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METHODS OF STIMULATING SCIENTIFIC ACTIVITY IN THE UNIVERSITIES OF GEORGIA

Annotation. *In the universities of Georgia, the emphasis in stimulating scientific activity is placed on the academic staff. Special measures are being developed to activate scientific activity, which are designed to motivate teachers not only to improve their scientific level themselves, but also to include students in this process and develop their scientific research skills.*

Key words: *research activity, scientific productivity, measures of academician stuff scientific activities.*

Анотація. *В університетах Грузії акцент у стимулюванні наукової діяльності робиться на професорсько-викладацький склад. Для активізації наукової діяльності розробляються спеціальні заходи, які покликані спонукати викладачів не лише самостійно підвищувати свій науковий рівень, а й залучати до цього процесу студентів, розвивати їх науково-дослідницькі здібності.*

Ключові слова: *науково-дослідна діяльність, наукова продуктивність, заходи наукової діяльності викладачів.*

Introduction. The main tasks of the universities of Georgia in the field of scientific activity are the implementation of fundamental and applied scientific research, the use of the latest scientific achievements and technologies in education, the development of science-intensive projects for the development of the economy,

the improvement of the level of professional training of students, the training of highly qualified scientific and pedagogical workers.

To achieve these goals, universities provide links between scientific research and the educational process, support and stimulate fundamental, applied research, as well as research and development work in priority areas for the development of science and technology in Georgia.

The universities of Georgia cooperate with scientific organizations, academies of sciences in areas that ensure the accelerated socio-economic development of the country. Particular attention is paid to the development of international scientific cooperation.

The aim of the article is to reveal methods of stimulating scientific activity in universities of Georgia.

Research results. In the field of scientific activity of the university:

• Annually develop promising areas of scientific research, as well as thematic plans for scientific work;

• Ensure the implementation of research plans, the necessary theoretical level, quality and practical orientation of the research;

• Take an active part in competitions for local and foreign grants;

• Create temporary creative teams consisting of academic staff, students, graduate students, etc.;

• Ensure the integration of scientific and educational activities;

• Fulfill orders for research and development for legal entities and individuals;

• Disseminate the latest achievements of science, publish scientific, educational, methodological and reference literature and issue scientific periodicals, including those containing the results of the scientific activities of the university;

• Maintain and develop their research, information and computing and material and technical base.

In the field of scientific activity, the universities of Georgia set the following tasks:

• Acquisition of new knowledge, formation and development of scientific schools and leading research teams in the most important areas of science and technology;

• Creation of a leading scientific reserve in the main areas of scientific activity of the university;

• Ensuring the unity of educational and scientific processes and the training of qualified specialists and highly qualified scientific and pedagogical personnel based on the latest achievements of scientific and technological progress;

• Preservation and strengthening of the basic, defining nature of science for the development of higher education;

• Creation of science-intensive products and competitive models of new equipment and materials oriented to the high-tech market;

• Development of innovative activities of the university;

• Creation of conditions for the protection of the intellectual property of the university and the rights of authors as the basis for strengthening and developing university science and the entry of university research teams into the world market of knowledge and technologies;

• Expansion of international scientific and technical cooperation with educational institutions and firms of foreign countries in order to enter the world system of science and education and joint development of scientific and technical products;

• Creation of a qualitatively new experimental and production base of the university;

• Development of the financial basis for research and development through innovation.

The faculty, researchers, managers and other employees of the universities, as well as employees of enterprises, institutions and organizations, regardless of their form of ownership, are involved in the performance of scientific work on the terms of an intra-university part-time job in accordance with the current legislation.

One of the determining factors in the competitiveness of higher educational institutions is the intensification of research activities of both scientific and pedagogical workers and students.

The level of development and organization of scientific activity at the university largely determines the degree of integration of science and the real sector of the economy, the forms of this interaction, affects the competence characteristics and, ultimately, the level of demand for university graduates.

At the same time, the emphasis in the education of students is transferred from the consumption of knowledge to the formation of an independent initiative type of thinking, the development of the creative scientific potential of the future graduate. This is due to the fact that in the process of independent scientific work, the student, to a much greater extent than in the learning process, is faced with various aspects of reality, tries to identify scientific problems, determine ways to solve them and directions for the development of the studied socio-economic systems. It can be argued that the research activity of students (SRI) activates other extracurricular forms of activity, expands the range of different types of independent work of the student.

Science based education is essential for everyone today [2]. The research activity of students is a mandatory, integral part of the training of specialists at the university [5]. Moreover, some students have an early sense of closeness and / or participation in research activities, while for others, research remains a distant phenomenon in their student years [3]. It can be argued that the research work of students is not only the goal of higher education, but also a means of intellectual, emotional and practical development. It is clear that the development of student research activity presents challenges for university staff, but on the other hand, it may lead to the search for new ways for staff and students to work together [1].

The research activity of students is an integral part of the education and training of qualified specialists who are able to independently solve professional, scientific and technical problems. Research activity contributes to the formation of the readiness of future specialists for the creative implementation of the knowledge,

skills and abilities acquired at the university, helps to master the methodology of scientific research, to gain research experience.

The purpose of organizing the research activities of students in the universities of Georgia is to develop and maintain a stable motivation among young people to carry out research activities, to reveal the intellectual potential of the student's personality, to form the abilities and skills of conducting specialized or interdisciplinary scientific research. The main tasks of stimulating the research activities of students are as follows:

1. Informing students and their leaders about scientific events held at universities, stimulating student activity in the field of research activities, increasing the mass character and effectiveness of student participation in scientific events.

2. Ensuring the process of planning, organizing and conducting a system of multi-level (interuniversity, international) scientific events for students on the basis of universities.

3. Monitoring, identifying talented young people with scientific abilities, and forming a reserve of research leaders from among students.

4. Creation of conditions for the formation of a methodological culture among students of organizing and conducting scientific research, the active involvement of students in the process of implementing internal and external grants by university staff.

5. Stimulation of the process of putting into practice the results of research activities and their commercialization.

The main goal of organizing and developing students' research activities is to increase the level of scientific training of specialists with higher professional education and to identify talented young people for subsequent postgraduate studies and replenishment of the scientific and pedagogical staff of the university.

The main areas of research students are:

- Identifying the most gifted students with a pronounced motivation for scientific activity;
- Creation of favorable conditions for the development and implementation of

various forms of scientific creativity of young people, based on domestic and foreign experience and the results of scientific and methodological developments;

- Assistance to the comprehensive development of the student's personality, formation, acquisition of skills for independent work and work in creative teams, mastering the methodology of scientific research;
- Ensuring the participation of students in conducting applied, fundamental, exploratory, methodological and pedagogical scientific research in priority areas in various fields of science and technology;
- Integration of scientific and practical potentials of teachers and students, aimed at solving scientific and practical problems in various branches of science;
- Holding events of various levels for young researchers on the basis of the university.

The university implements various forms of research activities in the educational process, carried out in accordance with curricula and programs, provides for:

- Performance of assignments, laboratory work, course and diploma projects (works) containing elements of scientific research;
- Performance of specific tasks of a research nature during the period of training and production practices;
- Study of the theoretical foundations of methodology, formulation, organization and implementation of scientific research, planning and organization of a scientific experiment, processing of scientific data.
- Research activities of students are organized in the form of:
- Work in scientific and educational laboratories, scientific and problematic and research groups;
- Performing individual scientific research under the guidance of a specific supervisor;
- Participation in student scientific organizational-mass and competitive events of various levels: scientific seminars, conferences, competitions of works, olympiads in disciplines and directions;

•Organizing special courses, programs, conducting classes with groups of students with a strong motivation for scientific activity.

Universities of Georgia predominantly incentivize and support applied interdisciplinary, multidisciplinary and cross-disciplinary research that shall meaningfully contribute to national and international needs and challenges. Research is expected to make a significant impact in a variety of contexts, including public policy, social, economic, cultural and environmental outcomes, in addition to commercial exploitation transformed into consultancy services for public and private sector entities in Georgia and abroad.

There are Key Performance Indicators (KPI), which show main goals of research process supporting [4]:

Research KPI 1 – Funding of research – increase research budget.

Research KPI 2 – Quantity of research publications.

Research KPI 3 – Quality of research publications - publications in international journals with impact factor.

Research KPI 4 – Internationalization of research – joint project proposals.

Research KPI 5 – Internationalization of research – research mobility.

Research KPI 6 - Cooperation with foreign research institutions.

Supporting Activities are:

Research Support Activity 1 – Organization of scientific conferences.

Research Support Activity 2 – Research and innovation competition.

Research Support Activity 3 – Commercialization of research.

Universities established the institutional research funds. The goal of such funds is to improve research funding mechanisms, stimulate and support the development of innovative projects, and assist SEU staff and students in the preparation and management of research activities and projects. As usual, they funds preparatory grants for research development and grants in support of scientific research activities.

Preparatory grants for research and/or research development:

- Initiating scientific-research and innovative projects, and preparing the proposals; developing and formulating new ideas, drawing up innovative proposals and concept development.
- Initiating pilot scientific-research projects, intended to successfully seek external research grants in the future.
- Planning and development of collaborative scientific projects with industry experts from both public and private sectors, as well as the creative industries.
- Grants supporting scientific research activities:
- Scientific development activities, including short-term scientific visits to other universities or research institutes both in Georgia or abroad. In addition, engagement in joint projects with partner higher educational and research institutes, and enjoying the so-called industrial fellowships.
- Dissemination of research results, financing/co-financing of journals and monographs as well as trainings for developing research skills, intended to increase the capabilities of the researchers.
- Attending scientific events, holding trainings and seminars aimed at improving skills in preparing successful project applications, managing grants and reporting.
- Preparation of intellectual property results, their prospective patenting and commercialization.
- Dissemination of research results through active participation in both national and international scientific conferences.

Georgian universities pay special attention to the scientific productivity of academic staff. Based on academic freedom, the goal is to facilitate the development of the scientific-creative potential of the academic staff, mainly directed to the applied but also fundamental research as well, which will be focused on expanding existing knowledge and creating new ones. For those purposes there are some measures of academician stuff scientific activities. For example, SEU (Georgian National University) [4] evaluates research activities annually with a 100-point evaluation system:

A – Excellent (90-100)

B - Good (71-90)

C - Sufficient (51-70)

D - Satisfactory (31-50)

There are three gradation of minimal activities:

- minimum 30 points for professors;
- minimum 20 points for associated-professors;
- minimum 10 points for assistant-professors.

It means, that if a professor has earned more than 31 points during the year-in-review, or an associate professor has earned more than 21 points, and an assistant professor has earned more than 11 points, performed in excess.

If a professor has earned 31 to 45 points during the yea-in-review, or an associate professor has scored 20 to 29 points, and an assistant professor has scored 10 to 15 points, it means performed.

If a professor has earned up to 29 points, or an associate professor has earned up to 19 points, or an assistant professor has earned up to 9 points, it means not performed.

The scientific productivity of academic staff is assessed by the following four criteria:

- Publishing scientific publications;
- Obtaining a scientific grant / participating in a project;
- Participation in scientific activities;
- Sharing scientific knowledge;
- Other activities that include elements of research.

The distribution of points by type of scientific activity is shown in Table 1[4].

Conclusions. It should be noted that Georgian universities are very reluctant to cooperate with those academic staff who do not score the minimum number of points on the basis of scientific activity during the year. The threat of breaking the contract with the university is a significant incentive for the teaching staff to systematically improve their scientific level and correspond to modern scientific realities.

Table 1

SEU Scientific Productivity Evaluation System only for affiliated academic staff

(Peer-reviewed) scientific monograph published abroad with ISSN or ISBN code.	40
Georgian medium (peer-reviewed) monograph	30
Monograph published in Georgia with ISSN or ISBN code.	25
Article in Clarivate Analytics (formerly Thomson Reuters Web of Science) with Impact Factor or a foreign international peer-reviewed journal (Scopus) with citation score	40
Article in international peer-reviewed journals listed in internationally recognized Scopus, Ulrich's Index, ERIH PLUS, EBSCOHost, Latindex Catalog Or Journal is indexed in OAJI - Open Academic Journals Index and Advanced Sciences Index and has been assigned a DOI (Digital Object Identifier)	25
Invention/Patent registered with international patent organizations.	40
Invention/Patent registered with national patent organizations.	35
Article in a scientific journal published by Georgian National University SEU and in other local peer-reviewed scientific journals (according to the list of scientific journals established by the SEU).	10
Field publication/research results/practice review, etc. (with ISSN or ISBN code) published on behalf of Georgian National University SEU	20
Article in the international (peer-reviewed) collection of articles	15
Article in the local (peer-reviewed) collection of articles	10
Article in the proceedings of the international conference	15
Article in the proceedings of the local conference	10
Scientific editing of international conference proceedings	5
Scientific editing of local conference proceedings	2
Providing peer-review for an article in an international journal	2
Scientific editing of a scientific collection published in Georgia	10
Scientific editing of a scientific collection published abroad	15
Leading a research grant/creative project at a national level	10
Leading a research grant/creative project at an international level	10
Involvement in a research grant/creative project at a national level	5
Involvement in a research grant/creative project at an international level	5
Delivering a report at an international science seminar/symposium/conference/congress.	4
Delivering a report at a local science seminar / symposium / conference / congress.	3
Membership in the editorial board of an international peer-reviewed journal	5
Membership in the editorial board of a local peer-reviewed journal	3
Leading a university research unit (institute, center)	10
Reference book / auxiliary reference book / methodology reference book	15
Translation of a scientific paper, or scientific editing of a translation	5
Expert activities	5
Citation index (if you have information)	
H Index (if you have information)	
Experience of Supervision of doctoral thesis	Quantity
Supervision of bachelor's and/or master's thesis	Quantity
Review of bachelor's and/or master's thesis	Quantity
Supervision of a practitioner	Quantity
Supervision of a student's scientific/conference paper	Quantity
Student's research / conference paper review	Quantity
Participation in SEU funded/co-funded projects	Quantity

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