

# **Methodological aspects of the study of neurodidactics in humanitarian students**

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***Annotation.*** *In the proposed wide pedagogical community, the article sets forth the methodology for studying the neurodidactics of students at a specific scientific (pedagogical) level. An analysis of the federal state educational standard for higher education (bachelor's and master's degrees) in humanitarian specialties revealed an omission in the formation of cognitive competencies. The universal competence of UK-1, within which systematic and critical thinking is formed on the basis of a systematic approach, does not fully disclose the intellectual mission of higher education, namely, the disclosure of thinking abilities and the maximum use of the brain resources of university students.*

*To research and solve this problem, the author has identified research methods. The formulations of goals, objectives, academic subject within the framework of academic training are proposed. The preferred forms and methods of teaching*

*students have been selected. Highlighted the positions (programs, teaching materials, federal state educational institutions) for the embodiment of the neurodidactic component of education of students of the humanitarian profile.*

**Keywords:** *methodology, neurodidactics, students, pedagogical level, teaching students, component of education, humanitarian profile*

In previous publications, we have outlined the philosophical and general scientific aspects of the methodology for studying the neurodidactics of students. In this article, we will consider the pedagogical aspect of this problem. Neurodidactics of students correlates with the cognitive paradigm of education, in the center of which is the process of cognition. This branch of pedagogical knowledge informs him of the rationale from the standpoint of the functioning of the human brain and the focus on the maximum use of its resources.

A great influence on the formation of the named educational paradigm and neurodidactics was exerted by cognitive psychology (G. W. Neiser, M. Brodbent, D. Norman, J. Bruner, etc.), which loudly declared itself in 1960-1980. and focused on knowledge, semantic memory, awareness, perception and processing of information, forecasting, understanding, cognitive styles. A significant milestone in the development of cognitive psychology was the introduction of information tools into education. Neurodidactics is still fueled by the ideas of cognitive psychology and is successfully developing in organic unity with the latter.

The logic of our research leads us to documenting neurodidactic positions in academic education. Neurodidactics sees its place in the Federal State Educational Standard of Higher Education in the list of universal competencies. In particular, the group (category) "Systemic and critical thinking" in the competence of UK-1 for undergraduate studies is deciphered as "the ability to search, critical analysis and synthesis of information, to apply a systematic approach to solving problems" [1], for a master's degree - as "the ability carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy [2]. In both interpretations of CC-1, the priority approach for the formation of these types of thinking (systemic and critical) is called the systemic one, which, in our opinion,

does not reveal the essence of the declared universal competence. In support of this assumption, we analyzed the indicators of competencies in different areas of humanitarian knowledge. It did not reflect the neurodidactic component, which is clearly demonstrated by the indicators of achieving universal competencies at the levels of higher education, developed by a team of authors (M.D. Bershadskaya, E.A. Zima, A.V. Serova) with the support of leading universities in Russia.

The descriptors of the UK-1 indicator for bachelor's degree developed by the named team of authors include: analysis of the task, highlighting its basic components (UK-1.1), determination and ranking of information required to solve the problem (UK-1.2), search for information to solve the set task according to different types of requests (UK-1.3), when processing information, the ability to distinguish facts from opinions, interpretations, assessments, the formation of their own opinions and judgments, argumentation of their conclusions, including using a philosophical conceptual apparatus (UK-1.4), analysis of ways to solve problems ideological, moral, personal character based on the use of basic philosophical ideas and categories in their historical development and socio-cultural context (UK-1.5). Descriptors of the UK – 1 indicator for master's programs are presented in a similar way, based on systemic and interdisciplinary approaches.

We see an omission in the formal wording of the universal competence of Criminal Code-1. The types of thinking declared in it are disclosed one-sidedly, without involving the latest neuropedagogical data. In this regard, we propose to introduce the following neurodidactic indicators into the indicators of achievement of CC-1: 1) the graduate's operation with mental operations of analysis and synthesis, induction and deduction, concretization and generalization, 2) adherence to consistency, logic, anticipation in the implementation of cognitive activity, its implementation evaluative function, 3) flexibility of thought processes and abilities, 4) mastering different ways of assimilation and processing of information, 5) reflection of achievements and omissions, development of self-awareness.

The development of the neurodidactic process of cognition in the student audience involves the formulation of goals and objectives, substantiation of the content, selection of forms, methods, teaching aids from the standpoint of neurodidactics.

The goal involves the development of the thinking abilities of the individual: the actualization of neuropsychological and professional potential, the formation of key competencies, the prediction of personal and professional growth).

Tasks include: 1) motivation of professional formation and self-development, 2) the formation of students' neuropedagogical, psychological, socio-economic, legal, special (professional) competencies, 3) the development of an individual style of activity, taking into account data on the lateral asymmetry of the brain, 4) grafting positive self-concept of a professional, 5) reflection of cognitive achievements and professional development.

These positions are determined by the specialty and direction of training of students. Let us dwell on the selection of forms and methods of teaching students. Following A.A. Malsagov and V.V. Lezina [3], the forms of learning include individual educational trajectories, network training programs, information and communication technologies, telephone "tutoring", radio and video conferences, video courses, interactive training programs, correspondent training using e-mail, network projects, self-education.

Teaching methods are diverse and are divided into oral (lecture, explanation, conversation, conference, discussion, individual survey, frontal, condensed), written (dictations, essays, essays, written assignments), practical (experiments, practical work), programmed (machineless, machine), graphic (diagrams, graphs, tables), practical (exercises, practical tasks), visual (illustration, demonstration), inductive and deductive, reproductive, constructive learning, problem-search, independent work, design, cognitive learning (cognitive instruction , problem-developing, simulation planning, design, experimental teaching), interactive (role, simulation, business), "case studies", trainings, organizational.

The academic subject is considered from the point of view of neuropsychological processes of perception, attention, memory, speech, cognitive and emotional intelligence, etc.

From the standpoint of the organization of training in programs, educational and methodological complexes, funds of assessment tools, effective neurodidactic models and methods, the mental activity of students, the boundaries of the study load, the organization of the scientific organization of labor are embodied. Learning is carried out taking into account their individual brain parameters: the speed of mental and sensorimotor reactions, the type of temperament, the volume of memory, the possible dominance of one of the cerebral hemispheres, linguistic behavior (monolingual, bilingual). This is the manifestation of the individualization of learning, which neurodidactics insists on. We see its personal aspect in the formation of motivation for learning, the disclosure of cognitive abilities, the identification and use of subjective experience, creative intentions.

Control of students' learning activities should be corrected neurodidactically. In particular, in the current control and intermediate certification, tests should be introduced to identify the degree of understanding of what has been studied in order to take into account the teacher's psychodynamic characteristics of students (motor skills, activity), the individual dynamics of the development of their psychological processes, the permissible volume and speed of information processing to determine the correspondence of the level of complexity of educational cognitive tasks, the cognitive capabilities of students and the subsequent correction of the didactic process. For the same purpose, a column "Type of student's thinking activity" can be introduced into the instructions for the assessing teacher, where information about neurodidactic barriers and learning difficulties will be placed. The column "Degree of awareness of understanding" should contain a reflection of achievements with subsequent correction of the neurodidactic profile of students.

Let's return to the research apparatus of neurodidactics of students and the allocation of research methods. Among them is a theoretical analysis of the teaching

of students, taking into account their mental activity. Empirical methods include: observation, survey (conversation, interview), collection and processing of empirical data.

Let us highlight the project method and the development of the author's technology of neurodidactic content in a separate line. The compositional components of such a technology should include motivation, motivation, goal setting, intention for professional activity, 2) the content of training, 3) its program, 4) the development of the educational process, 5) technological methods of teaching, 6) control of the formed competencies.

An experiment in this kind of research involves the development of its methodology, experimental modeling of students' neurodidactics at the ascertaining, formative and control stages, a description of the conditions of the experimental process, its reflection.

Let's summarize the above. The pedagogical aspect of the research methodology of students' neurodidactics is presented in this article by reasoning about the correlation of students' neurodidactics with the cognitive paradigm of education. Based on the analysis of the Federal State Educational Standard for Bachelor's and Master's Degree in Humanities, the necessity of documenting neurodidactic provisions in academic education is substantiated. Research methods are highlighted. The formulations of the goal, objectives, academic subject are offered. The preferred forms and methods of teaching students have been selected. The positions (programs of teaching materials, federal state educational institutions) for the embodiment of the neurodidactic component of the education of students of the humanitarian profile are highlighted.

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