



# DEVELOPMENT OF PROFESSIONAL QUALITIES OF FUTURE PHYSICS TEACHERS THROUGH THE MOTIVATION OF COGNITIVE ACTIVITY

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<b>Received</b> 28 <sup>th</sup> April 2021	The article discusses the influence of motivation on the effectiveness of cognitive activity in the development of professional qualities of future physics teachers.
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## INTRODUCTION

The decisive role in solving the problems of the all-round development of the personality belongs to the teacher. It is not enough to say that the role of teacher and instructor is highly honorable. Their role is crucial and irreplaceable. A teacher can fulfill his mission only if he has solid professional training at the level of new requirements and criteria for the quality of education, i.e. while achieving high professionalism. To solve new problems, it is necessary to look for new ways through which harmony between the personal and the public will be the most complete, with the active development of the individual and the readiness to fulfill the forthcoming professional duty. The future physics teacher can fulfill this professional duty only with in-depth training, i.e. while mastering the latest knowledge from the relevant field of science, special and professional skills. In this way, the search for methods to improve the training of a future physics teachers is an urgent problem. This process at a university should be aimed at improving the professional training, formation of the necessary professional skills as well as development of motivation for the cognitive activity of future physics teachers which allow them successfully carry out the educational process at school. The development of cognitive activity is one of the leading tasks of modernization of education, it sets requirements for personal educational results, "including the readiness and ability of students for self-development and personal self-determination, the formation of their motivation for learning and purposeful cognitive activity."

## MATERIALS AND METHODS

The study of cognitive activity originates in philosophy, where it is studied in the section "Theory of Knowledge, or Epistemology". Back in ancient times, Aristotle built a holistic doctrine of knowledge.

In the works of Leontyev A.N. cognitive activity is defined as a set of information processes and motivation, as a directed, selective activity of search and research processes that underlies the acquisition and processing of information. Under the cognitive activity of Drozina V.V. understands the personality trait characterized by: the presence of cognitive needs and deeply meaningful motives of cognitive activity; a constant desire to discover some new knowledge and modes of action.

Cognitive activity is characterized by goals and motives. The goals can be: cognition of the new, the unknown, establishing a connection between the unknown and the known, the creation of new images, concepts, objects, the use of new, original techniques and methods in activities, the need to solve a practical or intellectual problem.

The motives of cognitive activity can be a variety of mental states that induce a person to receive information about the external world and about himself. Such motives include the desire to explore the environment, the desire to satisfy interest and curiosity, to show inquisitiveness, interest and enthusiasm and realize a cognitive attitude.

Motivation is an internal impulse, an incentive to action, which helps us to finish what we started. Being at the heart of almost any action, it promotes and directs it. There is no action without motivation. The emergence, selectivity, direction, duration and stability of cognitive activity depend on motives. There are specific and non-specific motives of cognitive activity. Specific motives include internally conditioned impulses, such as curiosity,

inquisitiveness, enthusiasm and etc. All impulses caused by external reasons, such as the demands of other people, the desire to earn their praise, the desire to occupy a high status in a group or in a society, are referred to non-specific motives. A person as a conscious being, always seeks to understand and explain his actions and deeds, including those committed in the cognitive sense. This desire to find the causes of behavior explain them and predict further actions of people in psychology is called as "causal attribution." When a person looks for the reasons of the effectiveness of cognitive activity in external circumstances then the reasons have an external source of their origin. In another case, this source is in the person himself and has an internal character.

The motivation for achieving success and the motivation for anticipating failure have a great influence on the effectiveness of cognitive activity. People who are motivated to succeed are always striving to achieve a cognitive goal at all costs. To do this, they mobilize all their resources, showing great volitional efforts and maximum attention in cognitive activity. People motivated to fail do not think so much about how to succeed, but about how to avoid failure. They are often not confident in themselves, are afraid of criticism, and experience negative emotions towards activities. Both external and internal factors can be distinguished among the reasons that contribute to success or cause failure in cognitive activity. External factors include: the complexity of cognitive activity and a combination of circumstances. Internal factors are: striving to get high results and having cognitive abilities.

The motives of cognitive activity can be conscious and unconscious. Thus, as a rule, enthusiasm for the process of cognition and cognitive attitudes are unconscious. But curiosity, inquisitiveness, interest are always conscious. Cognitive interest is especially important for stimulating cognitive activity.

Cognitive interest is a special emotionally colored mental state of a person, which prompts him to study actively the world around him and himself. The learning process with interest becomes attractive and fruitful. It captures the whole person and makes his life meaningful and purposeful. Cognitive interest can be direct and indirect. Direct interest is caused by the emotional attractiveness of the object, which prompts a person to come into contact with it and examine it: touch, examine, influence it with other objects, perform mental actions with it and etc. Indirect interest is not shown to the object itself, but to the results of cognitive activity. The object itself may be unattractive for the investigator, but he must study it in order to find answers to the questions that have arisen or solve some problem associated with this object, come up with new methods of interacting with it, find new ways of using it and etc. Cognitive interests are characterized by breadth, depth, and stability. The breadth of interests is an indicator of a person's desire to engage in various types of cognitive activity, to acquire knowledge in various fields of science, technology and art. The depth of interests indicates that a person has a desire to know objects deeply and comprehensively, to study their internal essential properties, to solve some complex problem, to create any complex structure. The stability of interests is seen in the long-term preservation of the desire to engage in cognitive activities in a particular area. Sometimes people devote their whole life to study one object, proving a hypothesis put forward by themselves, inventing a new device or apparatus. All these features of cognitive interests can appear separately, by themselves, or they can be interconnected. For example, breadth of interest can be connected with depth and stability. In this case, a person can achieve outstanding results in cognitive activity, have versatile, deep knowledge in various fields of science. And, conversely, a person who has broad, but shallow and unstable interests, often has shallow knowledge and is an amateur in the field of science he is engaged in.

Cognitive interest is highly dynamic. It can go up or down. Individuals who are motivated to be successful in cognitive activity, in case of failure, interest in it increases, and among people motivated to failure, it falls.

### CONCLUSION

A person's idea of his abilities is highly important in cognitive activity. Persons who have a high opinion of their abilities, in case of failure, interest in cognitive activity does not decrease, while in people who believe that they have no abilities, it decreases. The appearance of a feeling of cognitive helplessness in a person has a definite influence on cognitive interest. Under the influence of this feeling, interest in cognitive activity decreases, and sometimes even totally disappears. The reasons for the appearance of cognitive helplessness may be, in one case, an unjustified underestimation of abilities, in the other case - a negative assessment of the results of activity by authoritative adults. The importance of the development of cognitive motives is connected, firstly, with the fact that they, first of all, contribute to the development of personality, according to L.I. Bozhovich, the process of development of the motivational sphere of a person is the central component in the formation of personality [2]. Secondly, "In the system of lifelong education, the development of cognitive motives and cognitive capabilities of the individual is of primary importance as the basis for successful learning and readiness for self-development." [3]

### REFERENCES:

1. Bakshaeva N.A., Verbitsky A.A. Psychology of student motivation: Textbook. –M.: Logos, 2006. - 184 p.
2. Bozhovich L.I. Problems of personality formation / Edited by D.I. Feldstein. –M.: Publishing house "Institute of Practical Psychology", Voronezh: NPO "MODEK", 1997.– 352 p.
3. Demytyeva O.M. FEATURES OF COGNITIVE ACTIVITY IN THE EDUCATIONAL PROCESS // Modern problems of science and education. - 2017. - No. 2.; URL: <http://www.science-education.ru/ru/article/view?id=26179> (date of access: 27.04.2021).