ТЕОРІЯ ПЕДАГОГІЧНОГО ПРОЦЕСУ

THEORY OF PEDAGOGICAL PROCESS

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Volodymyr Bondar
ORCID ID 0000-0002-5259-4870

Doctor of Science (Pedagogy), Academician of the National Academy of Educational Sciences of Ukraine,
Dean of the Faculty of Education and Psycology,
National Pedagogical Dragomanov University,
9 Pirogova Str., 01601 Kyiv, Ukraine, ipp_npu@ukr.net

Oleksandra Bozhok
ORCID ID 0000-0002-0961-9008

PhD (Pedagogics), Associate Professor of the Methodology of Teaching Foreign Languages Department,
National Pedagogical Dragomanov University,
9 Pirogova Str., 01601 Kyiv, Ukraine, o.s.bozhok@npu.edu.ua

MODERN DISCOURSE OF THE COMPONENTS OF THE METHODOLOGICAL RESEARCH IN PEDAGOGICAL SYSTEM

In the article the methodology of the research is considered as systematical result directed complex of methods, principles, actions, operations which are the components of methodology and technology that are needed to achieve the goals by the means of research aims. Exactly they reflect the logic, history of formation of selected object and subject of the research, stages and sequence of scientific research, connections of each component of methodology.

These and other questions are illustrated from the position of methodology that is the general, organizational, cognitive and procession base of pedagogical research. Methodology is being introduced in a wide variety of its general scientific concept and methods of cognition depending on the specification of subject of the research and its belonging to corresponding scientific sphere.

Key words: *methods; methodology; phases, principles, cycle of management of methodology research; structure of methodology; system.*

Introduction. The scientific category «methodology» and its different word-combinations as «theoretical and methodological principles», «philosophical and methodological foundations», «methodological concepts» etc. are being used in the published materials, these investigations of the pedagogical and psychological fields as well as in monographs and other publications. But the content of public materials doesn't always correspond to the term «methodology». The commenting of this definition reveals in science depending on the level of the scientific competence and the general erudition of the researcher.

In the introduction parts of theses the scientific set is being opened. There one can often find the author's statements that the methodological foundation is consisted of the «….philosophical statements, psychological and pedagogical theo-

ries», «…systematic, structural and functional, cultural, cognitive, quality controlled, competence approach» etc.

The similar view on the existence of methodology is followed in the works of numerous researchers of psychological and pedagogical problems in different areas of their direction and theoretical synthesizing.

Aim of the research is to elucidate the definition and realization of systematical and scientific principles in the process of scientific project development, and the defining the structure of conducted research as the whole of all its components: the object, the subject within the interaction of empirical, theoretical and methodological components.

The analysis of the content of numerous publications proves that most authors consider the methodology of their researching works as some pedagogical theories or scientific approaching. Thus, they build the foundation and theoretical principles of their works.

The discussion of the content of the definition «methodology» has the scholastic character and it is not fundamental and it has neither theoretical, no practical meaning. To our mind, it is a wrong point of view that leads to impoverishment of the scientific researching, the loss of logic, and the systems of the methods of cognition as well as the waste of the philosophical validity in general methodology (Bondar, 2001, p. 3–10).

As an example, there are such word-collocations as «theoretical and methodological foundations or principles…» that can be met in the works of PhD researchers. Thus, the title of the thesis has to be consisted of the subject and object of the investigation. On the contrary, it looks like incorrect and tautological. But the thing is not also in this. The achieving of the goal of investigation needs the accurate setting of tasks that are to be solved in the investigation. This is necessary to formulate the chapters and parts of the thesis (monograph) in accordance with logical consistency of the investigation's phases that lead to the conclusion.

Paralogism leads to the unsystematic character in the organization and conducting the research, its presentation and its results. In the example given above the first part of the title «Theoretical and methodological aspects…» includes the logical definition «theory and its structure», but the second one «methodology» rests misunderstandable. We consider the content of this definition must be observed more in details with all its structure and categories (Kopnin, 1968, p. 258–259).

Methodology of scientific cognition in pedagogy and systematical and structural principles for its projecting and realization in all the staged of research. Methodology (the definition «methodology») has its origin from the Greek language: (methodos) – method that means as the way of theory of knowledge, its organization, and (logos) – the philosophical scientific knowledge.

Extrapolation of the interpretation of the main meaning of the term «method» helps to make the conclusion that its content and nomination are within the acting direction, another words they are in the way of scientific researching activity. It is founded on the system of consisted researching tasks by the single-mindedness researcher who achieves to the positive result of the set goals.

The second part of the definition «methodology» is «-ology». By its content is directed to the system of principles that are the parts of the structure of method and that they expand the scientific possibilities up to the philosophical cognition. Under the definition «philosophical cognition» we understand the definite processes in the society life, nature and the peoples' thinking.

Summarizing all above, we make a conclusion that the category of methodology of a scientific researching (κategoria – Greek origin means the notion, definition, meaning of the word) is the scientific system of forms, methods, technologies and principles of the theoretical and practical researching of the scientist. It ensures the achieving of all necessary goals and tasks. To our mind, any scientific methodology must have three compulsory components: the philosophical, theoretical and technological (methodological) ones.

The philosophical component bases on the generally accepted philosophical principles. The understanding and mastering of the generally accepted philosophical fundamental categories and methods give the researcher the opportunity to orient itself in the hypothetical conditions in the society and environment, to find the right way out in every theoretical and / or methodological problem.

For instance, in the sphere of establishments and educational institution management the theory of systems should become the philosophical base in the educational work of managers taking into account the general philosophical principles given above. The theory of systems and the systematic approach as the world-view foundation in the researchers' activity stipulates mainly their cooperation with the system of different forms

and levels: establishments, educational institutions and its subdivisions each of them has me signs of social system. The same concerns the theses and monographs. Each completed investigation must be systematically organized and contain theoretical and practical parts. It has to illustrate the sense of object and process that are being studied. Every section of the thesis or / and monograph is the first level of system, the part of sections has to be the second level of system etc. Thus, the content of the whole research with all the sections and parts should illustrate the system as the whole (Lezgina, 1974, p. 56).

The analysis of the content of research and the public address of some scientists do not prove enough the clearness and illustration of the structural components of the system. It leads to the paralogism and lack of comprehension of the sequence of cooperation and interference of all the components and the results in the research. We consider it to be necessary to remind all the compulsory signs of all the systems of any level and volume (technical, biological, social systems and so on). It must include the presence of the goal, tasks, functions; the structural analysis; the hierarchy of the components; the interconnection and qualitative cooperation of all the components of the system; the interconnection with the systems of another levels; entropy (entropia – from Greek means the transformation, metamorphosis) that is the aspiration for the initial condition, and it is tending person to be leading manager. The main function of entropy is the premonition of destruction, ensuring of stability and self-development of the whole system within the laws of synergetic (Shtoff, 1972, p. 110–115).

Concerning the scientific research, the realization of the systematical approach must be illustrated in accordance with the signs listed above.

The definition and statement of the research goal as the realized view of the predicted result is the thing that makes a scientist to be inspired.

The tasks setting has to be the foundation of the defining the phases of the investigation. Tasks are the compulsory steps to achieve the goal of the research.

From the part of the systematical approach the defining of the hierarchical subordination of all the components is very important.

Hierarchy in the structural components of the research work needs the defining of the priority directions and attention of the work. It is natural that all the components of system are compulsory and they all have to be illustrated. But form the top of hierarchy the key attention should be paid to the experimental part of the research work and its scientific ground, as well as to the studying of the facts, all necessary materials and their synthesizing.

The interconnection, quality and interference of the components of system are well followed in the examples. The weak, non-defining scientific apparatus in the introduction part will have the negative effect on all the work. The poor theoretical analysis of the works of scientists of the definite problem leads to the inadequate arguments and to the eliminating of the theoretical part and results of the research work.

To our high regret the analyses of the numerous PhD theses prove that the experimental component of the work mostly does not correspond to the requirements of the conducting of the experiment neither by its grounds, no by its formal signs. The experimental part by its informational content must contain the structural components of primary importance in the thesis. The disregard of this requirement is incompetent. The main goal of experiment is the practical checking of the scientific foundations and practical proposals in the content of so called model. The model must me approbated to prove its effectiveness for particular sphere of pedagogical activity.

The interconnection of general systems in the research work is seen quite well in the author's publications of the particular problem. The author's skills and experience help to illustrate the interconnection of systems in the subject of a particular research work.

The one of the signs of system in the investigation is the conditional goal. It is followed well in the sections and parts of thesis and / or monograph but it also needs to be corrected. Some of the researchers illustrate the achieved results in the written work and they are not limited to divide the word in the sections and parts but also, they separate all structure into the small chapters (as, for example, 1.1.1, 1.1.2, 1.1.3 etc.). Such kind of approach corresponds to the requirements of the system where every component has its own place in the content of system of some level. This system has all qualities to exist and its content discovers the sense of title.

Entropy needs to be paid attention to in the thesis research where there are a lot of theoretical and empirical materials. Author faces with a problem of arranging and systematizing all mate-

rial in accordance with the set goal and tasks of research. This can drive to despair of the author and he / she illustrates the material thesis and / or monograph chaotically that sometimes leads author to stop the research.

The way out is in the presence of such compulsory sign of system as the management. Its role is to organize the structure clearly, consistency of the titles of the elements of the work, their clear statement in the basis of the author's view and in accordance of the set goal and tasks at the beginning of the work. The statement of the sections, parts and elements of the work may also be changed in the process of investigation. The achieved information may influence on this change, but the presence of such components in work must direct consistency of the chosen material on the accordance of set tasks and the volume of the work. That means that the author coordinates this process in its pedagogical activity.

The stated characteristics of systems are universal and they inherent to any system. Some authors call them principles, sometimes they are called functions of the system. But the main thing is that they really present. The understanding of characteristics' content, definition and interconnection give the opportunity to the author to study and build original manuscript in the field of set problems that are the subject of interest to the author.

The next compulsory component of the research in the pedagogy is the system of theory as the proved synthesized complex. This complex includes statements that illustrate the result of author's experience, its practice in some sphere or hypothetical statements that need to be approbated in future. The theory must illustrate the exact formulated concepts – so called system of views. This system defined and directs principle thoughts, the ways out of some scientific problems from the beginning to the end. The system also functions to define the tendencies of formulated rules, laws, principles, leading ideas, outgoing statements, functions etc.

The theoretical component of pedagogical research is bases on the analysis of the preceding scientific researches of the problem that is being studied and on the personal author's concept statutes that he / she received during the investigation. The most extended practice of the theoretical component research work is the retrospective analysis of the most essential preceding studies and the elucidating of the own views of the author and its practical experience.

Not infrequently in the theoretical part certain tendencies we have to deal with need to be considered. Those tendencies are inherent to the research problems. Certain efforts are made to identify regularities based on persistent relationships of functioning of the explored system, phenomena, objects, processes, etc.

There is a widespread tendency among the authors to present the new principles in the theoretical part, the artificial ones, which realization provides the existence and the development of the explored object. But the given definition of principles is not always the same as the meaning of those principles. For instance, there are comparative charts in the theory of the establishments / high school management with the system of those principles developed by different authors.

Among the systematical principles of the management of high school establishments there are the solidarity of the staff, financial and business initiative, the principles of the management, the functioning of the management work, etc. All these ones are not considered as the category of principles.

It is impossible to find out the principle by the author's point of view and its comprehension. All principles have to be based on the defining regularities that persist relationships of functioning of the explored system, phenomena, objects, processes, another word they should be based on the certain laws, regularities, etc. At the same time the principle has to be checked practically by its adequacy to be the part of certain system and conditions of its functioning. For example, there are some principles in the management of the pedagogical systems as planning / modeling principle; informational supply principle; principle of the reserve connection etc. They make the fundamental scientific foundation and need to regulate and supply the effective activity. The same concern the well-known didactical principles which everybody knows from the times of studying in the university and practical courses.

Regularities, tendencies and principles can be defined only after the object of the research has been studied and well explored with all its signs, inconsistencies, the connections between its structural elements of the explored process.

Theoretical component with the experimental one defines the high quality and scientific value of the work of author or a group of authors.

The third component of the pedagogical research is the technological one that is based on the

cognitive, methodological foundation of the predicted and molding experiments. This research component makes the author's philosophical views, methodological predictions and certain methods to be realized. Sometimes the pedagogical terms «technology» and «methodology» are used as the synonyms. To our mind, the technology is the general algorithm of collecting the information of the process, evaluating of results. Nevertheless, the methodology is the system of methods, principles, actions, procedures of certain pedagogical activity related to goals and tasks.

The certain logical sequence of operations offered by the author should be based into the technology of scientific research as well as the theoretical cognitive activity. These should realize the necessary empirical information during the approbation period and execution the theoretical regulations in order to achieve the goals and tasks of investigation.

We consider the functions of the management process (so called management cycle) in its value or partly are the foundation of the process to achieve any goals successfully.

Classically functions of the process accordingly to the general sequence of operations and their execution have the following logic and name in the theory and practice: developing and accepting the way to achieve a goal; organization and execution of the way to the goal; analysis, correction and regulation which have the inner structure depending on the complexity of process, object and conditions of its execution.

For example, the accepting of managing solution has different forms of its representation (planning, modeling, prediction, projecting, etc.). But all of them have the obligatory consequence components: accepting the goal of research, collecting data, analysis of collected data, developing the best solution and its accepting.

In the thesis research the scientific function is realized in the following way: studying and retrospective analysis of scientific data and experience that are interested to the author, defining unsolved solutions that are parts of problem to be solved, its concretization and defining the set goal and tasks that are necessary to be developed, exploring different variants of research' program (content, methods, organization and sequence of the phases), valuating of the tutor of the best variant of different programs, fixation and final confirmation.

The next phase of technological process as the component of methodology is the organization and regulation of execution of accepted solution. It has the following content: providing the proper financial conditions of executor's activity, the selection of executors (attraction of members of experiment, consultants, technical support managers, and others), their motivation to act and to give instructions of the current activity (what and where to do); alteration and regulation of conclusion.

Giving an example of scientific research we can see the following phases: developing the model of system that will be checked on practice (although it may be done on the previous stage), its scientific grounds, selection of the methods that need for approbation, giving instructions for all the participants of experimental approbation, organization of the experiment itself, collecting data base, alteration and regulation of the program of experiment if it is necessary.

The main solution on this phase of research is to check the practical appropriateness of the developed author's innovative system that is displayed in the model as a project of experience organization, for example, within the problem of establishing management effectiveness, organization of methodological work, increasing the staff competence, etc., as well as the adequacy of chosen methods and forms of organization, their displaying in the set goal and tasks of experiment.

The final stage of the technological component of methodology is the analytical evaluation of results of experiment and correction of theoretical issues (if necessary) that were based in the study of innovation system during approbation.

Pedagogical conditions that are not required the approbation by the experiment (for example such disciplines as comparative pedagogy, the history of pedagogy), mostly are conducted with the logic component of theoretical and methodological parts of the research accordingly to the specifications of object and subject of investigation. For example, there is no need in developing the model when approbating theoretical issues but the giving theoretical predictions for embodiment of the research. In the studying of creative inheritance of the outstanding pedagogues the cognitive, scientific categories are related to the apparatus of the research. They are eliminated in the introduction part of research and they mean the investigation study. They are consisted of the problem of research, the goal, object, subject, hypothesis, conception, general methods of organization and theoretical and experimental data etc.

The problem of the scientific research is founded in the analysis of the theoretical research of literature and the vivid practice of the previous scientists according to the conditions of the science of nowadays and providing the needs of society and the education itself, its future development within the world tendencies and the world challenges.

The main thing in the problem of research is the argument definition of the concrete key inconsistencies and factors that appear due to the object, subject, process that play the important role for the science and education practice. To solve the problem, it is necessary to determine theoretical, organizational and technological factors and conditions needed to overcome all existing controversies by taking away of incongruities which are essentially the aim and the purpose of the research.

The goal of the research is the objective view of the final result that can be achieved with the help of adequate principles and by providing the necessary theoretical, organizational and technological conditions proposed before.

The aim and the tasks of the research are determined by its general direction to achieve the prognostic result. The set tasks form the structural and logical base of the research, the developing of its structure, defining components, parts of monograph or thesis.

The most extended mistake of the researchers (it concerns as senior researchers as junior ones) is to start the study research from the first theoretical section where all researched tendencies, principles, conceptions, statements are displayed by the author. The natural question rises about its origin. Theoretical summarizing of the author have to be based on the systematical and detailed analyses of the previous studies of the problem that is to be solved on the author's experience and empirical experiments

The developing of any problem has to be started not from the theoretical facts (that can be in case of author's genius skills to create innovative ideas and fundamental statements) but from the retrospective analysis of scientific works of scholars who researched this problem before, their arguments and definitions of problematic questions of the quality of results of their research, defining the problems for further research. Theoretical author's data development can exist just in case of proving the needs of new theoretical statements which are based on the previous ones but it need the deepest modernization and studying of the practice that already exist and personal experience that is displayed in proper sections of the work.

Developed theoretical statements of the researcher cannot exist independently. They must be the component of proper author's system that needs practical experimental examination. For positive results of their approbation they can be scientific acquirement and to be worthy attention and using.

The certain attention should be paid to the scientific categories as the object and subject of research that are the components of methodology.

The object is the phenomenon that exists independently from our consciousness, society where the study is eliminated. At the same time the subject of scientific research is the structural component of the object, its specific part that has all indications of system on the proper level and has the certain problems that need scientific and practical solution.

For example, if to say about the problem of effectiveness of the management of establishment then for its solution the object is the management of establishment as the social and pedagogical system in the whole with all its structural components, and the subject is the component of management of high school establishment that must be elected. For instance, «System of work planning of school», «Scientific principles and organization of data support of the management of educational establishment, «Optimization of control and evaluating of educational establishment activity», etc. Although the subject of the research of the chosen objects above must foresees theoretical and technological content that will be studied and analyzed in the process of research. If to take into account the system of planning of school's work the focus of the subject of research can be the following one: scientific approaching, theoretical experience of work planning of educational establishment as the part of management and summarizing the practical experience.

The well-developed scientific research foresees the adequate certain hypothesis that is defined as statements by most authors. To our greatest disappointment, they do not need the experimental approbation. For example, the effective management of educational establishment can be realized with the help of certain data law base, proper financial support, scholar modern management, social and psychological assist of the pedagogical

staff and competent management which is founded on the principles of democracy and humanism. We can assure that all these factors are intended on the providing the quality of management and the do not need the approbation.

Conclusion. The general organizational and experimental base of all researching is the methodology of scientific cognition as the science in all its varieties and the main core is dialectics with its laws, categories and principles. Closely to it there is the methodology with concrete subject that has its own specifics conditioned by the object of research which every scientist can choose and develop taking into account the peculiarities and conditions of functioning the certain subject of the research. But even the best methodology with concrete subject is the component of the general scientific methodology of cognition in which the quality and success of the scientist depend on the level of perception and culture.

References

Bondar, V. I. (2001). *Metodologichni problemy vdoskonalennja ponjatijnoi terminologichnoji systemy pedagogiki [Methodological problems of improvement of definition system of pedagogy]. Kyiv, Ukraine (ukr).*

Kopnin, P. V. (1968). *Logicheskie osnovy nauki [Logical foundations of science].* Kyiv, Ukraine: Naukova dumka (rus).

Lezgina, M. L. (1974). Formirovanije novogo znanija kak metodologicheskaja problema nauki [New knowledge formation as the methodological problem of the science]. *Metodologiya nauchnogo poznaniya.* Leningrad, Russia, Issue 1, 56–59 (rus).

Nikitina, L. A., Zaburina, S. P. (2010). Obuchenije formulirovaniju voprosov k tekstu proizvedenija [Teaching to formulate questions to the text of work]. *Nachalnaya shkola,* 1, 57–61 (rus).

Starkova, D. V. (2013). Suschnost i rol kompetentnosti sozialnogo vzaimodejstvija v sovremennoj pedagogike [The essence and role of the compenetce co-operation in the modern pedagogical science]. *Sovremennaya pedagogika,* 11, 115–120 (rus).

Shtoff, V. A. (1972). *Vvedenie v metodologiju nauchnogo poznanija [Introduction to the methodology of science knowledge].* Leningrad, Russia: Izdatelstvo Leningradskogo universiteta (rus).

Література

Бондар В. І. Методологічні проблеми вдосконалення понятійної термінологічної системи педагогіки. Київ, 2001.

Копнин П. В. Логические основы науки. Киев: Наукова думка, 1968. 283 с.

Лезгина М. Л. Формирование нового знания как методологическая проблема науки. *Методология научного познания.* Ленинград: Издательство Ленинградского университета, 1974. Вып.1. С. 56–59.

Никитина Л. А., Забурина С. П. Обучение формулированию вопросов к тексту произведения. *Начальная школа.* 2010. № 1. С. 57–61.

Старкова Д. В. Сущность и роль компетентности социального взаимодействия в современной педагогике. *Современная педагогика.* 2013. № 11. С. 115–120.

Штофф В. А. Введение в методологию научного познания. Ленинград: Издательство Ленинградского университета,1972. 191 с.

СОВРЕМЕННЫЙ ДИСКУРС КОМПОНЕНТОВ МЕТОДОЛОГИЧЕСКИХ ИССЛЕДОВАНИЙ В ПЕДАГОГИЧЕСКОЙ СИСТЕМЕ

Бондарь Владимир, доктор педагогических наук,
академик Национальной академии педагогических наук Украины,
декан факультета педагогики и психологии,
Национальный педагогический университет имени М. П. Драгоманова,
ул. Пирогова, 9, 01601 Киев, Украина, ipp_npu@ukr.net

Божок Александра, кандидат педагогических наук,
доцент кафедры методики преподавания иностранных языков,
Национальный педагогический университет имени М. П. Драгоманова,
ул. Пирогова, 9, 01601 Киев, Украина, o.s.bozhok@npu.edu.ua

В данной статье методология исследования рассматривается как систематичный логически направленный на результаты комплекс методов, способов, действий, операций – составляющих методик и технологий, которые используются для достижения цели способами решения исследовательских задач. Именно они отражают логику, историю становления и развития выбранных объекта и предмета исследования, поэтапность и последовательность научного поиска, связь между отдельными составляющими методологии.

Эти и другие вопросы освещаются со стороны позиций, которые своей общей, организационной, когнитивной и процессуальной стороной являются основой методологии познания в широком разнообразии ее общенаучных и концептуальных методов познания, в зависимости от специфики предмета исследования и его принадлежности к определенной научной среде.

Ключевые слова: *методология; методы; система; структура методологии; этапы, принципы и управленческий цикл методологии исследования.*

СУЧАСНИЙ ДИСКУРС КОМПОНЕНТІВ МЕТОДОЛОГІЧНИХ ДОСЛІДЖЕНЬ У ПЕДАГОГІЧНІЙ СИСТЕМІ

Бондар Володимир, доктор педагогічних наук,
академік Національної академії педагогічних наук України,
декан факультету педагогіки та психології,
Національний педагогічний університет імені М. П. Драгоманова,
вул. Пирогова, 9, 01601 Київ, Україна, ipp_npu@ukr.net

Божок Олександра, кандидат педагогічних наук,
доцент кафедри методики викладання іноземних мов,
Національний педагогічний університет імені М. П. Драгоманова,
вул. Пирогова, 9, 01601 Київ, Україна, o.s.bozhok@npu.edu.ua

У даній статті методологія дослідження розглядається як систематизований, логічно направлений на результати комплекс методів, засобів, дій, операцій – складових методик і технологій, які застосовуються для досягнення мети способами вирішення дослідницьких завдань. Саме вони віддзеркалюють логіку, історію становлення і розвитку обраних об'єкта і предмета дослідження, етапність і послідовність здійснення наукового пошуку, зв'язок між окремими складовими методології.

Ці та інші питання висвітлюються з позицій, що загальною, організаційною, когнітивною й процесуальною основою педагогічних досліджень виступає методологія пізнання в широкому розмаїтті її загальнонаукових та концептуальних методів пізнання, залежно від специфіки предмета дослідження та його належності до відповідної наукової галузі.

Ключові слова: *етапи, принципи та управлінський цикл методології дослідження; методологія; методи; система; структура методології..*

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