

# Methods of Activating Students' Cognitive Activity in Higher Education

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## **Abstract:**

This article discusses methods for activating students' cognitive activity in the higher education system.

**Keywords:** Abu Rayhan Beruni, Abu Ali Ibn Sina, Abu Nasr Al-Farabi, methods of learning a foreign language, reproductive activity, creative activity.

## **Introduction**

Our thinkers, scholars, hundreds of our teachers, such as Abu Rayhan Beruni, Abu Ali Ibn Sina, Abu Nasr Al-Farabi, expressed different opinions about cognitive activity in their works. In each era, our teachers used cognition to activate the learning of their students and to educate a complete person.

They believe that methods of educational activity are methods of using tools to master knowledge and skills. Cognition depends on the teaching methods used by the teacher in a particular lesson. Methods of educational activity include, for example, the study of literature and a summary of the content of educational material, mathematical operations in solving problems, methods of performing laboratory work and compiling reports, methods of solving problems individually or in groups, methods of studying the phenomena and processes being studied, interactivity, etc.

In general, the product of educational activity is new knowledge and skills obtained by students as a result of learning.

So, the main component of the student's cognitive activity is the educational task. The main difference between the educational task and other tasks is that its purpose and result is not to change the objects with which it interacts, but to change the student himself. Educational tasks perform

various functions. There are tasks of understanding and orientation, identification with a certain law, transformation, application, transfer to a new situation, independent construction of tasks, self-management. Some teachers cannot correctly divide the educational task. About this, that is, the objects that are part of the condition of the composition of the educational task and their functions are distinguished.

The learning tasks consist of the following parts:

O'quv vazifalari ob'yektlarini bog'laydigan munosabatlar

muammoni xal qilishga qaratilgan harakatlar

In our opinion, we can distinguish the following interrelated components in cognitive activity in solving educational problems:

1. Analysis and understanding of the problem;
2. "Acceptance" of the educational task, updating existing knowledge necessary to solve it;
3. Drawing up a plan for solving the problem;
4. Practical implementation of the problem;
5. Monitoring and evaluating the solution of the problem;
6. Activities that occur in the decision-making process.

Depending on the function performed, three types of actions are distinguished: directing, executing and controlling. Directing actions are a system of instructions by which students perform the mastered actions. This is necessary for planning the upcoming activity.

In fact, the foundations of the student's cognitive action in solving an educational problem are as follows:

1. Identify the true nature of the problem;
2. Establish logical connections between problems;
3. Promote cognitive thinking and various methods of problem solving;
4. Develop a plan to solve the problem with cognitive clarity;
5. Try to solve the problem;
6. Check the result.

A cognitively thinking student is a person who consciously exercises self-control, solves educational tasks.

To solve a problem given as an assignment, a student must have a certain set of resources that are not included in the problem and are attracted from the outside. The means of solving the problem can be material, printed and ideal.

Thus, the structure of cognitive activity includes the following components: subject, goal, motives,

According to the level of thinking of students, there are two types of cognitive activity:

Reproductive and creative.

Reproductive activity is a pattern of actions, for example, repeating and explaining the passed material, solving typical problems according to a certain algorithm, preparing a report based on independent work with literature, reading, etc.

Examples of creative cognitive activity of students include solving non-standard problems, conducting laboratory experiments, educational and research work, designing technical products, etc.

Thus, the cognitive activity of students is their conscious activity aimed at knowing the surrounding reality with the help of such mental processes as worldview, thinking, memory, attention, speech. In higher education, the cognitive activity of a student in the process of mastering subjects is the assimilation of knowledge and methods of action and self-development in the process of solving, performing, and solving educational tasks set by the teacher, given tasks, cases. In the process of cognitive thinking, the student is aimed not only at mastering knowledge and skills, but also at improving and developing his personal qualities due to the purposeful assimilation of social experience for the student himself.

In this regard, the cognitive activity of students in the educational process includes three interrelated stages:

1. At the first stage, students' cognitive activity occurs in the perception, understanding and memorization of the material being studied or the assimilation of theoretical knowledge.
2. At the second stage, students' cognitive activity in the learning process develops skills and competencies in the practical application of this knowledge, which requires the organization of special training exercises.
3. At the third stage, students' cognitive activity in the learning process is carried out in further consolidating and deepening knowledge of the material being studied, consolidating them and improving practical skills and competencies.

Analyzing the cognitive activity of students in the learning process, we see its five distinctive features:

1. is aimed at mastering educational material and solving educational problems;
2. general methods of knowledge and activities are mastered;
3. includes various activities of the student, including memorization of cognitive educational material, mental, analysis, comparison, classification, generalization, practical;
4. leads to a change in the mental characteristics of the student depending on the results of the activity;
5. leads to the student's self-development from the point of view of personal development.

Self-educational activity of students: in the context of the paradigm of “Seek knowledge from the cradle to the grave” or “lifelong learning”, as well as in connection with the possibility of providing it through scientific and artistic literature, cinema, requires special attention. Television, via the Internet - correspondence, video conferences, distance courses, various educational Internet programs and technologies, science circles, teacher-student, etc. Self-educational activity of students requires leadership from the teacher, which implies his readiness.

On the example of specific types of cognitive activity of students in the educational process, students show the value of knowledge and creative methods of action in the process of mastering professions - interest, achieving good results, revealing their abilities, self-affirmation, moving forward in development, and encouragement for further actions.

The principle of pedagogical practice was established based on the identification and stimulation of internal stimuli of cognitive and creative activity in students: “student - teacher”. In the interactive method, students' participation in special pedagogical situations created by teachers is achieved in the process of modeling their future activities. The maintenance of cognitive situations was determined by tasks of a specific practical direction.

This type of tasks is aimed at mastering methods of communication with students, observing the ways of communication and behavior of experienced teachers with students. When performing tasks of this type, such educational and creative methods as analysis, comparison, study, research are mainly used.

Specific tasks involve the activation of the integration of elements of the existing goal, the manipulation of the connections between them, the free placement of specific conditions for the application of the results of creative activity in practical tasks.

For example, in the process of testing technologies for teaching a foreign language within the framework of cognitive thinking, the minimax (minimum-maximum) principle has shown itself to be very effective, with the help of which an individual approach is optimally implemented.

That is, the minimum level of a higher education graduate is determined by the state standard and has legal status. It reflects the level of social security that each graduate of higher education should have.

The maximum level of a higher education graduate is determined by the maximum broad capabilities of the educational program used by teachers. The minimax system is optimal for implementing an individual approach to a higher education graduate, since it is a self-regulating system. Each student, according to his abilities or possibilities, chooses the final level as the maximum level of his mastery, between the minimum and maximum levels.

The essence of cognitive activity is to present students with tasks of varying degrees of complexity, including non-standard ones. Tasks that require elements of creativity. Such tasks proceed “from simple to complex”, “from easy to difficult”, “from bottom to top”, depending on the level of preparation and abilities of students. Similarly, the minimax principle is the principle of variability. Variability implies the development of non-standard thinking in students, that is, the ability to understand the possibilities of different ways of solving problems and analyze alternative options.

This activity is the cognitive activity of students. For example, students' cognitive activity is to reveal the essence of any well-known representative of their discipline, to argue or discover, as a result of students' cognitive activity, they are forced to go beyond the program, search for information, and form their own logical structure.

In cognitive activity, students develop the skills of logical thinking, cognitive activity of students to form convincing arguments for their point of view. Such a complex task requires students to mobilize all their knowledge and skills, encourages students to constantly master new knowledge in the field of pedagogy, to develop independent knowledge-seeking skills when cognitive activity is activated, to develop the skills of applying the information obtained in solving theoretical and practical tasks.

Cognitive activity helps to broaden students' worldview and, most importantly, stimulates the acquisition of a whole set of skills that are very important for the formation of a professional specialist, especially communicative skills.

In order to prevent students from developing cognitive activity spontaneously in self-education, pedagogical assistance is provided by subject teachers.

It is during the student period that not only physical, but also psychological characteristics and

mental functions: perception, worldview, memory, thinking, speech and emotions reach their maximum level of development. The student period is as favorable as possible for teaching and professional training. During this period, individual activity is actively formed. Abstract thinking begins to prevail in cognitive activity, understanding of the world begins, relationships are established between different areas of the studied reality..

## CONCLUSION

If the teacher does not develop the cognitive abilities of the student during his pedagogical activity, the students will only semi-mechanically and dogmatically memorize the studied material, which increases their knowledge, but hinders their intellectual and creative development. Performing tasks without understanding, memorizing without understanding leads to illiteracy. Most students do not have such a level of intellectual development as comparing, classifying, identifying. At the same time, creative abilities, cognitive thinking often develop and manifest themselves when solving original and non-standard problems, discovering new ones, applying knowledge in other situations, as well as when independent choice can be demonstrated.

More than half of students in higher education increase their intellectual development indicators in the process of cognitive thinking from the first to the fourth year, and as a rule, such an increase is observed in weak and average students, and the best students often leave the university with the level of intellectual abilities they have achieved.

The most important ability that a gifted student should acquire in higher education is, in fact, cognitive ability, which fundamentally affects his professional formation, because continuous education determines his capabilities. It is more important to learn new things than to master outdated knowledge over time. Even more important is the ability to acquire independent knowledge based on creative thinking.

In higher education, a student transforms the acquired knowledge into knowledge through cognitive thinking, and implements it in his professional activities. In the process of cognitive thinking, we only enslave creative achievements.

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