



PROBLEMS OF DEVELOPMENT OF COGNITIVE PROCESSES OF STUDENTS

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SUMMARY

One of the highest social values - human abilities - develop in the learning process. In recent years, certain measures have been taken to optimize and improve the educational process in higher education. However, most of the ongoing research and activities are aimed at increasing the effectiveness of only some individual, local issues of student learning, while the problems of optimizing the issue in general are not resolved. Optimizing measures are carried out, as a rule, without proper theoretical and experimental substantiation, but only on the basis of personal experience and intuitive considerations of researchers. In turn, the versatility of student training and the large number of specialties in modern universities do not allow the detailed development and experimental substantiation of a universal theory to optimize the learning process in higher education, although from a scientific and methodological point of view this way is most preferable. Therefore, it seems more practical to develop theoretical principles and methods for optimizing the individual components of training a specialist with higher education.

KEYWORDS: *psychodiagnostic, mental development, socialization, self-management*

DISCUSSION

The scientific novelty of the study lies in the fact that on the basis of an integrated system of psychodiagnostic tests, quantitative and qualitative features of the main components of the cognitive abilities of students of various specialties are revealed. The dynamics of their development in the learning process is determined. The correlation of the influence of specialty and age on the level and characteristics of the development of cognitive abilities of students is revealed. The possibility of changing the level and structure of cognitive abilities in the process of targeted formation is shown.

Currently, more complex cognitive mechanisms are being studied, such as: decision-making mechanism, learning, memory, etc. The term "knowledge" began to be used not only to denote the process of formation of scientific knowledge, but also to denote the psychological process of the formation of worldly ideas. A natural approach to the study of the phenomenon of cognition, based on data from psychological and neurophysiologic

studies of the mechanisms of cognition, has been called cognitology. Nowadays, cognitology is becoming an important object of research necessary to solve one of the strategic tasks of civilization, the purpose of which is to develop methods for conscious personality management and the creation of humanoid robots.

The theoretical significance of the study lies in the fact that the work carried out a comprehensive analysis of the main approaches to the problem of the development of cognitive abilities in students in domestic and foreign psychology. The age and professional features of the development of cognitive abilities of students are revealed. The issue of development and formation of cognitive abilities of students - future teachers is analyzed. The practical significance of the study lies in the fact that the proposed methodology for rapid testing of cognitive abilities of students of different ages and specialties will allow a deep and differentiated study of the structure of cognitive abilities of students of different specialties, and a development program

that helps accelerate the formation of the main components of the structure of cognitive abilities of students will help teachers "smooth out" discrete and heterochronous nature of the development of individual components cognitive abilities. This will allow us to elaborate and experimentally substantiate a universal theory of optimization of the learning process in higher education.

There are principles of the functioning of perception in solving the following problems:

- selection of an object from the background
- object code generation
- establishing the identity and differences of objects
- categorization of objects
- formation of cognitive patterns for spatial scenes
- formation of representation

Perception can be represented as a process that works according to two opposite strategies: decomposition and integration. Both strategies are used in the process of visual code of objects or scenes (a system of objects located in space). The choice of strategy is determined by both the willful message of the individual and the nature of the stimulus material. Knowledge - both verbal in nature and motor skills - affects the process of perception. The accuracy and speed of perception of all types of incentives is improved as a result of training. This is due to the fact that with repeated repetition of the stimulus, its generalized code is generated and stored, which makes the recognition process more efficient. In the process of perception, the operation of establishing similarity is often used. Objects are compared by comparing parts of objects. This method is called structural comparison.

In the problem of the background and the object, the division into a significant and insignificant object is presented as a concentration of attention "here" and "now", and the background is the context of the situation. The division into background and object is relatively and dynamic, i.e. the background "here" and "now" can become an object anywhere and sometime.

For quite some time, psychologists have been interested in the problem of the child's mental development, and a person has become a "victim of childhood". The psychology of mature ages, which includes student age as a transition from youth to maturity, has become a relatively recent subject of psychological science. Here adolescence was considered in the context of completion, curtailing the processes of mental development and was characterized as the most responsible and critical age.

Considering students as "a special social category, a specific community of people organized by the institute of higher education," I.A. Winter distinguishes the main characteristics of student age, distinguishing it from other groups of the population

by a high educational level, high cognitive motivation, the highest social activity and a rather harmonious combination of intellectual and social maturity. In terms of general psychological development, students are a period of intense socialization of a person, the development of higher mental functions, the formation of the entire intellectual system and the personality as a whole. If we consider students, taking into account only biological age, then it should be attributed to the period of youth as a transitional stage of human development between childhood and adulthood. Therefore, in foreign psychology this period is associated with the process of growing up.

The period of youth has long been considered a period of preparation for adult life, although in different historical epochs he was given a different social status. The problem of youth worried philosophers and scientists for a long time, although the age boundaries of this period were fuzzy, and the ideas about the psychological, internal criteria of adolescence were naive and not always consistent. In terms of scientific study of youth, in the expression of P.P. Blonsky, became a relatively late achievement of mankind. Youth was unequivocally assessed as the stage of completion of physical, puberty and achievement of social maturity and was associated with growing up, although ideas about this period developed over time, and in different historical societies it was marked by different age boundaries. The very notions of youth have historically developed. I.S. Cohn noted that "age categories in many, if not all languages, initially denoted not so much chronological as social status, social status". The connection of age categories with social status remains even now, when the estimated level of development of an individual of a given chronological age determines his social position, nature of activity, and social roles. Age is influenced by the social system; on the other hand, the individual himself assimilates in the process of socialization, accepts new ones and leaves old social roles.

Student age is a sensitive period for the development of the main sociogenic potentials of a person. Higher education has a huge impact on the human psyche, the development of his personality. During the training at the university, in the presence of favorable conditions, students develop all levels of the psyche. They determine the orientation of the human mind, that is, form the mindset that characterizes the professional orientation of the individual. For successful study at a university a rather high level of general intellectual development is required, in particular perception, memory, thinking, attention, imagination, erudition, breadth of cognitive interests, etc. With a certain decrease in this level, compensation is possible due to increased motivation or performance, perseverance, and thoroughness or accuracy in learning activities.

Thus, there is an objective need for the organization of independent cognitive activity of students of a higher pedagogical institution in the new socio-economic conditions at the modern level of scientific and technological progress. The development of professionally significant personality traits of a future university graduate, including cognitive independence, plays an important role in the training of a specialist in modern society.

The upbringing and development of creative abilities of cognitive independence is caused by the need to resolve the most controversial time requirement - the maximum possible amount of knowledge in the least amount of time, which causes learning difficulties and requires constant improvement of teaching methods and forms of organization of the pedagogical process in a university, a clear definition of the structure of the content of each educational subject. If there are works on the organization of students' cognitive independence during the educational process, the researchers pay insufficient attention to the problem of their independent activity in pedagogical practice. Therefore, it is very important to find out the conditions and forms of organization of pedagogical practice, when the need to apply both the knowledge gained at the university in practice and the acquisition of new information in the process of independent cognitive activity would serve as one of the main means of forming and developing cognitive needs and cognitive independence as a personality trait future teacher.

In a higher pedagogical institution, pedagogical practice makes such a contribution to the professional training of students that is not compensated by the study of all disciplines: practice acts as one of the most effective means of intellectual and professional development of a person, the creativity of his thinking, and creativity. The urgent task of teaching practice is the formation of the personality of a teacher of a secondary school it is practice that is the leading link in the system of arming students with professional skills, their comprehensive preparation for teaching and continuous self-improvement.

We should not forget about intellection of students. Learning is essentially a process of thinking. Although the process of thinking is subject to general logical laws, different people think differently. Individual characteristics of a person's mental activity are primarily the result of the development of his mind in the process of life, in the process of education. The characteristics of the human mind also depend on the type of nervous system, on the dynamics of the main nervous processes of excitation and inhibition, as well as on the ratio of the development of the first and second signaling systems.

Differences in the nature of people's mental activity are manifested in the various qualities of the

thinking process that a teacher should be aware of. Knowledge of the student's thinking will allow him to present the features of his intellect, evaluate his abilities, determine where and in what they will show themselves better: in the process of solving practical problems or in solving abstract logical problems.

For the perception of information, the type of mental activity is important - figurative or logical, with which the nature and mechanisms of preserving a particular material in a person's memory are connected. Logically-thinking people can conditionally be divided into two categories: some think theoretically, others empirically (from gr. Empiria - experience, practice). Most clearly, the character of a person's thinking is manifested in how the material retains its logical memory, that is, not in simple passive memorization, but in mastering, selecting according to the degree of importance and processing of the material.

Thus, in the educational process of higher pedagogical schools, pedagogical practice has considerable potential for improving the professional training of students, which is not always effectively used due to insufficient theoretical knowledge of the problems associated with the implementation of the above-mentioned possibilities of pedagogical practice.

The tasks of this stage of the experiment:

- 1) identify the dynamics of integral indicators of cognitive development abilities of university students of various specialties from 1 to 5 course;
- 2) to clarify the development curves of cognitive abilities of students of various specialties during their studies at the university;
- 3) to find out the nature and intensity of the development of cognitive abilities in his student years;
- 4) find out whether the specialty in which students are studying affects level and features of the development of their cognitive abilities.

For current education, it is not so important to teach a certain amount of knowledge how to develop the ability to acquire and use this knowledge. And this is achieved only (like everything in life) in the process of work ". The small-time pedagogical practice of students in the educational process at the university, the tight limit of study time allocated to individual lessons with interns, create significant difficulties during the formation and development of professionally significant qualities of the personality of the future teacher, the most complete mastery of the abilities and skills of pedagogical activity and self-education, which requires the use of a highly effective methodology. There is widespread reliance on the cognitive independence of students with optimal management of the pedagogical process.

The pedagogical and methodological literature does not sufficiently cover the didactic foundations of this process. The conditions for future teachers to practice in high school stimulate mainly

reproductive processes, as a result of which the creative vision of pedagogical work, sensory and productive thought processes are practically not activated.

During the course of teaching, students rethink the knowledge acquired in the university, but the attitude to the need for independent cognitive activity, in particular, to the process of continuous self-education, as a whole, is different: for some, great interest, greater desire work, while others have less, and the desire for cognitive activity receives unequal stimulation.

In the course of monitoring the progress of pedagogical practice, we were convinced that the problem of the formation of future teachers' skills of independent cognitive activity, the development of cognitive independence as a quality of their personality requires an integrated approach in its solution:

- scientific substantiation of the essence of this quality of personality and the content of independent cognitive activity;

- development of methods for organizing independent cognitive and professional activities with elements of students' creativity in pedagogical practice;

- management and self-management of the activity under consideration at different stages of the independent work of the future teacher;

- development of a planning system and organization of independent cognitive activity of students during the implementation of the educational process in high school.

By the time a student undergoes pedagogical practice, rational methods and methods of teaching and teaching work that meet modern requirements are often not formed; there are no necessary skills for the processing and assimilation of information, independent work aimed at resolving a problem situation, and therefore the student in practice is not able to teach the student how to learn. The reason for this fact is that the disciplines of the psychological and pedagogical cycle and the methodology for teaching private disciplines do not provide the formation of professional skills for organizing independent cognitive activities at the proper level for both schoolchildren and students.

The social significance, the underdevelopment of the problem, the difficulties arising in solving it during the pedagogical practice of future specialists in high school, determined the choice of the topic of our work.

The noted shortcomings of pedagogical theory and practice underlie the contradiction that determines the direction of our research: between the need to develop the cognitive independence of students as a professionally significant quality of their personality, contributing to their self-education, on the one hand, and the insufficient development of psychological and pedagogical foundations for the development of cognitive independence of students

on pedagogical practice focused on quality training for teaching activities in dynamic school, aimed at arming students with the necessary methods and techniques of self-learning activities, contributing to the process of continuous self-improvement of the future expert - on the other. This contradiction determined the relevance of the topic that we selected for the study.

The development of students' cognitive independence in pedagogical practice is a key moment in the process of continuous professional education and self-improvement of a specialist, in which the independence of the future teacher, acting as a catalyst and the driving force of this process, performs a number of interdependent functions that are realized in the cognitive process in unity: teaching, educating, developing, testing, diagnosing functions. Continuing education of a specialist, in which the university studies and pedagogical practice of a student are in dialectic unity, is at the same time an important condition for the development of the cognitive independence of a modern teacher.

The criteria for assessing the level of students' cognitive independence in pedagogical practice are: intellectually-reflexive, organizational-operational, communicative criteria based on the corresponding personality abilities, as well as: the student's knowledge of the subject taught and psychological and pedagogical disciplines; the ability to apply psychological and pedagogical knowledge in the process of practical professional activity; the ability to convey to students the amount of material required by the program is available at a fairly scientific level.

Pedagogical practice acts in the educational process at the university as an important and one of the most effective means of intellectual and professional development of a future teacher, the creativity of his thinking, arming students with professional skills, their comprehensive preparation for the continuous process of self-improvement. Teacher training is a single, holistic and goal-oriented process. At present, the processes of training and education at the university are supplemented by the necessary component of continuing professional education - postgraduate education, combining practical pedagogical activity with constant self-training and self-improvement, having both professional pedagogical and professional research aspects in the structure.

Considering that between training and education aimed at developing cognitive independence, there are a number of differences due to specific tasks facing methodologists in pedagogical practice, the forms of organization and the content of the educational process, its specific situations, means of influencing the subject of training, conditions the implementation of methods and techniques for the formation of skills of independent cognitive activity and the development

of cognitive independence as a personal quality person of the future teacher in the course of its passage through the teaching practice (including during extracurricular independent work), we are, nevertheless, in high school practice based on the provisions of the dialectical unity of training and education and finding ways of their organic compound.

The ideas of cognitive psychology give a new look at things, which finds its practical embodiment in the framework of artificial intelligence and software development. For example, the project to create an autonomous intellectual platform indicates the critical importance of cognitive science ideas. NATO holds many conferences on various issues of cognitive science. Work in the field of cognitology actively interacts with studies of cognitive processes conducted in related fields. Thus, cognitive studies of the functions of a concept in human cognitive activity made it possible to take a fresh look at the teachings of classical semantics and formal logic as a model of human mental processes.

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