

## Scientific school “Development of methodological culture of a young scientist”

Szkoła naukowa „Rozwój kultury metodologicznej młodego naukowca”

**Key words:** scientific school, development, methodological culture, graduate student, scientist.

**Słowa kluczowe:** szkoła naukowa, rozwój, kultura metodologiczna, absolwent, naukowiec.

**Streszczenie.** Przedstawiono wyniki eksperymentu pedagogicznego fakultatywnego kursu „Rozwój metodologicznej kultury młodego naukowca” na Ukrainie. Ideą eksperymentu jest międzypokoleniowe przekazywanie kultury metodologicznej ze starszego i doświadczonego pokolenia badaczy na kolejne pokolenia. W celu rozwijania i podniesienia jakości metodologicznej kultury i warsztatu młodych badaczy proponuje się wybór przedmiotu fakultatywnego składającego się z czterech modułów, m.in. opanowania metod badawczych i organizacji badań własnych; aplikacji wyników badań naukowych do praktyki; wiedzy nt. różnych form komunikacji w badaniach naukowych.

As a basis of the peculiarities of the system of preparation of scientists is selected a promising direction to improve it. The universal foundation is a methodological culture of the researcher. The scientific leaders provide a qualitative translation of methodological culture from one generation of researchers to another generation. For this reason, there is always a scientific task, which is standing in front of the supervisor and the scientific community – providing high-quality translation of the methodological culture to their students. This study is providing in accordance with the approved themes of dissertation researches. The purpose of this scientific report is to test the experimental research results of scientific school „Development of methodological culture of the young scientist”. For the development of the methodological culture of the researchers it is proposed in the work to use an elective.

This allows to improve the pedagogical system of the development of methodological culture of the young scientist. Based on the uniqueness of electives in the dissertation research we have developed and tested numerous times curriculum elective course of the scientific school „Development of methodological culture of the young scientist”. The scientific director will provide high-quality broadcast of methodological culture to young scientists introducing this optional course in his practice. It is currently completing the scientific-educational experiment for checking the efficiency of development of methodological culture of the graduate students based on the quality of scientific and pedagogic support of graduate students.

**I. Preamble. Statement of the researching problem.** After we had explored the peculiarities of the national systems of the training of scientists, we chose a promising direction for improving it – to improve the quality of fundamental preparation of scientists [6]. Methodological culture of the researcher acts as a universal foundation. The academic supervisors provide qualitative translation of methodological culture from one generation of researchers to another generation. That is why there is a scientific task for scientific directors and scientific society – providing high-quality translation of methodological culture to their students – future scientists. This study is conducted in accordance with the approved themes of dissertation researches [8].

The aim of this scientific report is to appraise the experimental research results of scientific school „Development of methodological culture of the young scientist”.

**II. The main part. The result of the study.** The task of the study implies that a modern scientific school has grown into a multidisciplinary team [7]. The supervisor is responsible not only for the methodological assistance to graduate students, but he is also responsible for the main task – ensuring broadcast of methodological culture. As the practice shows, the highest efficiency has been achieved by running in the scientific school permanent seminar. The approach to organizing of such a seminar was been approved on the platform of the standing seminar of the Department. The entire pedagogical technology was made up as a result [5]. The practical training of graduate students is provided by educational technology of organizations, by scientific-methodical seminar of the Department.

The curriculum is no less important element by assurance of grafting of methodological culture of researchers during educational process. We have proposed for this the minimum required list of academic disciplines [2]. Certainly, the researchers will not perceive all the subtleties of methodological culture through the study of academic disciplines. The scientific supervisor plays a major role in this process. L.N. Tolstoy said successfully for this reasons: „The educational element is situated in science teaching, in love of teacher for its science and its transmission. It is situated in the relation of teacher to student. If you want to educate a student by science, then like your science and have knowledge in it, then your students will love you and your science and you will bring up them; but if you don't like it, then the science will not have an educational influence no matter how much you are forcing them to learn” [9, p. 64].

The existence of the scientific school forms its own academic tradition, according to A.S. Makarenko's theory of the organization of personnel. Let's note, that one of the components of methodological culture of the researcher there is a tradition about which many researchers are concealed. Inurement of the traditions of the applicants lays on the supervisors. In addition, by guiding document there is not still defined no one training component, which lies with the supervisor. The conservatism of the educational system for the training of young scientists is forcing supervisors to search for new forms of learning, for educational technology and teaching techniques. The elective gained popularity in practice. The uniqueness of its use as the approach of improvement of educational system for the development of methodological culture of the young scientist is that it does not oblige all supervisors to conduct studies on the one hand, and on the other hand it simplifies the implementation of best scientific, pedagogical and life experience in the practice of scientific research. We have developed and tested numerous times curriculum elective course of the scientific school „Development of methodological culture of a young scientist”, which is based on the uniqueness of the elective in our dissertation research [1]. Scientific supervisor provides a quality stream of methodological culture to young scientists after he has implemented this elective course in practice. Note that an additional teaching load is emerging by the supervisor. Dishonest managers may refuse the implementation of this elective trying to get rid of excessive teaching load. Then they don't have a single way to improve their rate of translation of methodological culture to their students.

Curriculum of the scientific school „Development of methodological culture of the graduate students” provides that:

- familiarization of graduate students with the most important issues of theoretical principles of organization of scientific research;
- training of graduate students for conducting dissertation research;
- acquisition of knowledge of scientific research methodology;
- creation of culture of methodological and methodical reflection with regard to the scientific activities of her subject.

Consideration of the optional course „the Development of methodological culture of young scientists” is aimed at a fuller understanding of graduate students the methodological foundations of scientific activity.

The objective of the curriculum is:

- creation of positive conditions for the formation of the methodological culture by graduates;
- the experience of self-organization of individual research work;
- to require supervisors to provide proper scientific and methodological assistance to graduate students;
- training by the graduate students a sense of responsibility and the need for accumulation and extraction of new knowledge to fulfil the scientific needs of both personal and society;
- arrangement of the educational activities of graduate students;
- consolidation of the methodological competence of graduate students and the subsequent development of culture.

**Program description.** Curriculum elective course „Development of methodological culture of young scientists” provides a wide range of topics, which are combined with four modules. The graduates have a possibility to flexible mobility choice of training sessions. The credit module includes lectures, practical (seminar) classes, trainings, individual and independent work of graduate students.

The prevailing lectures are conducted during routine classroom instruction. During optional studies considerable attention is paid to motivational aspects, self-employment, the implementation of individual tasks in the field of research and in-depth scientific practice under the methodological control of the supervisor. We note, that the time reserved by position „About the preparation of scientific-pedagogical and scientific personnel” is insufficient for supervision of postgraduate students. This is the failure of the educational aspect of the methodological culture of the graduate students.

The main task of the theoretical part of the program is to familiarize young scientists with modern concepts of scientific creativity, with the basics of methodology of scientific knowledge and with methodology of scientific research.

The practical part of the programme is a methodological reflection on the results of the research activities. The main tasks of the practical part are development of self-education ability by graduate students, assimilation of culture definition of conscious methodological positions of research.

Separate work of graduate students consists of assignments of credit module; of distinct study of selected topics under the guidance of the supervisor; of preparation of scientific presentations, theses, articles, dissertations, their content previously is discussing during scientific-methodical seminar.

A list of modules, content modules and topics of the course are presented in table 1.

**Table 1. A list of modules, content modules and the elective**

№ of module, of content module, topics	The contents of the module
Module №1	„Preparatory phase”
Content module №1	„Pre-motivational module”
	Theme №1
	Theme №2
	Theme №3
	Theme №4
Content module №2	„Legal bases of activity of a graduate student”
	Theme №1
	Theme №2
	Theme №3
	Theme №4
	Theme №5
Module №2	„The design phase”
Content module №3	„Conceptual stage”
	Theme №1

	Theme №2	The problem formulation
	Theme №3	The definition of the objectives of the study
	Theme №4	The object definition of the research subject
	Theme №5	The definition of the objectives of the study
	Theme №6	Selection of criteria of validity studies
Content module №4		„Stage of modelling”
	Theme №1	Stage (simulation) build hypotheses
	Theme №2	Clarification (specification) of the hypothesis. The construction of particular hypotheses
Content module №5		„Stage design research”
	Theme №1	The structural composition of the thesis
	Theme №2	Aggregation
	Theme №3	The study of the conditions (resource capacity)
Content module №6		„Stage building a research program”
	Theme №1	Building a research program
Content module №7		„Process of preparation”
	Theme №1	A description of the stage of technological preparation of dissertation research
	Theme №2	Abstract of the dissertation. The technique of writing a working abstract – concept studies
Module №2		„Technological phase”
Content module №8		„Stage of research”
	Theme №1	A description of the progress of the dissertation research
	Theme №2	The theoretical phase of the study
	Theme №3	Analysis and systematization of literature sources
	Theme №4	The study of methods of information-analytical activity (M6)
	Theme №5	Treatment of the conceptual apparatus
	Theme №6	The construction of the logical structure of the theoretical part of the study
	Theme №7	The empirical phase of the study
Content module №9		„Stage processing of the results of the study”
	Theme №1	The results of the study in thesis, dissertation
Content module №10		„Approbation of results of research”
	Theme №1	Approbation of research results at scientific events
	Theme №2	Study methods of scientific and educational activities (M5)
	Theme №3	The study of educational technology (ET 5.1) – editorial and publishing
	Theme №4	The study of educational technology (ET 5.2) is a scientific-methodical seminar
	Theme №5	The study of educational technology (ET 4.9) – communication skills
	Theme №6	The study of educational technology (ET 4.8) – mutual learning
Content module №11		„Publication of research results in scientific journals”
	Theme №1	A study of the need and manner of publication of research results in scientific journals
Content module №12		Implementation of research results into practice
	Theme №1	The need for and modalities of implementation of research results in research papers

	Theme №2	Study the order of integration of research results into practice of educational institutions
	Theme №3	Study methods of scientific and technical activities (M7)
Module №4		Reflective phase
Content module №13		„Reflective phase”
	Theme №1	Reflective phase
Content module №14		„Reflection of own experience”
	Theme №1	The role of reflection in the formation of the methodological culture of the graduate student

**Discussion of the results of the research.** It is currently completing an educational experiment for checking the efficiency of development of methodological culture of the graduate students, and this experiment is based on the quality of scientific and pedagogic support of graduate students [4].

The postgraduate students must have their by universal research formed competence as a result of adopting the optional program:

- knowledge of different forms of scientific communication;
- mastering the methods of organization of research activities;
- the ability to translate scientific knowledge into practical activities;
- the acquisition of methodological culture.

As the thematic content testifies, it is consistent with the methodology of the dissertation research. These stages correspond to the methodology and development of methodological culture of researchers [3].

A dominant requirement for the efficient development of methodological culture of the graduate students is the establishment by the scientific Director positive motivation for a graduate student.

**III. The final part. Conclusions.** In general, the introduction of organizational pedagogical support and elective courses of the scientific school „Development of methodological culture of the young scientist” will broadcast the methodological culture of the graduate student. Optional course provides a broad integration and understanding of the linkages from the foundation of future creative activities of graduate students, this course is based on the philosophical Foundation of aesthetics and ethics, psychology and pedagogy, history.

As a result of the elective course, the graduate student has:

- motivated notion about the organization of the educational process in graduate school;
- understanding of the structure and of content of the dissertation.
- understanding of the methodology of scientific research.

**Element of scientific novelty.** There is proposed necessity of creating in each academic school an academic elective course „Development of methodological culture of young scientists.” Expected effect: transmission the methodological culture of the supervisor to the graduate student will be improved; the graduate students will have increased indicator of readiness to perform professionally job functions and to accomplish tasks, which are combined with organization of professional activities.

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