the implementation of the European model for training doctors of philosophy are illustrated in the lay-outs of Ye. Nikolaev [6]. Historical and legal preconditions as well as some aspects of the formation of normative and legal provision of the European model of doctoral training in Ukraine are highlighted in the works of S.Holovko, D.Idrisov [4, 5].

3. Research tasks

In the area of the introduction of the European model of doctoral training in Ukraine, institutional measures are being taken to ensure the success of this process. In 2016, they provided an opportunity to introduce the training of the students at the PhD level in the leading research universities of the state. The analysis of the legal and regulatory framework for the deployment of doctoral training, the experience of introducing a new system for training scientific and pedagogical staff at a national higher school, in particular at the National Aviation University, is essential for determining the prospects and conditions for the effective implementation of this process.

4. Research results

In the early 2000s, the transformational processes of the conventional system of doctoral training for Europe began. Paying a special attention to the quality of doctors' training in philosophy is predetermined by the fact that the leading European countries are particularly focused on PhD applicants as carriers of innovative changes in society in the context of the increasing globalization phenomena. The formal reason for a qualitative revision of the existing system was the dissemination of the principles of a united European educational space and the Bologna process at the third cycle of higher education. There was a need to improve the legal and organizational provision of doctoral training.

The updated principles for the organization of doctoral programs were developed in Salzburg in 2005 (Salzburg-I). They proclaim that the main component of the training of Ph.D. students is to advance knowledge by means of a new system for training scientific and pedagogical staff, in particular at the National Aviation University, and the main driver on this path are universities that are fully responsible for the quality of the developed and implemented doctoral programs, their focus on ensuring the postgraduate students' ability to fulfill new tasks, expansion of career opportunities for young scholars. The priority of the single European educational space in this issue is the focus on expanding the variety of doctoral programs, the introduction of internship-training programs for doctors of philosophy, and the organization of joint practices [13, 6].

The conference "Towards the European Higher Education Area: Responding to challenges in a globalized world" played an important role in the development of doctoral training modernization processes (London, 2007). In 2008, the Council for the European Education of the European Universities Association launched an active work on the creation of a single European research area (The EUA Council for Doctoral Education). The main theses of the conference on higher education that took place in Paris in 2009 were the proposals for improving the organization of scientific research, in particular, a significant increase in the share of innovative universities research by attracting the new sources of funding, enhancing cooperation with public and private organizations.

In 2010, the European Council for Doctoral Education offered new approaches to doctoral training, known as "Salzburg II". They were supported by the representatives of most European
universities. These provisions mainly underscore solving the problem of doctoral qualification quality through the formation of an effective scientific and educational environment, the expansion of the range of innovative educational programs, the introduction of scientific practices, enhancement of the social status of doctoral students, etc. [13].

In April 2012, ministers from 47 countries of the European Higher Education Area discussed the Bologna process in Bucharest and identified the priorities for the further development of doctoral training.

Doctoral education focuses on ensuring the most favorable conditions for the formation and development of competencies of novice researchers, expanding their mobility, engaging them in solving relevant interdisciplinary scientific problems, increasing financing of research on the background of complete independence and responsibility of scientific and educational institutions for the quality of this process.

On the background of these processes in the domestic system of higher education, which launched an active integration into a single European educational space and the Bologna process, the need to approach the European standards of doctoral training has risen. At that time, the national system of training of the scientific and pedagogical staff of higher qualification was distinguished by the dominance of the control-regulating principle.

In the area of radical reform of the higher education sector, one of the primary tasks was the formation of a legal and regulatory framework for the implementation of the European model of doctoral education in Ukraine. It was quite obligate, since the legal trend is determined by the researchers as one of the priorities for the development of doctoral training in Europe [12]. It manifests itself in creating an updated legal framework as the basis for quality training of specialists in the third educational cycle.

In 2011, an important step was the approval of the National Qualifications Framework (NQF) by the Resolution No. 1341 of the Cabinet of Ministers of Ukraine. This document is a generalized description of qualification levels structured according to competencies. The main objective of the implementation of the National Qualifications Framework is the introduction of European standards and principles for ensuring the education quality, taking into account the requirements of the labor market to the specialists’ competence, ensuring harmonization of the legislation norms in the education area as well as social and labor relations, promoting national and international recognition of qualifications acquired in Ukraine, establishing an effective interaction of the educational services and the labor market.

The NQF includes 10 qualification levels (from zero to the ninth) that implement a European approach to quality assurance based on a competent approach. 8 qualification levels are featured by the ability to solve complex problems in the area of professional as well as research and innovation activities, which involves a deep rethinking of existing knowledge and acquiring new integrated knowledge and professional expertise. The specialist of this level has developed skills of critical analysis, evaluation and synthesis of new and complex ideas, initiates innovative complex projects; they are socially responsible for the results of making strategic decisions, capable of lifelong self-development and self-improvement, in charge of teaching others.

Specialist of the 9th qualification level is able to identify and solve socially significant system problems in a particular area of activity that is a key to the sustainable development and requires the acquiring new system-building knowledge and creation of advanced technologies. It conducts a critical analysis of complex problems, synthesis of new and complex ideas, in particular, interdisciplinary ones and within their own research school of thought, initiates original research and innovative integrated projects aimed at solving complex social problems, deeply aware of the responsibility for the scientific substantiation of strategic decisions [7].

In general, the NQF complies with the principles of the International Standard Classification of Education designed in 2011. Therefore, Programs at ISCED level 8 determine that either the doctoral or equivalent level is intended primarily to lead to an advanced research qualification. Programs at this ISCED level are devoted to advanced studies and original research and are typically offered only by the research-oriented tertiary educational institutions such as universities. Doctoral programs exist in both academic and professional areas [16].

The practical implementation of the NQF into the system of training and attestation of scientific and pedagogical staff became possible with the adoption
of the Law of Ukraine "On Higher Education" in 2014. On the basis of the qualification levels determined by the NQF, Article 5 of this Law establishes the levels and degrees of higher education, which, respectively, include the educational, scientific and research levels.

The law states that higher education applicants are trained not only by traditional educational and vocational curricula, but also by education and research as well as academic programs according to the higher education levels. The third (education and research) level of higher education corresponds to the eighth NQF qualification level and provides for the mastery of theoretical knowledge and forming skills and competencies sufficient to the new ideas, solving complex problems in professional as well as research and innovative activity, mastering the methodology of scientific and pedagogical activity, as well as conducting one's own scientific research, the results of which have scientific novelty, theoretical and practical significance. An important rule of law, which ensures the approximation of the national system of training the scientific and pedagogical staff with European standards, is the introduction of a scientific degree of doctor of philosophy that is both an academic degree and the first degree that is acquired after a master's degree. The reason for the award of a Ph.D. degree is determined by the successful studying of the relevant education and research programs which amount of 30-60 ECTS credits by a higher education applicant while studying in the post-graduate school, which lasts four years and his/her public defense of the thesis at the Specialized Academic Council [9].

Nowadays the Law of Ukraine "On Higher Education" is the basis of normative and legal support of the system of training scientific and pedagogical personnel of higher qualification in Ukraine. After its adoption, the European standards of doctoral training in Ukraine began to be implemented.

In April 2015, the Cabinet of Ministers of Ukraine established a National Agency for the Quality Assurance of Higher Education and approved its Charter [10], as well as a list, which identified 29 branches of knowledge and 293 specialties that can be taught for the higher education applicants [8].

The next step was the development of a new edition of the "Procedure for the Training of a Doctor of Philosophy and Doctor of Science in Higher Educational Bodies (Scientific Institutions)", approved in March 2016. It has been determined that the educational program and the curriculum of the postgraduate study consist of educational and scientific components. The educational component involves mastering educational disciplines that are a part of the educational component and have a volume of 30-60 credits of the European Credit Transfer and Accumulation System. It can be carried out at the higher educational body (scientific institution), where the postgraduate student is enrolled, and within the framework of the implementation of the right to academic mobility, namely, on the basis of other higher educational bodies (scientific institutions). Accordingly, the postgraduate education program should include at least four components that comprise the acquisition of postgraduate competences in accordance with the National Qualifications Framework (general (philosophical) competence, universal research skills, and linguistic competence).

The scientific component of the educational-scientific program involves conducting their research by a postgraduate student under the supervision of one or two research advisors and designing their outcomes in a dissertation. A compulsory condition for admission to defense is the successful completion of the individual curriculum by a postgraduate student [17].

At the beginning of 2016-2017 academic year, organizational and legal preconditions have been created in Ukraine for the introduction of a European model of doctoral training. In this process, an important role is played by the leading national research universities.

In the short term, higher education institutions developed and implemented educational doctoral programs. For example, at the National Aviation University, such activity was launched in June 2016. Design groups for the creation of educational and scientific programs of about 20 specialties were approved in fourteen subjects (01 "Education", 02 "Culture and art", 05 "Social and behavioral sciences", 07 "Management and administration", 08 "Law", 10 "Natural sciences", 12 "Information technologies", 13 "Mechanical engineering", 14 "Electrical engineering", 15 "Automation and instrumentation", 16 "Chemical bioengineering", 17 "Electronics and telecommunications", 19 "Architecture and construction", 27 "Transport"). In September 2016, the first set of applicants for the educational-scientific level "Doctor of Philosophy" was taught in accordance with the new requirements.
Thus, it was the first stage of the introduction of the system of training doctors of philosophy in Ukraine in compliance with European standards.

Since 2016, the National Aviation University has started training Ph.D. students; an educational term lasted 4 years (the first two years of studying are based on the designed educational plans and 2 years on individual plans). Doctoral education of 14 specialties is provided for 46 postgraduate students of the first year of study (31 postgraduate students are full-time, 11 of them have evening courses, 4 postgraduate students are part-time). Postgraduates are enrolled in 8 institutes and the scientific laboratory "Nanotrobototechnologies". 36 leading University specialists who represent 26 specialized departments operate as academic advisors for postgraduate students.

The educational and research curricula developed by the leading teachers contain such components as vocational theoretical training (aimed at enhancing the educational level in the corresponding specialty), professional practical training (involves consolidation of the knowledge in practice), independent research work, preparation and defense of a dissertation paper. Priorities of the secondary training are the widespread use of innovative methods and technologies of training aimed at the formation of the scientific research competencies of graduate students.

An important condition for the effective doctoral training at the National Aviation University is the quality assurance in the scientific and educational process by a unified methodology and quality management technology as well as the expansion of connections within the European Association for Quality Assurance Training.

The current problem of developing doctoral education in Europe is the formation of a modern scientific environment. In this area, the leading role is given to universities, which become the kind of coordination centers for the training of doctors of philosophy. European higher education institutions have established specialized educational centers that organize distance learning for students and postgraduates throughout the country.

The National Aviation University functions as a focal point for doctoral training by the Educational and Scientific Center for New Technologies (ESCNT), which originates from the Institute of Advanced Technologies, established in 2002. The main areas of the ESCNT activity are realized by the sectors: the educational program for training doctors of philosophy; foreign-language (specialized) training of masters, applicants of higher education degree of the doctor of philosophy and professors of specialization disciplines; purposeful basic (postgraduate) training of talented university students.

A promising direction of deployment of the system of doctor training in accordance with the European standards is the participation of national universities in international projects. In 2014, the international project TEMPUS-NETCENG "New model of the third cycle in engineering education according to the Bologna Process" was launched bringing together 14 universities from 6 countries. The purpose of participation of the National Aviation University in this project was the development and implementation of a pilot model-study program in the area of engineering and aerospace technologies in compliance with the provisions of the Bolonian process. The project is designed for three years (from 2014 to 2016). As a result of the project implementation, the development of a pilot model of the doctoral program (PhD) in the area of engineering and aerospace technologies, educational modules with the corresponding infrastructure, methodical recommendations for the development of the doctoral program (PhD) in the area of engineering and aerospace technologies will be developed and adjusted to the conditions of the national educational system on the basis of international experience and European basic principles for the establishment of doctoral programs, implementation of European approaches in the organization of doctoral training. The project envisages the introduction of pilot doctoral programs in university-participants into Doctoral education in engineering in accordance with the Bologna process and the ten principles of the Salzburg and Bucharest forums.

The development of new curriculum was planned by taking into account the European Credit Transfer and Accumulation System of ECTS credits, the development of the new regulatory programs in the target area in accordance with the requirements of the labor market, the formation of an innovative environment for Doctoral programs, the approach of the national higher education to the labor market.
5. Conclusions

An analysis of the European doctoral training practice demonstrates its orientation at the personality of a young scholar who is regarded as a professional who is a leading subject in the acquiring the new knowledge and has extensive academic rights, academic freedom and mobility. It fosters the initiative of the novice researchers and contributes to the full development of their creative scientific potential. The responsibility of postgraduates, academic advisors and relevant institutions for the timing and quality of research is growing. Doctoral programs are aimed at solving specific fundamental and applied problems with the use of modern information technologies. Innovative practices are being introduced; innovative structures are formed for the deep interdisciplinary learning and the development of universal competencies of young researchers. Particular attention is paid to ensuring geographical, interdisciplinary mobility, international cooperation, dependence of the quality of training of scientific personnel on the volumes and sustainability of financing this process.

On the way to European standards for doctoral training in Ukraine, important issues need to be addressed. The actual completion of the formation of normative and legal higher education, the full implementation of the law on higher education, in particular, regarding the training of scientific personnel, remains to be completed. At this time there is establishing the activity of the National Agency for the Quality Assurance of Higher Education, which is entrusted the functions of quality management: licensing and accreditation of higher education institutions, coordination of the work of specialized academic councils for the defense of thesis papers, the development of the provision on accreditation of educational programs, the list of branches of knowledge and a list of specialties, according to which the training of applicants for higher education is carried out, the order of awarding scientific degrees, requirements to the level of scientific qualification of scientific degree applicants.

In this context, the Law of Ukraine "On Education" adopted on September 5, 2017, which is legally underpinning the priority of these measures, is of great importance.

In modern European practice, the doctoral training system of philosophy is considered a dynamic part of the Bologna Process, which ensures the integration of the European Higher Education Area (EHEA) and the European Research Area (ERA), the foundation of the creation of a knowledge society in Europe. There is a tendency to combine masters and doctoral programs. Particular attention is paid to the formation of doctoral schools as the main tool of mastering the level of the Doctor of Philosophy.

Enhancing the individual approach to doctoral studies, the combination of research and teaching, the institutional responsibility of universities and doctoral schools for the results of the preparation of doctors of philosophy are significant. Contemporary doctoral programs are not only a means of successful academic and scientific careers, but also an important stage in the professional development of a specialist in the context of his/her lifelong learning. One of the conditions for their effectiveness is the structuring of the process of training of doctors of philosophy, which involves the existence of clear procedures for selecting candidates, the clear separation in the program of training (focused on the formation of universal competencies) and scientific (oriented at the formation of professional competence) components, ensuring mobility of applicants, internships opportunities for them and their academic advisors abroad [11].

Accordingly, the perspective directions of the national higher education are the development of methodological approaches to the development of the doctoral training system. In particular, it is necessary to improve the normative provision of the process of training doctors of philosophy, a clear definition of the responsibility of the university, the academic supervisor, and the postgraduate student for the results of training.

Priority should be given to the quality of doctoral programs, which is determined, primarily, not so much by the quality of the dissertation, but by the quality of the educational and scientific environment within the limits of both the university and the state where the young researcher studies.

References


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С.Г. Головко
Докторська підготовка у вітчизняній вищій школі: досвід та перспективи європейського виміру
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Мета: Розгортання докторської підготовки в Україні згідно з європейськими стандартами є об’єктивною умовою повноцінної інтеграції нашої держави до єдиної освітньо-наукового простору. З метою забезпечення результативності цього процесу актуалізується необхідність досліджень європейського досвіду та перших здобутків і труднощів у вітчизняній вищій школі, визначальних чинників, зокрема, стану та перспектив розвитку правового поля реалізації нової моделі.

Методи: Для досягнення мети дослідження були використані загально- та конкретно-наукові (специфічні) методи. Використання методів першої групи дало можливість оцінити тенденції трансформації
докторської підготовки в країнах Європи та в Україні. За допомогою порівняльно-правового методу проаналізовано особливості розвитку нормативно-правового поля докторської підготовки у вітчизняній вищій школі та визначено напрями його удосконалення. Результати: Визначено особливості розбудови докторської підготовки в європейському освітньому просторі та перспективи її запровадження у вітчизняній вищій освіті. Аргументовано сформованість правового поля докторської підготовки в Україні та окреслено шляхи його удосконалення. На прикладі Національного авіаційного університету, як одного з провідних науково-дослідницьких університетів, узагальнено перший досвід розгортання європейської моделі підготовки наукових кадрів. Обговорення: Однією з провідних тенденцій удосконалення докторської підготовки стає питання забезпечення якості виконання освітньо-наукових програм доктора філософії, посилення автономності та відповідальності аспірантів та наукових керівників, підвищення академічної та географічної мобільності науковців, збільшення фінансування наукових досліджень та підвищення їх інноваційності. У проекції цього питання на вітчизняну університетську освіту потребує дослідження проблема методології докторської підготовки, стриманої на особистість молодого науковця як провідного суб’єкта створення нового знання, імплементації та розвитку нормативно-правового забезпечення цього процесу.

Ключові слова: докторська підготовка; докторська підготовка в Національному авіаційному університеті; європейські стандарти підготовки докторів філософії; нормативно-правове забезпечення докторської підготовки в Україні; освітньо-наукові програми.

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Докторська підготовка в отечественном высшей школе: опыт и перспективы европейского измерения
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Цель: Развертывание докторской подготовки в Украине по европейским стандартам является объективным условием полноценной интеграции нашего государства в единое образовательно-научное пространство. С целью обеспечения результативности этого процесса актуализируется необходимость исследований европейского опыта и первых достижений в отечественной высшей школе, определяющих факторов, в частности, состояния и перспектив развития правового поля реализации новой модели. Методы: Для достижения цели исследования были использованы обще- и конкретно-научные (специальные) методы. Использование методов первой группы дало возможность выделить тенденции трансформации докторской подготовки в странах Європы и в Украине. С помощью сравнительно-правового метода проанализированы особенности развития нормативно-правового поля докторской подготовки в отечественной высшей школе и определены направления его усовершенствования. Результаты: определены особенности развития докторской подготовки в европейском образовательном пространстве и перспективы ее внедрения в отечественном высшем образовании. Приведены аргументы сформированности правового поля докторской подготовки в Украине и очерчены пути его усовершенствования. На примере Національного авіаційного університета, одного из ведущих научно-исследовательских университетов, общено первый опыт развертывания европейской модели подготовки научных кадров. Обсуждение: Одной из ведущих тенденций усовершенствования докторской подготовки становится вопрос обеспечения качества выполнения образовательно-научных программ доктора философии, усиления автономности и ответственности аспирантов и научных руководителей, повышения академической и географической мобильности научных работников, увеличения финансирования научных исследований и повышения их инновационности. В проекции этого вопроса на отечественное университетское образование нуждается в исследовании проблем методологии докторской подготовки, направленной на личность молодого научного работника как
ведущего субъекта создания нового знания, имплементации и развития нормативно-правового обеспечения этого процесса.

**Ключевые слова:** докторская подготовка; докторская подготовка в Национальном авиационном университете; европейские стандарты подготовки докторов философии; нормативно-правовое обеспечение докторской подготовки в Украине; образовательно-научные программы.

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