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INTEGRATIVE APPROACH TO PROVIDING CONSISTENCY OF EDUCATIONAL METHODS IN THE PROCESS OF TRAINING FUTURE DOCTORS OF PHILOSOPHY IN EDUCATIONAL SCIENCES

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The article is dedicated to the problem of using an integrative approach to providing consistency of educational methods in the process of training future doctors of philosophy in educational sciences. The aim of the study is to justify the expediency of applying the integrative approach to methods of teaching postgraduate students to ensure these methods consistency during all the stages of studying. The authors have defined the following objectives: to analyze the process of domestic postgraduate education; to identify the problems of educational process organization; to formulate the conceptual principles of integrative approach for providing consistency of educational methods; to show the possibilities of transformation of conventional educational methods and methods of obtaining knowledge into methods of learning. It is substantiated that teaching methods in the system of higher education should be based on the principles ensuring integration of teachers, students, and postgraduates in educational and research activities. We have developed conceptual fundamentals of integrative approach towards providing consistency of educational methods in conditions of continuing education, including PhD studies. We have provided particular examples of using classical classifications and demonstrated ways of their practical implementation in PhD courses.

Key words: *integrative approach, scientific knowledge, learning method, method of obtaining knowledge, consistency of methods, doctor of philosophy, educational sciences.*

Introduction

The issue of essence and organization of the educational process in the context of postgraduate studies has appeared on the current stage as a result of existence of a number of inconsistencies that have accumulated during recent decades, in particular, between: opportunities of educational research process in state institutions of higher education and insufficient level of their implementation in academic activities; significant isolation of educational processes, research activities and training of PhD and doctoral students; the necessity of having permanent educational process for future doctors of philosophy and insufficient development of its organizational methods etc. These inconsistencies show the need for theoretical and practical research on the

issue of the educational methods to be used in training postgraduate students as well as these methods' consistency and integration at all the stages of training: from the first year of study to Master's and PhD courses.

If we compare the real educational process of postgraduate studies in the 50's and 60's of the XXth century and at the beginning of the XXIst century, it will become obvious that this process has been more and more formalized, it has turned into postgraduate students working with their research advisers, the work sometimes being quite fragmentary, and often being limited just to postgraduate students' reports and to taking PhD examinations. Practical deficiency, with too few exceptions, of the organised educational process in the context of postgraduate studies has caused a decrease

in the quality of research and weakening of scientific and educational opportunities of the future doctors of philosophy.

Renovation of the adequate educational process in the context of postgraduate studies is established in government documents, such as the Law of Ukraine (01.07.XX14, No. 1556–VII) “On Higher Education”, “Procedure of preparation of postgraduate students, obtaining Doctor of Philosophy degree and Doctor of Science degree in higher education institutions”, approved by Cabinet of Ministers of Ukraine (No. 261 of 23.03.2016) and others.

One of the important tasks is to analyze the nature of the methods of obtaining educational knowledge (educational methods), methods of obtaining scientific knowledge and their interaction at various stages of continuous education.

Nowadays, a drastic shift from teaching and education process towards research and education process is taking place in training specialists. Teaching methods in the system of higher education are to be based on the principles of providing unity of training and research activities of teachers, postgraduates and students as the fundamental condition of mastering the scientific method, on the one hand, and the development of teachers’ educational competence, on the other hand.

Postgraduate students’ research work is the continuation of their students’ research work, which “is done by students not only in the process of writing course works or diploma theses but also while participating in the work of students’ scientific societies. Students participate in carrying out research in fundamental and applied sciences, in competitions for the best students’ innovative works, develop innovative multimedia technologies and so on” (Deliya, 2008, p. 33). Thus, scientific research activities of higher education institutions imply collaboration of scientific supervisors and postgraduate students as an important condition of their functioning and development.

The analysis of legislation on scientific activities and scientific policy of the state allows us to say that “integration of science and education was treated, first of all, as an interdisciplinary, i.e. interdepartmental integration, which was aimed at overcoming administrative barriers during organizational and structural separation of science and education. Formal separation of science and education, manifested in their institutional, organizational and management, legislative and financial services, has caused a significant damage to scientific authority of higher school” (Kozlovskiy, 2014, p. 72).

The profile of educational and scientific program of training the Doctor of Philosophy in the field of education in specialization 011 Educational Sciences (specialization: general pedagogy and history of pedagogy) implies profound theoretical and practical

training for performing scientific and pedagogic activities as well as scientific consultancy in the field of education, development of scientific research skills for carrying out independent scientific research, professional training and scientific research in the field of education.

The aim of the study

The aim of the study is to justify the expediency of applying the integrative approach to methods of teaching postgraduate students to ensure these methods consistency during all the stages of studying. The authors have defined the following objectives: to analyze the process of obtaining domestic postgraduate education; to identify the problems of educational process organization for postgraduate students; to define the role of educational methods and methods of obtaining knowledge in the postgraduate education system; to formulate the conceptual principles of integrative approach for providing consistency of educational methods in the context of continuing education; to show the possibilities of transformation of conventional educational methods and methods of obtaining knowledge into methods of learning in the context of postgraduate studies; to analyze particular examples of using conventional classifications and the ways of their practical realization in the context of postgraduate education.

Theoretical framework and research methods

In the psychological and pedagogical literature the following issues have been investigated: choice and combination of educational methods (S. Honcharenko, A. Aleksyuk, M. Danilov, I. Lerner, V. Okon, V. Palamarchuk, A. Khutorskiy); integrative approach towards the application of educational methods (I. Kozlovskaya, L. Lomako, O. Prokaza, O. Syergeyev); unity of education and science (I. Diozhyna, H. Usanov); integrative principles of research activities in the learning process (O. Kubasov, V. Liaudis, V. Proshkin, D. Chernilevskiy and others). Foreign scientists also dealt with the related issues (B. Bhasin, S. Billett, R. Rogers, J. Wallace, L. Shuman, M. Blackett, B. Clark, W. Dennis, E. Garfield, R. Merton, M. Moravcsik, M. Ossovski, W. Shockley, R. Quinn, and others). Though these research works are of unconditional importance, the research into the issue of educational methods integration in the context of their consistency at higher levels of education, in particular, at the level of postgraduate study in professional education is insufficient, though it has significant pedagogical potential.

Results

In 1810 during the creation of the university in Berlin, Wilhelm Von Humboldt introduced a new doctrine

by proclaiming the principle of unity of research and learning. He also suggested that the source of higher education institutions development be the development of sciences and research that implies particular relations between a teacher and a student. This innovation, that later was called “a classical university model”, became the main criterion according to which all the further evolution of European and American universities was considered (Ladyzhec, 2004, p. 65). German universities of the XIXth century encouraged the creation of a unique atmosphere of demand for intellect, they used the educational methods that provided students with an opportunity of becoming really educated people by taking part (together with their superiors) in research activities to the extent they were interested in obtaining new knowledge. The idea of education was implemented through real needs, the idea of freedom in learning and research became the source of specialization, “continuous process of demand” for knowledge caused the appearance of an academic research group. American higher education is a vivid example of close correlation between research, teaching, and learning.

According to modern requirements, the approaches to teaching and training of postgraduate students involve: scientific supervision of the postgraduate students’ work, consultancy of academic staff, scientific methodology studies based on different interactive educational courses, problem-oriented style of teaching, such forms of work as lectures, seminars, tutorials, self-study, project work, individual counseling. Teaching methods used include dialogical, heuristic, research and programmable ones.

In a philosophical sense, “a method” means scientific theories tested by practice. While building other theories, any theory of such kind can actually play the function of a method in this particular or even in several knowledge areas. A method is also frequently considered as a complex of techniques of practical or theoretical perception of reality that contribute to solution of a particular problem in the domain of education, some specific complex of intellectual actions, logical procedures, with the help of which the given science wants to find the truth, to verify or disprove it.

“A method of research is a standard model of activities (in pedagogy they are pedagogical activities), directed towards the accomplishment of some scientific task and realized in a complex of techniques and procedures. The richer the range of the methods in this or that science is, the more successful the work of scientists in this field becomes. With the increasing complexity of scientific problems there increases the dependence of the obtained results on the degree of elaboration of research tools” (Honcharenko, 2008, p. 111).

A method is not only a complex of rules, procedures, and approaches but also a system of regulations, principles,

requirements that must be focused on the solution of a particular task, achievement of the result in any field of activity. The role of methods in the development of science is tremendous. They distinguish the following methods: observation (direct and indirect, complete and discrete, open and secret, longstanding and retrospective); surveying methods (a conversation – dialogue led in accordance with the developed program, questioning – contact, distance, media with questionnaires of open and mixed types and interview – giving topics for distinguishing points of view and assessment of events); pedagogical experiment as research testing of hypothesis; terminological methods of research (more appropriate for historical research); socio-metric methods; methods of testing.

General methods of scientific research are divided into theoretical, empirical and theoretical-empirical. Sometimes methods of universal and meta-theoretic levels are distinguished.

Educational methods are “a system of techniques and relevant rules of learning developed with consideration of didactic principles and consistencies, the purposeful use of which significantly increases the effectiveness of self-identity in various activities and communication in the process of solving a particular type of learning tasks” (Slastionin, Isayev & Shyianov, 2002, p. 270). It can be assumed that accumulation of the information related to educational methods (there are more than 50), nowadays makes a great scientific fund revealing their diversity.

Taking into consideration the fact that scientists have not decided on the universal understanding of the notion “method”, it is completely natural that there is no universal classification. A variety of approaches towards the classification of educational methods can be explained by the complexity of the object of study and the seriousness of tasks set to modern school by society. The earliest classification is the division of educational methods into the methods related to teacher’s work (narration, explanation, discussion) and the methods of students’ work (exercises, individual work). But even nowadays educational methods are divided into two groups according to the level of managing the educational work: learning activity under teacher’s supervision and students’ independent work.

The issue of educational methods classification in pedagogical literature is controversial in nature. This is indicated by the number of classifications with different approaches made by educators of different years. Since the middle of the XXth century, scientists-educators began to pay more attention to the problem of educational methods classification, considering the level of mastering knowledge and work methods by students.

There are some classifications by *one* basic feature: if the knowledge source is taken as the classification feature (N. Verzylin), there are distinguished visual, verbal and practical methods; if deductive goals are taken as a basis of classification (M. Danilov), the methods are grouped depending on the nature of educational tasks; if the level of students' independent activity is a classification feature (I. Lerner), the methods include research, heuristic, problematical, reproductive and informational-receptive methods; if the classification is based on the structure of learning activity (Yu. Babanskyi), they distinguish methods of stimulation and motivation of learning, organization, and realization of learning actions and operations, control and self-control.

Classification by *two* basic features has been performed by B. Raykov (he used the following features as the basis of classification: pattern of perception (visual, verbal and motor) and direction of the logical process (deductive and research) and E. Brunovt (she grouped the methods according to the kinds of teacher's and student's activity and the main direction of the educational activity pattern of the learners). H. Sarantsev used peculiarities of the logical path (inductive and deductive) and the level of educational activity of the learners (reproductive, heuristic and research) as the basis of classification.

V. Palamarchuk has performed her classification by *three* basic features – information source, logical path, and problematic level. S. Shapovalenko developed the *tetrahedral* model, which interconnects logical and semantic, source, procedural, operational and management aspects of educational methods. However, the classifications made on more than one basic feature are incorrect. If there are several basic features, the focus should be not on the classification of educational methods, but on the structure, that connects several classifications in the same framework. There are some other classifications of educational methods: by I. Pidlasyi, M. Levina, M. Makhmutova (teaching methods and learning methods), by A. Pinkevych (active and passive methods), K. Sosnytskyi, A. Sokhor (binary forms of logical methods: analytical-synthetic, analytical-inductive, synthetic-deductive) and others.

In our opinion, the notion of “educational method” already contains prerequisites of integration still at the level of definition, because it combines: action of one party: educational work of a teacher (teaching); action of another party: learning-comprehending activity of students (learning); interaction between the parties: the teacher and the student, their common activity: unity of external and internal aspects in the educational method; unity of objective and subjective aspects of the educational method.

The above mentioned allowed us to formulate a number of conceptual principles on the use of integrative approach to ensure the continuity of educational methods in terms of continuing education, including postgraduate studies:

1) the necessity to ensure organic connection of educational methods with the content of teaching methods and the objectives of study courses of general researcher training (transferable skills), language training courses and postgraduate courses of specialization;

2) combination of internal (structural components within one method) and external (combination of separate methods) integration of educational methods;

3) combination of the methods of teaching (teacher), learning (postgraduate student) and their focus on methods of scientific and educational activities (many educational methods and methods of scientific and educational activities coincide: the method of problem – the problem teaching method; the method of brainstorming and algorithms for solving engineering problems are used both in professional activities and during training etc.);

4) logical continuation of vertical methods integration according to the branches of education: general education school – higher school – postgraduate study;

5) efficiency of postgraduate study highly depends on the organic combination of teaching methods and methods of obtaining knowledge, as well as on the integration of research and learning activities, development and implementation of scientific and research products;

6) consideration of the educational method structure and the use of its components as the elements of integration and development of integration algorithms;

7) the development of the bank of methods to meet the needs of the practice.

Based on these conceptual statements we consider possibilities of transformation of conventional educational methods and methods of obtaining knowledge into educational methods in the context of postgraduate studies. As an example let us consider several particular classifications.

The most widespread classification is the classification of the methods by sources of obtaining knowledge. Verbal methods, where an oral or printed word represents a source of knowledge, include conversations, descriptions, narration, lectures and discussions as well as methods of using the information sources. It is the most accessible group of methods, and teachers very often confine themselves to using just these methods during lectures and seminars. In the context of postgraduate study, narration and description are less relevant but the role of discussions increases drastically. Conventional methods of working with literature sources remain the same as to their form for postgraduate

students (taking down notes, picking out some citations, reviewing literature), though the depth of search and thoroughness of analysis increase significantly. Visual methods (the source of knowledge is observation of objects, events etc.) imply the use of laboratory method, different variants, enriched with using technical didactic means etc. At first sight, those methods seem to be secondary in terms of postgraduate studies, but combined with the possibilities of modern information technologies they offer great opportunities in teaching. Practical methods are based on a particular practical activity and are successfully integrated with empiric methods of scientific research.

The classification by the level of involvement into creative activity is more relevant in terms of postgraduate study. Information-receptive method, when the teacher delivers ready information and students perceive and memorize it, is used quite rarely and mostly at the beginning of the learning process. Reproductive method, when students are working in accordance with a particular algorithm, is useful for mastering scientific conceptual apparatus of research, especially experimental. The method of presentation of the problem in training postgraduate students is significantly different from the same method used in secondary or even higher school, where the teacher poses the problem and shows the ways to solve it. Future Doctors of Philosophy themselves must at least identify areas of solution. Heuristic method (the teacher divides the problem into parts and students search for possible solutions) also differs from the conventional one – division of the problem into parts has to be made by the postgraduate student himself, and the teacher only assesses the result. Eventually, the research method where postgraduate students solve the problems completely independently is the final training method and it transfers the methods of educational knowledge into actual methods of scientific knowledge.

We offer a number of ways for implementing the above theoretical positions into practice: integration of the educational methods within particular classification; integration of methods on the basis of the dominant educational method; integration on the basis of the method's structure (methods integration by the forms of teaching); development of integrative blocks of educational methods based on the problem teaching methods and so on.

Conclusions

Solving the problem of the full postgraduate training process is a natural step in the revival of the real academic training and formation of national scientific and educational elite. Methods of teaching in higher education should be based on the principle of unity of

teaching and research activities of teachers and students. Conceptual basis for the application of integrative approach to ensure the continuity of educational methods in terms of continuing education, including postgraduate studies is identified as follows: the need to ensure organic connection of the educational methods with the content and purposes of the study courses of general researcher training, language training and postgraduate level specialization; combination of internal and external integration of teaching methods; combination of methods of teaching, learning and their orientation towards methods of scientific and educational activities; logical continuation of the vertical integration of methods according to the branches of education: general education school – higher school – postgraduate studies; effectiveness of postgraduate studies depends largely on the organic combination of educational methods and methods of obtaining knowledge, on the integration of research and educational activities etc. These principles serve to transform the conventional teaching methods and methods of obtaining knowledge into the educational methods to be used in postgraduate courses.

Vertical integration of educational methods presented in this article implies the continuation of the research toward the development of teaching content specialization that can be archived and constantly upgraded.

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