

PEDAGOGY

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Functions of research activity of teachers from higher pedagogical educational establishments

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Abstract. The article defines the role of science in ensuring the transition to an efficient economy. It indicates the role of research activity of university's teachers as one of the social forms through which functions of science are supported and implemented in modern society and, in particular, to provide content and new technologies of education.

Keywords: *research activity, teachers of higher educational establishments, functions of research activity.*

Science, along with education in society belongs to its major institutions. Not only do the material conditions of society depend from the development of science, but also the present understanding of the world in which it exists.

The social role of science is realized in the work of scientists and depends on the nature and characteristics of the scientific intelligentsia as a specific social group. The involvement of science in a wider social and cultural context, its relations with society can be recorded and analyzed only when the multilevel determination of research activities is taken into account and socially considered [2].

It is recognized that scientific and technological ideas and developments, the high technology and knowledge-intensive products, intellectual and educational potential of society are the key driving forces for sustainable economic growth. As the experience of many countries shows, the leading role in the transition to an efficient economy based on knowledge, is mostly owned by universities; the role of innovation activity – one of the main components of the integrated innovation capacity – increases.

The innovative potential of universities is a certain subsystem of higher level and is presented by: a balanced collection of material, technological, research, personnel, financial and economic, informational, intellectual resources as well as institutional, infrastructural, marketing, investing, communicative and other components that can be brought into action for the implementation of innovative strategies and policies of university to change, improve and further sustainably develop through the transformation to a new qualitative state.

In the new market conditions, the development of new thinking of management and teaching university staff, based on the willingness and ability to be effective, remains one of the most difficult and important tasks of the university.

Be noted that problems of research activity and its organization in universities in recent years have increasingly attracted the attention of scientists. The role and importance of science for the development of society and personality were determined (A. Aleksyuk, V. Andruschenko, D. Bahaliy, E. Boyko, D. Wisniewski, M. Demkova, M. Lomonosov, et al.); recommendations for the development of higher education and pedagogy in

Ukraine were formulated (D. Bahaliy, V. Bilotserkivskiy, A. Gluzman, A. Iefimenko, I. Zyazyun, W. Kremen, C. Kurylo, M. Miller, I. King James, S. Sysoyeva etc.).

The works of V. Andrushchenko, W. Kremen, S. Sheiko, V. Kurylo are dedicated to the definition of the purpose, objectives, functions and specificity of research, justification of its role and place in the process of reforming of higher education. The content, forms and methods of research in higher educational institutions have been the subject of research of M. Dobruskina, G. Lakhtin, O. Murashko, N. Nedodatko.

The works of L. Avdeev, N. Amelina, I. Ivanenko, F. Orekhova and others are dedicated to disclosure of the impact of research for the formation and development of professional skills of future professionals. Problems of research organization in higher educational institutions in historical and pedagogical aspects are highlighted in the works of A. Aleksyuk, L. Wovk, N. Dem'yanenko, M. Evtukh, V. Vyhrush, S. Zolotukhin, O. Lubar, B. Stuparyk, M. Yarmachenko et al.

Conceptual provisions on the priority directions of development and the nature of science activities in higher education, areas of its reforming are contained in the Laws of Ukraine "On Education", "On scientific and technical activities", State National Program "Education" (Ukraine XXI century) and other regulations.

The analysis of legislation, including the Law of Ukraine "On scientific and technical activities", reveals a clear definition of the nature and legal status of research activities, the establishment of state guarantees of scientists and researchers, forms and methods of state regulation and control in science and research and technical activities, goals and directions of the state policy in scientific and technological activities, the basic principles of governance and regulation of it.

Recognizing, on the one hand, the presence of a sufficiently developed and widely ramified system of training and certification of scientific and pedagogical personnel of higher qualification and realizing, on the other hand, the specificity of national revival and the current shortcomings in this matter, the official documents clearly state: "Training of scientific and pedagogical and research staff is an important part of continuing education in Ukraine and serves as a constant updating and renewal of the intellectual potential of the State" [5].

Research activities at universities include:

- 1) classical research work, which consists of basic research, applied research and research and engineering developments;
- 2) preparation and development of new courses and relevant teaching materials;
- 3) providing of advice to public bodies and production;
- 4) training of the teaching staff and their certification.

Research activities are an integral part of the educational activity. The development of scientific and technical creativity of students, current and future planning of scientific and technological activities in coordination with the ministries, departments for subordinates, registration of research projects, expert evaluation of results are the main tasks and areas of research activities at universities [5].

Priority areas of research activities' reforming in the education system include:

- integration of academic, higher educational and sectoral sciences;
- direction of pedagogical science to develop a strategy for promoting of education, educational prospects, prospects for recovery and development of the national school, new educational technologies;
- radical change of organization, financing, management and promotion of scientific work, the creation of a new legal and regulatory framework to ensure the effective operation and development of science in educational institutions;
- creation of real conditions for the effective use of scientific potential of the educational sector, freedom of scientists' creativity;
- establishment of a new system of competitive selection of research programs and projects, increasing of the demands and objectivity in the evaluation of research results and attestation of scientists.

Strategic objectives of the research activities of modern Ukrainian universities include:

- maximum use of research capacity of the University to support the learning process and the development of the scientific work of its teachers;
- fundamentalization of research of University's scholars; expanding the range of applied research and development work in the priority areas of science and technology;
- enhance the competitiveness and relevance of scientific research work of the faculty and staff of the university in the region and international scientific community.

M. Mykytyuk notes that today there is an intensive search for a new pedagogy of higher education that can provide its solidity, integrity, focus on satisfying the interests of the individual [4]. In this regard, the extensive development of basic research in institutions of higher education is of particular importance, the role of science as an organic part of education, the basic element and the driving force of development is increasing. This leads to changes in the organization of research activities in higher educational establishments of Ukraine.

Instead, in the opinion of M. Mykytyuk, the science in higher educational institutions has a certain specificity. It turns out that in contrast to the academic and industrial research activities it has such characteristics in universities:

- there is no conservative academic structure;
- there is versatility of research and issues, that are provided by the extensive staff of specialists of various sectoral focus;
- there are no departmental ambitions and there is intellectual freedom of teachers and researchers;

- there is a high rotation of specialists due to training of graduate students, doctorals and candidates – the active part of the scientific team that provides implementation of search works;
- ability to meet not only the interests of society, but also the private interests of higher educational science through the basic and applied research in the theory and practice of higher education and scientific support of the educational process (development of methodical, methodological, didactic problems);
- possibility of humanization and humanitarization of higher education through the expansion of interdisciplinary research in the natural sciences, engineering and humanities in solving the general objectives of education and the integration of different disciplines [4].

Research activity is one of the most prestigious, socially relevant and economically viable side of man's activity. It provides the long-term economic development, significantly enriches the culture, adds a margin of safety in the intellectual potential of society, that determines a social progress. The ambiguity of scientific activity makes it a subject of study of many sciences. It is established that in today's world it has a number of important functions, including:

- analytical through the understanding of reality, its analysis and evaluation,
- orientational through the knowledge in a real-life conditions, practice, human relations, politics and religion, the optimal choice of them,
- prognostic through the prediction, forecasting of changes in nature and society, human and knowledge,
- informational by providing the connection and understanding between countries, social systems, production, science, culture, etc.,
- innovative through penetration of discoveries into science, social practice, culture, health and education,
- modeling by creating ideal schemes, models of processes and phenomena occurring in the past, present and future,
- the one that makes a system from the disparate ideas and facts of knowledge in the form of concepts and theories that define the consciousness and self-consciousness of a human and humanity,
- optimizing by ensuring the optimal choice in solving the problems faced by man and society [3].

The main factor that ensures the success of pedagogy at the university is the presence of scientific schools in it. Science school is a special direction in the development of science. Its paradigm (goals and objectives of the education, system of teaching values, key methodological ideas, etc.) is given by the founder of a scientific school, which usually is a recognized scientist, the head of one of the divisions of university. The latter circumstance is important because it helps the founder of scientific school to include other scientists to the development of the concept.

Science school is a group of scientists based together on common research interests. Like any organization, it has a hierarchical structure: at the head there is the founder of scientific school, whose ideas are developed in various aspects by several generations of scholars. Scientific school is a primary form of organization of science in higher education establishments that is adequate to the process of scientific research. In the absence of science school the science in higher education establishments cannot develop successfully, and the university is not able to overcome its own provincialism. If universities do not have their own scientific school, it must be created. If there is one- every effort should be made to strongly sup-

port and promote it. Without a scientific school university's scientists are connected to each other only formally, their research interests are purely individual and are usually limited by preparation of dissertations, publications, etc. In a situation where everyone is busy with his own career, one cannot talk about the serious development of science.

In general, the functions of scientific and research activities in a holistic educational process of any university suggest:

- creation of new scientific information;
- enriching the educational content through the new scientific ideas and discoveries and development a new standard of education on this basis;
- formation of the new scientific knowledge, research culture and professional activity among creators and consumers;
- improvement of technology and methods of university teaching based on the research activities;
- pedagogical research as the best way to improve the professional skills of teachers of university and form their spatial reasoning;
- realization of the idea of pedagogical interaction, activation of cognitive activity of students by combining research activities of faculty and prospective employees;
- providing the individualization of higher education based on research, since the unique human nature, talent, aptitude, capabilities and abilities of the individual are most apparent during the creation;
- ensuring the integrity of high education through the whole process of acquisition, assimilation, processing and use of the necessary scientific information;
- implementation of the continuity of professional training concept based on the fundamental scientific knowledge, its renewal and enrichment due to the modern scientific knowledge and active involvement in the process of creating of perspective and new scientific information;
- improvement of the quality of educational information through new ideas, concepts, teaching experience;
- determination of the prospects of higher education. On the condition of connection of pedagogy with the modern human nature and especially philosophy, psychology, sociology, anthropology.

It should be noted that in the Soviet era the research work of high school's teachers was basically cut off from their teaching. Universities were primarily educational institutions, and most of the studies were performed in various research institutes, project institutes and design bureaus. Although science classes at universities were encouraged, many of those teachers who were actively engaged in research, were working at least at two jobs simultaneously. Teaching was implemented at universities and research – at the research institute or on commercial contracts.

In today's Ukraine universities without science as well as university's lecturer, who is not involved in research activities - are nonsense. Science work of teachers today is considered as an investment into human and intellectual capital, the return of which can be implemented in other areas, including teaching.

The majority of teachers see research today as necessary for qualitative teaching and it promotes the growth of their prestige and the prestige of university as a whole. Favorable scientific environment established in universities has a positive impact on the propensity of teachers and students to be engaged in research activities.

The special position of science in the economic system of society is connected with the fact that scientific achievements are the power that will never wear out. Science produces a product that fundamentally does not become obsolete and turns out to be a catalyst for further innovation processes. In this regard, the research results are always current and always work for the future. Investments in science are multiply paid off by scientific achievements that are being implemented in economic life.

Science nurtures the education system with new knowledge - with educational technology, as well as subject knowledge, that is the part of the content of learning. We know that the best teachers in higher education are usually those who, in addition to teaching, are productively engaged in research activities and therefore have fresh knowledge and creative settings.

The role of universities in the generation, use and dissemination of knowledge has increased in recent decades around the world. The model of global research university has gained wide duplication, within which universities become active players not only in the production of new knowledge, but also in its distribution and use through innovative activities.

Significant strengthening of research and innovative components led to the fact that research universities have achieved the greatest success and have shown high efficiency in solving such important problems as

- generation of new knowledge and the formation of innovative intellectual environment;
- implementation of developments on the pre-commercial stage where commercialization has primarily probabilistic and delayed nature;
- forecasting of science and technology development and research of technology markets;
- attracting young researchers to modern innovative topics;
- organization of implementing zones and the creation of innovative enterprises;
- advisory services and consulting support for a wide range of organizations and companies.

Thus, current research and innovative activities at universities are not only the possibility to attract the additional extra-budgetary funds, but are the most important tasks of independent high school, as well as a necessary component of quality of the educational process.

The development of research and innovative components requires changes in the activity of the majority of Ukrainian universities. These changes concern both the organization of research at universities, and the content and methods of the educational process. Previously serious research and development have been the prerogative of a narrow group of talented scientists from a number of professors and some graduate students, but now they have become a real part of work of all teachers.

The development of research and innovation in universities cannot be the result of administrative pressure. First of all, we should focus on the formation of a system of incentives for this activity. The task of managers of higher education is to see these incentives and to exploit new opportunities. The peculiarity of the moment is that the developed countries of the West are experiencing this transition over the past 40-50 years. Ukraine and Russia are experiencing the effects of the factors of the information society relatively recently and only to the extent

that our economy is integrated with the world economy. For this reason we feel only the effect of basic features of development, the main and inter-related with them are two:

- priority of intellectual capital;
- priority of the innovative growth of economy.

S. Berger notes that the new factors in the development of the theory and practice of research activities of university's teachers are information processes, information environment, information interaction of different scientific schools and the scientific community at the global and regional levels that are developing by the theory of international pedagogical science in a multicultural space [1]. In this context, the review of system of views on research and development of teachers from pedagogical universities acquires the relevance.

Modern education at university aims to focus research activities on the development of a new type of person - a human researcher, creative personality, able to transform the world and himself in it. Science becomes a mean of

understanding the reality and self-knowledge. Therefore the identity of a person who studies the science, is its integral part, and the active search of a "new face" of the modern university of innovative type develops the problem of teaching staff.

So the integral part of the function of university education is research and development activities of its faculty, which by its nature are individual and collective interaction of scientists aimed to enrich and develop culture through accurate, objective and systematic knowledge of the world, the man and his work. It is the scientific and research activities of university's professors that largely provide economic development, define social progress and the intellectual potential of society, enriching the culture. The research activities of university teachers are one of the social forms through which the functions of science in modern society are supported and implemented and, in particular, and in providing the education system with the content and new technologies.

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Функции научно-исследовательской деятельности преподавателей педагогических высших учебных заведений

Аннотация. В статье рассматривается роль науки в обеспечении перехода к эффективной экономике. Определена роль научно-исследовательской деятельности преподавателей университета как одной из социальных форм, благодаря которым поддерживаются и реализуются функции науки в современном обществе и, в частности, в обеспечении содержанием и новыми технологиями системы образования.

Ключевые слова: научно-исследовательская деятельность, преподаватели ВУЗов, функции научной деятельности.