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ABILITIES IN THE STRUCTURE OF THE SCIENCES TEACHER'S METHODOLOGICAL CULTURE

У статті окреслюються питання сутності методологічної культури вчителя; її позиціонування в структурі професійно-педагогічної культури; у цій системі обґрунтовується місце й характер методологічних здатностей, розглядається їхній актуальний набір з урахуванням специфіки професійної діяльності вчителя природничих дисциплін.

Ключові слова: методологічна культура вчителя, здібності, задатки, методологічні здібності.

Problem Statement. Introduction of the concept of «methodological culture» as a separate phenomenon in a teacher's personality structure is both reasonable and urgent as it changes substantially a teacher's attitude to transforming the pedagogical theory and practice. It is culture as a holistic structure but not a set of separate methodological attainments that helps transform the methodological experience into a future specialist's achievements and makes it a factor of developing his/her personality, creative thinking, forming the scientific world outlook and value position (G. Valeyev [2]).

A number of studies have investigated various aspects of culture: professional, pedagogical, professional and pedagogical, communicative, logical, intellectual, emotional etc. In any case the teacher's culture includes the following elements: a value system, levels of civil, moral, aesthetic development, knowledge of man and nature, society and thinking, work methods, creative and communicative experience [2] and features of the social practice where a certain type of culture functions. The system of values that direct and organize a personality's activities within this culture is a kernel of culture, something that integrates these components.

The literature suggests various interpretations of the methodological culture; yet, there is no generally accepted definition. There is currently a broad discussion on the subject and the following approaches and trends can be distinguished for our purpose – axiological, acmeological, constructive activity, phenomenological, culturological. Based on the common vision of the methodological culture meaning the above approaches and trends differ from each other by emphases on its pivotal essence.

The teacher's methodological culture means culture of thinking specific for the educational sphere, based on methodological knowledge and skills, reflection ability, scientific substantiation, critical understanding and creative application of certain concepts, forms and methods of cognition, management and construction of the pedagogical theory and practice with the purpose of solving professional and pedagogical problems and understanding his/her own pedagogical experience.

Analysis of Recent Studies and Publications. The teacher's methodological culture is being comprehensively studied in works of different levels including those by E. Abdullin, O. Berezhnova, Ye. Bondarevska, H. Valeyev, P. Kabanov, S. Kazantsev, V. Kravtsov, V. Krayevskyi, V. Tamarin, V. Slastionin, O. Khodusov and others. However, recently the substance of the methodological culture has been treated rather narrowly as mastering the scientific activity system, certain research skills and indirect intellectual operations by practicing teachers.

It has been determined so far that the teacher's methodological culture is part of the universal intellectual culture which includes knowledge and skills, intelligence, moral and aesthetic development, world outlook, methods and forms of communication. Most researchers think of the methodological culture as a substructure, as the pivot of a teacher's professional and pedagogical culture, as the personality formation that:

- conditions the level of depth and coherence of the teacher's mastering methodological principles of pedagogy and psychology, ability to use this knowledge creatively and efficiently when organizing the teaching and educational process (Yu. Kushner [6]);
- designates guidelines for building and analyzing activities that correspond to value models of modern education (O. Boiko [1]);
- generalizes and concentrates modern demands to a pedagogue as to a representative of man-of-culture creation sphere (O. Boiko [1]);
- is a unique form of the teacher's professional self-determination and self-actualization and at the same time a universal form of professional and self-reproduction and creativity, freedom of his/her self-realization (O. Khodusov [9]).

So, the teacher's methodological culture can be presented as a complicated hierarchical system of elements in the structure of the professional and pedagogical culture that determines the pedagogical activity, conditions its certain quality level and characterizes the level of development of pedagogues themselves on the basis of a certain thinking culture level. The analysis of all the existing scientific concepts of the structure of a teacher's methodological structure enables us to think of the methodological structure as a multifunctional and complicated phenomenon that in a complex way incorporates elements of the professional and pedagogical culture, professional competence on the one hand and methodological knowledge, skills, abilities, value determinants of cognitive activity and certain individual gnostic peculiarities on the other hand. Its structure, by analogy with culture in

general, is outlined by the value kernel that includes scientific ideals of rationality, humanism, professionalism, education, general culture and pedagogical creativity. Its content is formed on the special kind of pedagogical consciousness and includes strategic and activity components.

Grounding the substance of a teacher's methodological culture requires investigating the aspects that characterize comprehensively this complicated personality formation on the basis of peculiarities of the methodological activity in general and its specific character in the professional and pedagogical sphere in particular. The methodological competence is a practical quality manifestation and a foundation of the methodological culture. The competence is characterized by methodological knowledge, methodological skills and methodological abilities.

Studying the nature of methodological abilities as components of a teacher's methodological culture, it is necessary to take into account fundamental provisions of the ability theory, in particular the biosocial correlation, their structure, development and genetic formation, possibilities and development mechanism (B. Ananiev, I. Bekh, L. Vyhotskyi, V. Druzhynin, O. Kovaliov, H. Koskiuk, O. Leontiev, S. Rubinshtein, B. Teplov and others) as well as theory and practice of formation of a future teacher's pedagogical abilities (V. Andreyev, V. Krutetskyi, N. Kuzmina, V. Pytiukov, V. Slastionin and others).

The objective of the article is to consider the substance and character of the methodological abilities in the structure of the methodological culture of the Sciences teacher.

The analysis of scientific sources allows generalization of the substance and nature of abilities and their genetic background. Abilities are enduring individual psychological personality attributes that are a necessary internal prerequisite of his/her successful activity. Abilities are formed and developed on the basis of inclinations. Inclinations as anatomic-physiological characteristics of the human brain and nervous system are a natural foundation for abilities emerging and functioning, but not identical to them. Inclinations include peculiarities of the brain structure, sense and movement organs, nervous system properties. Inclinations are multiple; different abilities can develop on the basis of the same inclinations and, vice versa, abilities do not develop beyond upbringing and activities.

Separation of abilities from other activity-related characteristics is done on the basis of understanding of philosophical categories of «single», «general» and «special» that express objective relations between the world and the character of the cognition process. «Single» is a certain time- and space-limited object. «General» is «similar» which is abstract from «single» and «special» phenomena, properties, attributes on the basis of which objects and phenomena are united into this or that class, type or species. «Special» is a unity of «single» and «general», an object taken in its concrete integrity as certain «general». So, «abilities» should be understood as features that can be realized through a certain mental function [10].

B. Teplov developed the following criteria of abilities: abilities are understood as individual and psychological characteristics that distinguish one person from another; abilities are not any kind of individual characteristics in general, but those relevant to successful execution of any activity or many activities; the concept of ability does not reduce to the knowledge and skills that are already formed in a person and evident through how quickly, and easily the process of mastering knowledge and skills significant for this activity is going on under equal conditions [8, p. 66-68].

Abilities are classified as follows:

- 1) inborn aptitudes biologically conditioned, connected with congenital inclinations that are formed on their basis if there is elementary life experience through learning;
- 2) specific those of sociohistorical origin and ensuring life and development in the social environmental. They are subdivided into:
- a) general, that determine person's achievements, in various types of activities and communication (mental, communicative, cognitive abilities, precision and fineness of hand movements etc.);
- b) special, those determining person's achievements in certain activities and communication where special inclinations and their development are necessary (mathematical, mechanical, literary-linguistic, artistic, creative, sports abilities etc.);
- c) theoretical, those determining a person's aptitude to abstract-logical thinking, and practical, that underlie aptitudes to concrete practical actions. Combination of these abilities is characteristic of all-rounders;
- d) academic, that influence pedagogic efficiency, learning, skills acquisition, formation of personal qualities, and creative that are connected with successful producing achievements of material and spiritual culture, new ideas, discoveries and inventions;
- e) ability to communicate, interact with people and object-activity abilities connected with interaction between people and nature, machinery, symbolic information, artistic images etc.

Difference between abilities and skills lies in difference between their psychological mechanisms. Abilities are individual personality characteristics whereas skills are individual acts of the activity. It is abilities that condition speed and breadth of skills mastering.

The concept of methodological abilities is not sufficiently dealt with in the scientific literature. Statements on the problem are rare and, in my opinion, insignificant. For example, development of methodological abilities is declared necessary for a scientist but the meaning of them is not revealed. The same can be seen in the methodical literature and normative documents. According to The results of TUNING (2007) allow methodological abilities to be included into instrumental competence as capability of efficient work organization. In particular, methodological abilities enable efficient time management, learning strategy construction, decision making or problem solving, understanding the environment and its control.

This research considers methodological abilities, first of all, in the context of pedagogic activities.

Studying methodological abilities as a component of a pedagogue's instrumental competence N. Ilina determines them through their manifestation in apprehending tasks set before the educational system and considers the following methodological abilities necessary for the successful pedagogical activity: the ability to analyze situations, set goals, program the teacher's own personal activities (incl. to make up and realize personal educational program), to create conditions for making up individual educational programs by others, to organize personal education, the ability for reflection [3].

P. Kabanov considers methodological abilities as a pedagogue's capacity to choose, develop and implement certain methodological attitudes for ensuring effectiveness of activities when conditions of these activities change. The scholar connects development of methodological abilities with enrichment of a methodological means arsenal and with deepening and broadening the content of the teacher's methodological attitudes [4]. So, a teacher's methodological abilities are a substructure of pedagogical abilities; they are connected with instrumental support of the pedagogic activities; they are actualized within a methodological situation that can occur in various spheres of the pedagogic activities; they enhance the methodological activity in terms of quality and determine its mastering.

Consider approaches to determining a list and a classification of methodological abilities. A modern concept of pedagogical abilities by N. Kuzmina correlates them with main aspects of the pedagogical system and divides them into levels. The first level consists of perceptual-reflexive abilities turned to an object/subject of the pedagogical influence and those conditioning intensity of forming the sensory fund of a pedagogue's personality. The second level consists of pedagogical abilities turned_to methods of influencing a student with the purpose of his/her personality development. So, according to N. Kuzmina, methodological abilities can be included into abilities of the second level [5].

Traditionally, pedagogical ability studies use descriptions of two kinds. The first one treats abilities departing from the concept of «capability», the second one – from the concept of «specific sensitivity» (N. Kuzmina, V. Pitiukov). N. Kuzmina reports three kinds of such sensitivity: the sense of an object, sense of measure or delicacy and sense of involvement [5; 7]. The teacher's «specific sensitivity» becomes apparent in marking out contradictions in the system of the natural sciences, in pedagogical phenomena and life realities, in critical perception of methodological attitudes, in the teacher's ability to understandably state the content of the scientific knowledge system departing from students' level of development, in the teacher's independence of judgements and creative approach to work etc.

So, the point of methodological abilities consists in the teacher's specific sensitivity to methods of creating efficient techniques of educational influence on students with the purpose of forming certain qualities that

conditions the ability to choose, design and apply methodological attitudes to ensure efficient pedagogical activities [7].

The analysis of the existing approaches to interpreting pedagogical abilities (V. Andreyev, V. Krutetskyi, N. Kuzmina, V. Slastionin, A. Khutorskoy and others) enables singling out the ones that can be included into methodological abilities, namely: intellectual, academic, didactic, organizational, prognostic, aesthetic, reflexive abilities, and critical thinking as a creative ability:

Intellectual abilities - the ability for prompt, independent and meaningful information processing, critical analysis, methodological reduction, extrapolation, construction of pedagogical reality images, sensitivity to the activity content and methods; the style of scientific thinking. Academic abilities the ability for efficient mastering natural subjects, sensitivity to contradictions, problems, new ideas, research programs within a correspondent scientific sphere. Didactic abilities – the ability to clearly and understandably deliver the curricular material at the comprehensible and scientific level; to develop, adapt and apply developmental, productive and problem methods and techniques of teaching; to feel responsibility for students' learning activity and independence level; sensitivity to educational innovations. Organizational abilities – the ability to analyze situations, set goals, program personal and students' activities; sensitivity to productive /nonproductive methods of activity organization. Prognostic abilities - the ability to foresee consequences of actions, construction of the pedagogic environment with desired characteristics, sensitivity to methods of constructing an individual educational route. Aesthetic abilities - the ability to build activities according to laws of beauty, sensitivity to the content design and logic of the activity process, set of means and grounds for activities. Reflexive abilities - the ability for methodological reflection, sensitivity to changes of means and grounds for activities.

Critical thinking as an ability – sensitivity to contradictions, the ability to formulate judgments on appropriateness, desirability or conformity of certain phenomena with standards, to apply cognitive techniques or strategies that increase the probability to achieve the desired result (D. Halpern [11]). The above set of pedagogic abilities can serve as a basis for establishing a Sciences teacher's methodological culture as each of them possesses the potential to raise the instrumental level of the pedagogic activity.

Majority of researchers connect methodological abilities formation and development with involving a future teacher into modeling a task structure of the pedagogical activity where expressions of reflection, empathy, emotional, creative, intellectual flexibility etc. prove to be necessary for search for multivariant ways of solving pedagogical tasks. To involve a future teacher into solving a number of practical cognitive problem tasks is a main way of developing his/her methodological abilities. Setting and solving tasks in each group are carried out according to specific rules. This is the way inclinations are initiated and developed into abilities.

The analysis of the existing psychological and pedagogical concepts

of the teacher's methodological culture sunstance and structure enables considering it an axiological, acmeological, systemic and integral anthropological and culturological phenomenon. Methodological culture is a kernel of the teacher's professional and pedagogical culture as it supports and ensures scientifically grounded regulation of his/her need-motivational, intellectual, spiritual, moral and activity-practical spheres, provides guidelines for constructing and analyzing the activity that corresponds to modern education values. The structure of methodological culture is outlined by the value kernel that includes scientific ideals of rationality, professionalism, education, general culture and pedagogical creativity. Its content is formed on the basis of a certain kind of pedagogical conscience and includes strategic activity components.

Methodological abilities are considered to be one of the elements of the methodological culture, as its core is the teacher's specific sensitivity to methods of creating efficient techniques of educational influence on students with the purpose of forming certain qualities in them that conditions the ability to select, construct and apply methodological attitudes to ensure effectiveness of pedagogical activities. The system of methodological abilities can be represented by intellectual, academic, didactic, organizational, prognostic, aesthetic and reflexive abilities and critical thinking. The set of methodological abilities can be a basis for forming the Science teacher's methodological culture as each of them possesses the potential of increasing the instrumental level of pedagogical activities. Methodological abilities are formed and developed when a future teacher is involved into modeling a task structure of the pedagogical activities, where it is necessary to display his/her inclinations to search for multivariant solutions of pedagogical tasks.

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ABILITIES IN THE STRUCTURE OF THE SCIENCES TEACHER'S METHODOLOGICAL CULTURE

Summary. The article deals with the problem of necessity of treating methodological culture as an individual phenomenon in the teacher's personality structure. The methodological culture is understood as the culture of thinking (specific for education) based on methodological knowledge, skills, ability for reflection, scientific grounding, critical thinking, creative application of certain conceptions, forms and methods of cognition, management and design construction of the pedagogical theory and practice with the purpose of solving pedagogical problems and understanding a teacher's own pedagogical experience. The qualitative and practical manifestation of and basis for the methodological culture are the methodological competency which is characterized by methodological knowledge, skills and abilities.

The methodological abilities are understood as special sensitivity to methods of creating efficient techniques of educational influence on students with the purpose of forming certain qualities in them. This conditions the ability to select, construct and apply methodological attitudes to ensure efficiency of the pedagogical activities.

The article presents methodological abilities as the system of intellectual, academic, didactic, organizational, aesthetic and reflexive abilities and critical thinking. In the author's opinion, this set of pedagogical abilities can serve as a basis for forming the Sciences teacher's methodological culture as each of them possesses the potential to increase the instrumental level of the pedagogical activities. The paper states that methodological abilities are formed and developed when a future teacher is involved into modeling a task structure of the pedagogical activities, where it is necessary to display his/her inclinations to search for multivariant solutions of pedagogical tasks.

Key words: teacher's methodological culture, abilities, inclinations,

Освіта дорослих: теорія, досвід, перспективи. Випуск 2 (9) 2014 methodological abilities.

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УПРАВЛІНСЬКІ СТРАТЕГІЇ ТА РЕСУРСИ ІННОВАЦІЙНОГО РОЗВИТКУ РІВНЕНСЬКОГО ОБЛАСНОГО ІНСТИТУТУ ПІСЛЯДИПЛОМНОЇ ПЕДАГОГІЧНОЇ ОСВІТИ В УМОВАХ ЄВРОПЕЙСЬКОЇ ІНТЕГРАЦІЇ

У статті представлено стратегії, що відображають статус закладу післядипломної освіти в умовах реформування освіти та євроінтеграції, виокремлено шляхи реалізації стратегії, конкретизовано наявні ресурси та передбачення інноваційного розвитку Рівненського ОІППО на основі стратегічного управління.

Ключові слова: стратегічні завдання післядипломної освіти, зміна парадигми післядипломної освіти, нова стратегія післядипломної освіти, формування стратегії Рівненського ОІППО, варіанти стратегічного інституційного розвитку закладу ППО.