

## ACQUIRING NEW KNOWLEDGE BY SERVING PEDAGOGICAL TOOLS

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### Abstract

This article is discussed about the interests of students during educational process. There are given some educational and theoretical aspects of this process.

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Independent activity of the teacher is another way to stimulate interest in learning. Independent activity allows the formation of activities that serve to gain knowledge. Such issues are reflected in the works of many researchers. Information on the importance of independent work and the need for self-education, creative independent learning, V.I. Andreeva, S.I. Arkhangelsky, I.Ya Lerner, P.I. Pidkasistogo, G.I. expressed in works written by Shchukina and a number of other authors. "First of all, it is necessary to build the educational process on a fundamentally new philosophical, psychological and pedagogical basis - on the basis of teaching creative self-development of the individual" (6, 33). V.A. According to Andreev, a person cannot achieve a high level of education and culture without understanding the need for self-development. Most researchers say that the task of forming skills of creative thinking and independent acquisition of new knowledge in the process of studying in higher education institutions is brought to the fore. "Independent activity activates thinking, contributes to the creation of own views and judgments. A specialist who has not learned to work independently cannot turn his ideas into huge projects and constructions. A person truly owns what he has achieved through his labor" (36, 39). The main direction of the development of teaching in the form of lectures is to further enrich and expand the task of reading lectures and allow students to be more engaged in independent work. S. I. Arkhangelsky pays great attention to the issue of teaching students to think independently, which he considers to be one of the most important tasks facing modern higher education. "The ability to think is the ability to use knowledge, methods and tools of science" (10). About the importance of independent work, B.V. Gnedenko also said: "Each independently solved problem, each independent overcoming of difficulties in acquiring new knowledge forms human character and sharpens creative abilities" (53, 20). However, creative success cannot be achieved if the problem is not approached with sincere enthusiasm. "The most important aspect of pedagogical psychology is the formation of students' ability to work independently in new conditions and acquire new knowledge" (36, 31). In the process of learning specific information, it is necessary to develop students' independent thinking skills and teach them to think. Increasing the activity of students requires a revision of the methodology of teaching intellectual ability, significantly higher costs, pedagogical work and high skill. During the lecture, it is necessary to manage the student's activities, to form his need for constant self-education. In this regard, the teacher becomes not a carrier of scientific information, but an organizer of students' independent learning activities (36,92). "In theory and practice, the main focus is on the teacher's teaching activity and the student's learning activity" (35, 30). The importance of independent work V.B. It is interpreted by

Bondarevsky as follows: "A good explanation of a subject by a teacher brings students into the world of initial scientific interest. But it can give the desired pedagogical result only when combined with the student's independent work. (29, 75). Independent work of students is considered one of the most important stages of the lesson and allows any subject teacher to have a targeted and systematic impact on the interests of students that serve to gain knowledge. Study conditions in higher education institutions require students to independently organize educational activities more than in schools. It is important to build a whole structure of students' learning activity in the interrelationship of all its components (35, 27). According to the activity approach, mastering the content of the historical experience gained by people is not carried out by conveying information about it to the student, but in the course of their own activities focused on the realities and events created as a result of the development of human culture around them. The activity process is the process of forming human abilities and tasks at the same time. We show the work performed by the teacher in the organization of activities aimed at acquiring knowledge: "The teacher does not stop stimulating the students' interest in gaining knowledge in the conditions where students have the opportunity to work independently, to become subjects of activity" (216.65).

Modern research data confirms the role of activities that serve to acquire new knowledge as an active factor in increasing interest in learning and learning. The quality of arming young professionals with theoretical knowledge and practical training, the development of creative activity depends on how the knowledge process is organized, and what teaching methods are used by teachers of higher education institutions. It is independent work that becomes the main reserve for increasing the efficiency of training specialists. In order to increase interest in the studied topic, the educational process should be organized in such a way that the student takes an active role: he participates in the process of independent research and acquisition of new knowledge. "One of the important directions for the development of education, including professional education, is to revise the concept of organizing learning and learning activities" (35, 29). According to the researchers, informational teaching methods do not meet these requirements, because in typical lectures, the teacher often tells the new material, and the students listen to it. "For centuries, the school education system was built according to a single mechanism: the teacher gave knowledge, taught in his subject, the student received knowledge, studied this subject" (29, 25). Even in the most active process of perception, that is, even when the mechanism of perception does not work, only the activity of the teacher prevails. In learning activities, the level of activity of the listeners is low, and the creative components of these activities are also less. In such an environment, it is not always possible to acquire knowledge and methods of its use, and the desire to search, invent, and rationalize is not encouraged. In practice, the informational method of teaching is mainly focused on the performance of activities (36, 31). D. Poya stated that "great opportunities have been created for the teacher of mathematics. If he "coaches" students to perform exercises in a certain pattern and fills the allotted academic study hour, he kills the students' interest, slows down their intellectual development and loses the opportunity" (158, 5). Researchers have distinguished the psychological and didactic aspects of personal activity activation in the educational process. Significant progress in higher education didactics in recent years is mainly related to the study of the laws of the educational process, which resulted from the rapid development of such sciences as cybernetics, physiology and psychology, which, in turn, led to the emergence of new concepts and terminology. (36, 14). Visibility is one of the main didactic principles of teaching and helps to develop interest in science. The famous German mathematician F. Kline recommends explaining a serious subject like math as visually as possible. "If you do not teach mathematics demonstratively, and if you do not know how it relates to other fields, and most importantly, if you are not aware of the historical development of this subject, then you will lose your place" (83, 351). In the work done by the researchers, the dynamics of studying the interest that serves to gain knowledge depending on the time allocated for the lesson is considered. The most optimal aspect of the activity of interest in learning in the lessons is that it increases gradually; The most ineffective aspect of interest activity is its decline towards the end of the

lesson. V.N. As shown by Maksimova (107, 89), a high level of interest allows selection to perform complex tasks that serve to acquire knowledge. Therefore, the ability to interest students in the educational process is important in improving the quality of education. A comprehensive analysis of the increased interest in learning and its pedagogical aspects showed that the interest in learning significantly changes a person's attitude to the surrounding reality and the topics being studied.

The main issue that is studied didactically in the study of students' interest in learning new knowledge is its place in the educational process, the sources and methods of its stimulation, its interrelationship and influence with the methods of activity to acquire knowledge. As a result of intense interest, tension, weariness, and boredom can be relieved, "which makes possible a free and easy acquisition of knowledge" (216.45). The maximum use of all the opportunities given to the teacher to develop students' interests and demonstrate their interest in learning effectively solves the task of training a creative person. Taking into account the above-mentioned aspects, it can be concluded as follows:

1. Pupils' interest in learning, the stability and strength of these interests are closely related to the nature of educational work in science.
2. In the process of pedagogical influence, the interests that arose among students are becoming more and more stable depending on the daily creative activities of teachers and students, the coordination of creative tasks in the classroom and at home, the choice of teaching methods, the systematic mental work and independent activity of students. (29, 83). Activation of creative activity implies the student's participation in it as the main participant, and this is possible only if one of the leading personality traits is cognitive activity. This characteristic of a person is manifested in the direction and stability of interest that serves to gain knowledge, the desire to effectively master knowledge and methods of activity, and the mobilization of voluntary efforts to achieve the educational goal. Cognitive activity of students is a complex and extensive phenomenon. Its components are the purpose and desire, content, level, method, method and results of the activity. In this case, the main goal is to activate the intellectual activity of students at all stages of the lesson. V.A. In the concept of creative self-development, Andreev describes the principle of personal importance of educational and creative activity and emphasizes that this principle is based on the law known in psychology, according to which any human activity is more effective in any situation, no matter how important it is for the individual.

Dlya prakticheskogo primeneniya studentam rekomenduyutsya sleduyushchie privala: For the practical application of these rules by students, the following is recommended:

1. "When a student engages in any activity, including educational and creative activity, it is necessary to understand its main, ultimate goal.
2. Comparing the current goal with personal important desires, it is possible to witness that they have the following aspect:

desire to succeed, desire to get high marks;

- interest in gaining knowledge and researching new things (desire to learn, explain something);
- the desire to be the first, to be a leader;
- the desire to master a new way of performing creative tasks, etc.

3. Among the goals, priority should be given to those aspects that contribute to the success of education and creative activity at the same time and are important for you personally" (6, 170).

One of the ways to increase interest in mathematics for students studying in the Faculty of Social Sciences and Humanities is to emphasize the practical orientation of teaching. V.G. According to Boltyansky, students become convinced of the importance of mathematics, "see the useful aspects of the science and its necessity for practical activities, and understand the wide possibilities and

importance of the science of mathematics in the modern cultural environment" (28, 7). Today, the question of students' interest in learning is being studied more and more in the framework of various activities of students, which allows creative teachers-coaches to effectively increase and develop students' interests, enrich human personality, and have an active attitude to life. We remind you that student activity plays an important role in the effective organization of the teaching process of mathematics. One of the manifestations of student activity is their interest in science, the material being studied, the content of tasks and methods of solving them.

While studying the psychological, pedagogical and methodological literature, we were convinced that one of the main factors of teaching mathematics to students of the Faculty of Social and Humanities is the comprehensive development of interest in the material studied in mathematics, as well as in teaching in general. In fact, it is impossible to achieve any results in learning if the student does not take it seriously. The proposed concept of forming the interest of the students of the Faculty of Humanities to study mathematics allows to implement the programmatic and targeted direction of the organization of the educational process using the pedagogical experience gained in educational activities. Contextual education, student-oriented education, the concept based on a holistic approach to the ideas of creative self-development of the individual is explained by the psychological, pedagogical, didactic and organizational directions of improving the educational process. The methodological basis of the structure of the developed concept is the fundamental ideas of the contextual approach to active education in higher education institutions, the concept of student-oriented education and the ideas of creative self-development of the individual. On the basis of contextual education A.A. The ideas of Verbitsky's contextual approach lie. This type of teaching is called contextual teaching, in which "the subject and social content of the specialist's future professional activity is modeled with the help of a system of didactic forms, methods and tools, and abstract knowledge is mastered as its sign system" (35, 32).

It fills the educational process with meaning that includes the human personality, creates opportunities for setting goals and realizing these goals, ensures the transition of activity from the past to the future, from education to work (production). The methodological basis of the person-oriented approach is the developing concept of person-oriented education, the main idea of which is the activation of personal tasks set by the student in the educational process. Person-oriented approaches are confirmed as a priority in modern higher education pedagogy. An important procedural feature of person-oriented education is a learning situation that requires tasks that serve for the personal development of students. In the individual-activity approach, when the student is a participant of the activity, it is necessary to take into account the psychological characteristics of the participant of the activity and create a system of educational tools accordingly. The concept makes it possible to implement a person-oriented approach to the education of students, to take into account the level of development of their psychological characteristics and abilities.

In developing this concept, V.I. Andreev's comments on creative self-development of the individual were used. "Creative self-development of a person is a special type of creative activity of a subject - a subjective direction aimed at activating and improving the process of "self-awareness", including self-knowledge, creative self-determination, self-management, creative self-awareness and self- - self-improvement forms the system" (6, 41).

Note that "creatively, the process of self-development encompasses all aspects and desires (needs) of the human personality, both intellectual, emotional, and volitional, but most importantly, it (this process of self-development) is based and every always rises to a new level of self-development and activity, that is, strengthens the processes of "self-knowledge": for example, self-knowledge, creative self-determination, self-management, creative self-awareness, self-improvement, etc. can be obtained (6.41).

In the development of the concept, the content and procedural aspects of the educational process were considered as a whole.

The essence of the concept of increasing the interest of students studying in the field of social and humanities in the study of mathematics is that it focuses on:

1. Methodology for studying mathematical preparation and students' attitude to learning this subject in HEIs, including the following components:
  - Comprehensive tests (entry test, current and final tests). Conducted tests include not only determining the level of knowledge of students, but also their attitude towards the subject;
  - use of statistical analysis to process the results;
  - to study the level of formation of the stimulating sector;
2. Special methods and tools that arouse the interest of humanitarian students in learning mathematics, including:
  - an author's program defining the content of mathematical education in accordance with the goals of training a modern teacher in the humanitarian specialty;
  - a study guide developed in accordance with the program. The analysis of psychological-pedagogical and methodological literature allows us to come to the following conclusion: it is possible to educate the student's cognitive activity only by increasing his interest in learning science. The methods of stimulating interest in students, which serve to gain knowledge, include: the content of the educational material; student's independent work; creating a comfortable emotional environment for educational activities, communication, positive emotions.

In conclusion, teachers play important role in educational process. The teacher helps students enter a creative environment, gives ideas that create great opportunities for independent research and new scientific discoveries. B.V. According to Gnedenko, "because of this, young people are attracted to scientific research and show their creative potential" (53.16).

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