



ҚАЗАҚСТАН РЕСПУБЛИКАСЫ ҒЫЛЫМ  
ЖӘНЕ ЖОҒАРЫ БІЛІМ МИНИСТРЛІГІ

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«ИННОВАЦИЯ, БІЛІМ, ТӘЖІРИБЕ-БІЛІМ  
БЕРУ ЖОЛЫНЫҢ ВЕКТОРЛАРЫ»

ХАЛЫҚАРАЛЫҚ  
ҒЫЛЫМИ-ПРАКТИКАЛЫҚ  
КОНФЕРЕНЦИЯСЫ

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«ИННОВАЦИИ, ЗНАНИЯ,  
ОПЫТ – ВЕКТОРЫ  
ОБРАЗОВАТЕЛЬНЫХ ТРЕКОВ»

II КНИГА



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Жинаққа «Инновация, білім, тәжірибе-білім беру жолының векторлары» атты Алтынсарин оқулары халықаралық ғылыми-практикалық конференция материалдары енгізілген.

Талқыланатын мәселелердің алуан түрлілігі мен кеңдігі мақала авторларына заманауи білім беруді жаңғырту мен дамытудың, осы үдерісте қазақ ағартушыларының педагогикалық мұрасын пайдаланудың жолдарын, мұғалімдерді даярлаудың тиімді технологиялары мен форматтарын әзірлеу мен енгізу мәселелерін, ақпараттық қоғамдағы білім беру кеңістігінің ерекшеліктерін айқындауға, сондай-ақ педагогтердің инновациялық қызметінің тәжірибесін жинақтауға, педагогикалық үдеріс субъектілерін психологиялық-педагогикалық қолдауға мүмкіндік берді.

Бұл жинақтың материалдары ғалымдарға, жоғары оқу орындары мен колледж оқытушыларына, мектеп мұғалімдері мен мектепке дейінгі тәрбиешілерге, педагог-психологтарға, магистранттар мен студенттерге қызықты болуы мүмкін.

В сборнике содержатся материалы Международной научно-практической конференции Алтынсаринские чтения «Инновации, знания, опыт – векторы образовательных треков». Многообразие и широта обсуждаемых проблем позволили авторам статей определить векторы модернизации и развития современного образования, использования в данном процессе педагогического наследия казахских просветителей, вопросов разработки и внедрения эффективных технологий и форматов подготовки учителей, специфики образовательного пространства в информационном обществе, а также обобщения опыта инновационной деятельности педагогов, психолого-педагогической поддержки субъектов педагогического процесса.

Материалы данного сборника могут быть интересны ученым, преподавателям вузов и колледжей, учителям школ и воспитателям дошкольных учреждений, педагогам-психологам, магистрантам и студентам.

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## EFFECTIVE ASPECTS OF APPLYING METACOGNITIVE METHODS TO UNIVERSITY STUDENTS

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### **Absact**

*The article presents a look at the reforms that are being carried out to further improve and develop the higher education system in our country, and the effective aspects of using metacognitive methods in higher education institutions.*

**Key words:** *higher education system, metacognitive, skill, method, reflection.*

### **Андампа**

*Мақалада еліміздегі жоғары білім беру жүйесін одан әрі жетілдіру және дамыту үшін жүргізіліп жатқан реформаларға және жоғары оқу орындарында метакогнитивтік әдістерді қолданудың тиімді аспектілеріне көзқарас ұсынылған.*

**Түйінді сөздер:** *жоғары білім беру жүйесі, метакогнитивтік, дағды, әдіс, рефлексия.*

### **Аннотация**

*В статье представлен взгляд на реформы, которые проводятся для дальнейшего совершенствования и развития системы высшего образования в нашей стране, и эффективные аспекты использования метакогнитивных методов в высших учебных заведениях.*

**Ключевые слова:** *система высшего образования, метакогнитивный, навык, метод, рефлексия.*

Extensive work is being carried out on reforming the continuous education system of New Uzbekistan, which is boldly marching on the path of independent development, increasing the efficiency of education, bringing the quality of education to the level of world standards. In modern conditions, various pedagogical-psychological and innovative methods of educational activities of students are used to organize the educational process.

In our country, the necessary conditions and opportunities have been created for our citizens to receive education and upbringing at the level of world standards, to acquire a profession, and to realize their creative potential. Based on the new conditions, the laws of the Republic of Uzbekistan require ensuring the continuity and consistency of the educational stages, creating a modern methodology of education, improving and implementing the state education standards according to the competency approach.[1] President Sh.M. Mirziyoyev says about this as follows: "Barchamiz yaxshi tushunamiz, ta'lim-tarbiya har qaysi davlat va jamiyatning nafaqat bugungi, balki ertangi kunini ham hal qiladigan eng muhim ustuvor masaladir. Shuning uchun mamlakatimizda bu masalaga jiddiy e'tibor qaratilmoqda".[2]

The current conditions in our country serve to implement measures aimed at improving the higher education system. It is considered the most important condition for raising the spiritual, moral and intellectual development of students to a new level in terms of quality in higher educational institutions, and also helps to use innovative forms and methods of education in the educational process.

The use of metacognitive methods in the didactic process and the rational organization of the pedagogical system are of great importance in the training of students as worthy personnel in the educational process of higher education institutions.

The concept of "metacognition" was first introduced to science by John Flaywell in 1976. According to him, the field of knowledge that encourages the control of a set of general knowledge about human cognitive processes is called the field of metacognition. Dj. Flaywell distinguishes 4 components of metacognition: metacognitive knowledge, metacognitive experience, metacognitive goal, metacognitive strategy.[3]

The English scientist A. Brown stated that metacognition is the knowledge acquired by a person about his own knowledge. The scientist recommends learning metacognition based on two categories:

1. Knowledge of cognition is a set of activities, a reflexive process that controls conscious cognitive behavior and abilities;
2. Regulation of knowledge is a set of actions and activities that coordinate the feeling of striving for knowledge in didactic processes.

Similarly, A. Brown[4] states that metacognitive processes coordinate and control educational processes and organize activities consisting of several systems:

- The process of activity planning (formulating a plan, seeing the result, analyzing the shortcomings);
- Activity control process;
- Control of the effectiveness of cognitive activity.

The English scientist R. Kluwe also distinguishes two systems that coordinate and control cognitive activity in metacognitive processes.

In particular:

The control process is a guiding process that encourages the identification of assigned tasks, evaluates one's own activities, plans future activities, and ensures effectiveness;

The management (regulation) process is a process that helps to allocate resources for the execution of the given task, and determines the algorithm of task execution.[5]

D. Wrigley, P. Shetts, R. Glanz and S. Weinstein in their research describe metacognition as the process of using reflection to consciously study one's knowledge, to determine the strategy of one's thinking activity. recognize as a set of behaviors.[6] According to scientists, planning, strategy of determining behavior, monitoring of cognitive processes occupy an important place in the conscious learning activity of a person.

S. Tobiasi, H. T. Everson proposed a hierarchical model of metacognition, and showed that it is important to evaluate knowledge, evaluate the quality of teaching, plan future educational activities, and determine the educational strategy.[7] According to scientists, the monitoring of knowledge is an important step in the formation of metacognitive skills, which determines what a person knows well and what he needs to learn.

The Russian scientist M. A. Kholodnaya, like other authors, emphasizes that the processes of metacognition are not limited to the ideas that knowledge can be determined only by conscious control. M.A. Kholodnaya distinguishes three stages in the formation of mental abilities: [8].

- Cognitive knowledge (experience) – mental content, that is, the stage of systematizing, interpreting and perceiving received information;
- Metacognitive knowledge – reception, management (regulation) of information received directly and indirectly in the management of intellectual activity. Metacognitive knowledge provides intellectual control over directly received information and serves to develop metacognitive knowledge.
- Intentional knowledge (experience) is a mental content that directs intellectual tendencies.

Research shows that children with metacognitive skills have higher intellectual abilities when they are admitted to school. Metacognitive skills increase the child's level of thinking, develop metacognitive processes. During the execution of the tasks, the child learns to concentrate, can sort the information, evaluates his activity.[9]

Manifestations of human metacognitive activity J. Piaget's operational theory, [10] Dj. Bruner's cognitive concept A. Nioell, Dj. Shaw, P. Lindsey, G.A. Simon[11] and other theories of thinking, P.Ya. Galperin, N.F. Talizina[12] and others' concepts of activation of mental processes also explain the state of being able to control cognitive processes.

From the analysis of the above scientific views, theories and concepts, it is worth emphasizing the importance of forming metacognitive skills in students of higher education.

One of the important components of metacognition is metacognitive strategies. Dj. According to Flaywell, these strategies serve to control and monitor the goals of a person's learning [13].

Researches of scientists show that the formation of metacognitive skills in students is the main process that guarantees them to become qualified specialists.

Metacognitive strategies are a certain structure of thinking that directs thinking strategies, controls dialectical mental actions.

Metacognitive strategies coordinate cognitive processes and encourage them to perform the following mental behaviors:

- 1) the realization that the current mental strategy is unreasonable and the need to develop a new structure for it, the dialectic of developing an alternative, alternative strategy;
- 2) transformation of the current strategy, i.e.
  - a) by developing a new one instead of the previous outdated strategy;
  - b) combining two or more strategies through mental generalizations, etc.



Based on the above-mentioned points, it can be noted that the pedagogy of higher education should take into account the organization of metacognitive education in modern higher education institutions, which continues the continuity of education. In higher education, on the basis of diversity, it creates the situation of cultivating opinionated individuals by forming students' skills in the socio-economic spheres of life. On the other hand, the provision of flexible education aimed at the formation of metacognitive knowledge in higher education is measured by the determination of the level of independent, humanitarian subjectivity of students during their working life after completing higher education.

In higher education, it is important to train specialists on the basis of methods that form students' metacognitive skills (self-control, observation, reflection).[14]

Using metacognitive methods in higher education can be divided into certain criteria for training specialists:

In higher education, the training of specialists based on the application of methods that form students' metacognitive skills (self-control, observation, reflection) is of great importance.

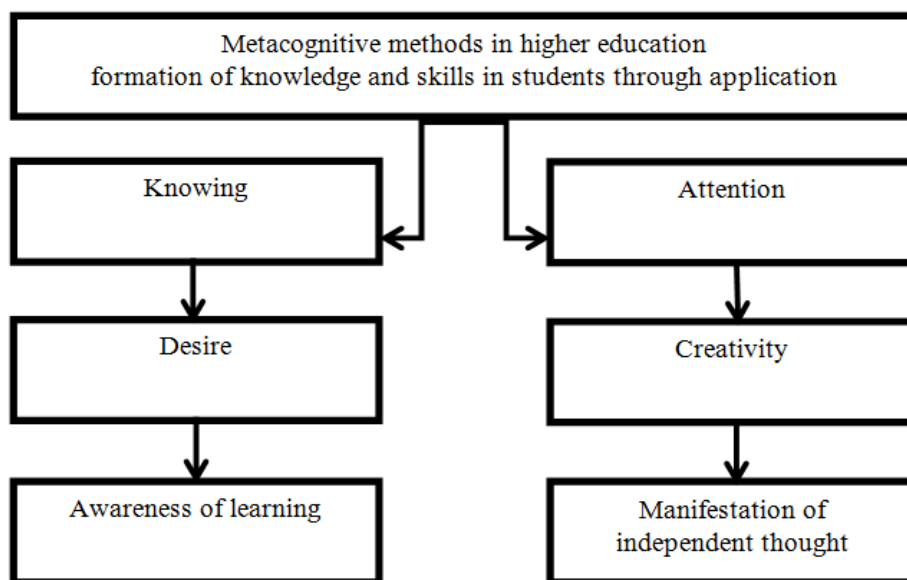
Using metacognitive methods in higher education can be divided into certain criteria for training specialists:

Table 1

**Criteria for increasing students' knowledge potential by using metacognitive methods in higher education**

<b>T/r</b>	<b>Criteria for forming metacognitive skills</b>	<b>Metacognitive methods</b>	<b>The result</b>
<b>1</b>	Extracting the most important concepts from the explained information. Ability to analyze data in information	Classification	understanding of educational materials; being able to consistently develop students' interests and aspirations based on dialogue;
<b>2</b>	Being able to compare one's existing ideas with those of others	Classification	to be able to present educational materials in the learning process in harmony with students' personal experiences and knowledge;
<b>3</b>	Be able to compare data with each other	Comparison	as an indicator of cognitive activity, moderation, enthusiasm, awareness of learning, creative expression
<b>4</b>	Being able to express an independent opinion	Reflection	behavior in non-standard educational situations, independence in solving educational tasks, etc
<b>5</b>	To be able to justify one's views	begins to solve the problem	each child in the group should cooperate with each other to complete the task set before them
<b>6</b>	Being able to express one's reaction to the events in the topic		awareness of learning, creative manifestation

As shown in the table, the components of the criteria for increasing the knowledge potential of students by using metacognitive methods in higher education: the object and subject of knowledge, the methods and tools of knowledge, the result in the form of knowledge and the knowledge that reflects its evaluation. to reveal the nature of the cognitive process based on an active, relational, valuable approach, which is considered as a type of activity. So, in this process, reflection is manifested in the form of reflection directed at the analysis of the student's personal thoughts and experiences. Due to reflection, the student becomes the original subject of knowledge and activity.



Picture 1

In conclusion, the scientific research carried out in recent years improved the development strategy of the higher education system of our country and the teaching quality monitoring model that determines its effectiveness, identified the system of educational quality indicators and put it into practice. showed the need for research. In addition, organizing classes for students using metacognitive methods in higher education and comparing the results with the achievements of students in developed countries of the world guarantees the effective functioning of educational institutions and the system. It shows that the development and implementation of state programs, educational-methodical complexes, multimedia applications based on the competence approach as a principled new methodology of training specialists using metacognitive methods in higher education has become one of today's urgent problems.

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