Activization of Students Learning and Cognitive Activity

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Abstract--- Activization of students' learning and cognitive activity remains the key problem in the educational process. The learning and cognitive activity of students involves the development of self-dependence and creative activity in the process of learning. The activity of students means the consciousness of execution of educational tasks, systematic character of training, the desire to increase the level of knowledge, etc.

Keywords--- Activity, Motivation, Interest, Learning.

I. INTRODUCTION

Human activity always has a direction and a goal. Activity is a unified system of actions, which are stimulated by a motive. The intensity of human activity generates a cognitive interest. Human cognitive activity is a process of interaction between external and internal factors. The external factors - communication, encouragement, teaching style, teaching methods - cannot be influenced by the student, but they can influence his cognitive activity. The student can have a volitional impact on the formation of internal factors - interest, self-control, self-esteem, self-dependence, thinking, purposefulness.

Cognitive activity of the individual is a conscious activity, aimed at acquisition of information, development of knowledge and experience. In the process of cognitive activity, the student performs the following actions: he listens to lectures, works with a textbook, solves the tasks, etc. Each of these actions has a positive effect on the processes of thinking, imagination, memory, attention, which are necessary in the educational process. Thinking is a leader among all the cognitive processes. Thinking accompanies all other cognitive processes and determines their character and quality. Special attention is paid by the teacher to the use of methods and techniques that require active mental activity - to see the problem, to simulate the situation, to be able to conduct a dialogue, discussion.

The system of teacher's work for enhancing the learning activities of students needs to be formed with regard to the gradual and purposeful achievement of the desired goal - the development of students' cognitive and practical skills.

II. METHODS

An important means for improvement the quality of students' training is to generate the interest in learning. For the development of cognitive interest in the studied material and subject, the method of this material teaching is of great importance.

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The teaching methods are a system of consecutive interconnected actions of the teacher and students, ensuring the digestion of the studied material. As parts of teaching methods, techniques are distinguished – the elements of the method, certain steps in the implementation of the methods.

III. RESULTS

Active cognitive work has to be organized from the very beginning of the lesson, since the further continuation of the lesson depends on the initial organization, on the ability to gain the attention of students. The most effective method for enhancement of students' learning and cognitive activity is the unconventional beginning of the lesson – attraction the attention of students (quotation from fiction, proverb, epigraph, video clip, rebus, riddle, country sayings, etc.).

Lecture – is the leading form of the educational process. In this case, it is possible to achieve the activization of students, if the intensive work of each student is provided in any way and by any means, during the entire course of the lecture. The check test of all students at the end of the lecture is one of the effective ways [Shchukina, 2011].

The technique *"echo"* consists in the clarification of information. Important points of the lecture: the teacher asks the students to repeat his statements in arbitrary form, using several phrases. This method will help the teacher to conclude how well his students understood the theme, and also to focus on the most important points of the lecture material.

Note taking of material can also be used to activate students. In this case, the lecture notes is a written text, which stimulates the student to attentive listening. The students should have the skills of rational note taking. The use of this method is important in case of problems with educational literature.

The technique *"resume"* – the lecturer offers the students to reproduce his words in short, at the end of the lecture. Brief, generalized material of the lecture is convenient to use when discussing some problems [Lucas, 2003 Snow and Farr, 1987 Carpenter, Pashler, Wixted & Vul 2008 Cepeda, Coburn, Rohrer, Wixted, Mozer & Pashler, 2009].

Test questions are considered to be effective in case of check of lecture material digestion. Students are asked questions to which they have to give definite answers, i.e. date, name, surname, etc. Switching of attention from one type of activity to another activates it, and also removes the tension, created during the work.

The technique *"lapse of memory"* is a pre-planned forgetting by the teacher of facts, obvious enough for the audience: date, formula, name, term, title, and so on, asking to help him remember.

Laboratory or practical classes - the activity of students is achieved by the independent fulfillment of tasks, according to the predetermined plan, under constant supervision of the teacher. Using this method, the students comprehend, detail, and reinforce new educational material, obtained during the lecture in a generalized form.

The technique *"intentional error"* consists in the finding errors by the students in the process of presentation of the studied material. The errors are recorded on the previously prepared sheets of paper, which at the end of classes are handed over to the teacher for testing.

The most modern forms of active methods are *interactive methods* ("Inter" means mutual, "act" means work). These are the methods of interaction, so, the students are in conversation mode. First of all, interactive learning is conversational learning. The essence of the interactive method of learning can be explained by the Chinese parable: "Tell me and I'll forget; show me and I may remember; involve me and I'll understand" [Kiseleva and Zinnatullina, 2018].

Game method of teaching represents the activity, aimed at the organization of training, as well as at the upbringing and development of the individual. This method is carried out by the teacher, according to the pre-planned scenario and rules, through the immersion in a specific situation. This method is initially motivated for success, as it implies the most active position of the students themselves.

Heuristic conversation allows to find contact with the students, to endear the teacher to the students, as well as to present the studied material in interesting and vivid way, thereby helping its digestion [Kiseleva and Zinnatullina, 2017].

The method of discussion is the transition from monological interaction to diaological. The dialogue means communication between two persons. In the process of learning, the teacher creates a situation, a problem, which can be solved only by engaging another person (interlocutor) in this activity. Thus, the communication develops in the direction of solving this situation, until its resolution. Such a transition contributes to the self-realization of all participants in the dialogue. The students can express their opinions and listen to the opinions of other speakers.

Olympiads, scientific and technical conferences are the active forms of teaching. Preparing for them, the students independently conduct an active search for facts on given topics.

Test is one of the methods of students' enhancement. It allows the teacher to define the level of student's training. In this case, a large number of students are covered, and the assessment is minimally subjective [Kiseleva and Zinnatullina, 2016].

Seminar refers to active learning in case if all the students were involved as speakers or reporters.

Course paper is an individual method of research. These works are practiced in high school only from the second course. The student is given a specific topic, on which he explores the necessary literature, and conducts independent scientific research. In perspective, this course paper can be used when writing a diploma paper, if the theme is the same.

Diploma papers (graduate qualification works) are individual scientific and methodological researches. Under the guidance of a supervisor, graduate students perform their thesis. The student in this work systematizes and consolidates the knowledge, skills and abilities, obtained during the study of theoretical and practical classes, shows the level of obtained qualification.

Student's scientific research project (*SSRP*) is typical for any higher educational institution, since it is a part of the educational program. In this type of work, the student reveals his creative potential and also demonstrates his individual abilities. More in-depth study of the material occurs in case of a close interaction between the student and the teacher [Gazizov, Gazizova, Kiseleva and Zinnatullina, 2018].

Work experience internship is the intense student's activity. When appointing to some position, the student-trainee bears responsibility, and is forced to make decisions independently. So, in such a way, active learning takes place.

Activization of students' learning and cognitive activity is not possible without development of their cognitive interest, therefore in the process of learning it is necessary to initiate, develop and strengthen their cognitive interest systematically.

Cognitive activity and self-dependence are closely related to each other, and at the same time, these two interrelated concepts complement each other. Usually, the elements of student's activity are already manifested in his independent actions, and vice versa, the manifestation of activity directs personal self-dependence [Montgomery and Fogler, 1996].

IV. CONCLUSION

Educational process - is learning, communication, as a result of which the digestion of a certain activity takes place. The process of learning is a two-way, in which both the teacher and the student are involved, but the activization of students' learning and cognitive activity primarily depends on the teacher. As a rule, the educational material itself does not activate the cognitive processes, the emotional response of students. The teacher needs to show creativity with the aim to get the student interested in the studied subject, because the teacher himself designs, modernizes various games and techniques for the enhancement of students. On the other hand, the success of learning depends on the development of cognitive abilities of the student — attention, memory, imagination, perception, etc.

The problem of activization of students' learning and cognitive activity is relevant. To date, there is no consensus on the understanding and methods of enhancing students' learning and cognitive activity. There are many methods. Their number is equivalent to the number of people, concerned with this problem.

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