Psychological and pedagogical bases of active teaching methods

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Abstract. Educational process requires continuous improvement, as there is a change of priorities and social values. Scientific and technological progress is increasingly recognized as a means to achieve such a level of production that best meets the constantly rising satisfaction of human needs, the development of the spiritual wealth of the individual. Therefore, the current situation in training specialists requires a radical change in strategy and tactics of training in higher educational institution. The main characteristics of a graduate of any educational institution are its competence and mobility. In this regard, the emphasis in the study of academic disciplines is transferred to the process of cognition, the effectiveness of which depends entirely on the cognitive activity of the student. Successful achievement of this goal depends not only on what is assimilated (learning content), but also on how it is digested: individually or collectively, in authoritarian or humanistic terms, relying on attention , perception, memory or full personal potential of human through reproductive or active teaching methods.
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Introduction

In connection with this provision, *the aim of the research* is to examine the effect of active teaching methods on the process of training specialists in higher educational institutions.

Tasks:

1. To determine the psychological and pedagogical bases of active teaching methods.

2. To work out lectures and practical lessons using active teaching methods.

Methodological basis is the theory of cognition, psychological theory of active activity of student in formation and development of his personality; general scientific methods - analysis, design, synthesis; and methods of pedagogy and psychology - direct and indirect observation of the educational and upbringing activities of students in higher educational institutions.

Theoretical significance of the research is to justify the necessity of active methods to improve the efficiency of the learning process with the aim of training specialists.

Practical significance of the research: developed lectures and practical exercises using active teaching methods can be used in the practice of high school in the preparation of guidelines for students.

Theoretical part

Active teaching methods by skillful application allow simultaneously solve three educational-organizational tasks:

1) To subject the learning process to control action of the teacher;

2) To ensure active participation in the classroom as prepared students and unprepared;

3) To install a continuous control of the process of acquisition of learning material[1].

In the realization of the goals of the problem and developing learning lies on active methods that help to guide students to generalization, develop independence of thought, learn to identify the main thing in the training material, develop speech and many others. As practice shows the use of active methods in high school training is a prerequisite for the preparation of highly qualified specialists and leads to a positive result: they allow build knowledge, skills and abilities of students by involving them in active educational-cognitive activity, educational information becomes personal knowledge of students.

As you know, there are different approaches to classification of teaching methods in didactics. As a distinctive feature the degree of activation of listeners or the nature of learning and cognitive activity is used. Classification, which is based on the following features are distinguished:

- Sources of cognition (verbal, visual, practical teaching methods);
- The methods of logic (analytical and synthetic, inductive, deductive methods of teaching);
- Type of training (explanatory and illustrative, problem-developing teaching methods);

- The level of students' cognitive independence (reproductive, productive heuristics teaching methods);

- The level of problem (indicative, monological-dialogical, heuristic research, algorithmical, programmed learning methods);

-Didactic purposes and functions (methods of stimulation, control organization);

- Type of activity of a teacher (the methods of presentation and methods of independent learning activities), etc.

Despite the variety of approaches to the classification of teaching methods, each of them is most effective under certain conditions of the organization of the learning process in carrying out certain didactic functions[2].

Method is a combination of methods and forms of training aimed at achieving specific learning goals. Thus, the method comprises a method and nature of the organization of cognitive activity of students.

Activeness of learners is their intense activity and practical training in the process of learning and application of knowledge, formed skills and abilities. Active learning is conscious conditions of learning and skills.

Cognitive activity is the desire to think independently, to find its approach to solving the task (the problem), the desire to get knowledge on their own; develop a critical approach to the judgment of others and their own independent judgments[3]. Student activity disappears if the necessary conditions for this are absent.

Active teaching methods are ways to improve this educational-cognitive activity of students, which lead them to active intellectual and practical activities in the process of mastering the material, when not only a teacher is active, but students are also[4].

Active learning methods involve the use of a system of methods, which is aimed primarily not to declare ready knowledge in the process of active cognitive activity by a teacher[5].

Thus, active learning methods are training activity[6]. For example, Vygotsky formed the law which says that learning entails the development as an individual is developed in the course of activity. Especially in active work, directed by teachers, students have the necessary knowledge, skills and abilities for their professional activity, creative skills are developed. At the heart of active methods is dialogic communication, both among students. Dialogue process communication skills are developed, ability to solve problems collectively, and most importantly, the speech of students is developed. Active teaching methods are to enhance the cognitive activity in lecture classes.

The practical part of the research

Simulation methods are divided into gaming and non-gaming. Game methods are conducting business games, game design, etc., and to non-gaming methods - analysis of specific situations, the solution of situational problems and others.

This classification can be schematically represented as follows:

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Active methods of teaching		
non-simulation	simulation	
	gaming	Non-gaming
problem lecture, lecture together, Lecture with planned errors in advance, lecture press - conference;	business game;	collective thought-
heuristic conversation;		activities;
Search Laboratory dent;	pedagogical situations;	TRIZ work;
educational debate;	pedagogical tasks;	
independent work with literature;		
seminars;		
discussion	situation of intention in various activities	

Active learning methods can be used at different stages of the learning process:

Stage 1 - the initial acquisition of knowledge. This can be problematic lecture, heuristic conversation, educational discussion, etc.

Stage 2 - control of knowledge (consolidation) may be used such methods as a collective intellectual activity, testing, etc.

Stage 3 - formation of professional skills, abilities based on knowledge and the development of creative abilities, simulated training can be used, such as gaming and non-gaming techniques.

The application of any methods is self-choice. Therefore, for teacher any classification has practical meaning because it helps him to implement a focused selection of the appropriate method of training or a combination thereof to address specific teaching task. Therefore, this classification suggests

considering active teaching methods based on their purpose in the learning process.

But it should be noted that the majority of active teaching methods has multifunctional value in the learning process. For example, analysis of the specific situation can be used to solve three didactic tasks: consolidation of new knowledge (acquired during lectures), improvement of professional skills are already obtained, activation of the exchange of knowledge and experience.

The essence of active teaching methods aimed at forming skills and abilities. To ensure the implementation of tasks by students in the process of solving which they master skills and abilities on their own[7].

Manifestation and development of active teaching methods is due to the fact that before the training was tasked not only help students to understand the formation of professional knowledge and skills, but also the development of creative and communicative abilities, the formation of personal approach to a arising problem.

There are simulation and non-simulation training organization forms using active teaching methods. We consider characteristic of non-simulation methods: lectures, seminars, discussions, collective thinking activity.

Problem lecture begins with issues, with setting of problem that during the presentation of the material is needed to solve. Problematic issues differ from non- problem themes that are hidden in them, the problem requires more than one type of solutions, and that is, ready solution schemes were not in past experiences. To answer this question it requires thinking, when the problem is not there a rule that you need to know.

With the problem lecture the achievement of three basic didactic purposes are provided:

1. Acquisition of theoretical knowledge by students;

2. Development of theoretical thinking;

3. Formation of cognitive interest to the content of the subject and professional motivation of future specialists.

The success of achieving of goal of problem lecture is provided by interaction of the teacher and students. The main task of the teacher is not only to transmit information, but the admission of students to the objective contradictions of the development of scientific knowledge and methods to resolve them. This forms the thinking of students, causing them to cognitive activity. In collaboration with the teacher, students learn new knowledge, comprehend theoretical aspects of their profession.

The teacher should use during a lecture such a means of communication that provide the most efficient transfer of the personality of the teacher. Because, as when teacher is closer to some pattern of professional, it is greater the influence of the teacher to the student and easier to achieve the results of communication is achieved.

On the problem lecture in joint activities of the teacher and students the goal of general and professional development of the individual specialist is achieved.

Lecture becomes problematic in the case when it the principle of problematical is implemented. It is necessary to perform two interrelated conditions:

1. Implementation of the principle of problematical in the selection and processing of didactic content of the course to a lecture;

2. Implementation of the principle of problematical when deploying this content directly on the lecture.

The first system is achieved by the development of teacher of cognitive tasks system - educational issues, reflecting the main content of the subject, the second - the construction of the lecture as dialogic communication between teachers and students.

One of the most effective active teaching method is a business game.

Currently, there are three areas of application of the method of the game:

1. Educational sphere: training method is used in the curriculum for teaching, increasing the qualification.

2. Study scope: used to simulate future professional activity to study decision-making, assessing the effectiveness of organizational structures, etc.

3. Operational and practical scope: game method is used to analyze specific elements of systems for the development of various elements of the education system.

The pedagogical essence of business game is to strengthen the thinking of students, increase the independence of the future specialists, to add the spirit of creativity in learning, to bring it closer to the career-oriented, to prepare for professional practice. The main issue in the problem-based learning is the question "why", and in the business game " what would happen if ..."

This method reveals the personal capacity of the student: each participant can diagnose their capabilities alone, but also in joint ventures with other participants[8].

Before you start using the business game in the educational process, it is recommended to start with simulation exercises. They have a smaller volume and limited tasks[9].

Simulation exercises are closer to educational games. Their goal is to provide students with an opportunity to consolidate the creative environment, or other skills, focus on some important concepts, categories, law. In the condition it should be contained mandatory contradiction, i.e. there is simulation exercise is an element of problematical.

After simulation exercises can proceed to business games. In the educational process of the university it is rather a role-playing game, as students are not yet proficient in full by his specialty. The purpose of this game is to form certain skills and abilities of students in their active creative process. The social significance of business game that during certain tasks is activated not only knowledge but also collective forms of communication are developed.

Business games are built on the principles of teamwork, practical utility, democracy, openness, competitiveness, and maximum employment of each and unlimited prospects of creative activity in the business game[10]. It should include all the new and progressive that appears in the pedagogical theory and practice.

Thus, to improve students' cognitive activity, the teacher is suggested a variety of developed methods have been developed that he can use in his teaching. We have considered only a part of them. For example, such method as a collective intellectual activity provides a great opportunity to show creative abilities of the teacher in the organization of classes. He can take as a base variety of game programs offered by TV – they can be "Leader of the 21st century " CFS "What? Where? When?", "Field of Magics" etc.

According to the goals and objectives of our study were developed and conducted lectures and workshops on the subject "General principles of pedagogy," which were developed according to state standards and in accordance with the working curriculum.

We have developed lectures and practical classes. Here are samples of some classes with the use of active teaching methods. For example, on the theme "The essence of the pedagogical process, its basic laws and principles", form of organization was "lecture - visualization". The purpose of this lecture classes were through visual form of presentation of educational material to increase the power of the phenomenon, rebuild oral and written information in visual form by systematizing and highlighting the most important, essential elements of the content of the educational information. To form students' professional thinking.

During the lecture part of the training material was offered to students in the form of charts, which is a clear support in presenting new material. So, the scheme acted as media, allowing students to focus on the most important key points of content lectures, contributed to understanding and mastering. Students can use schemes while taking tests and examinations.

Thus, the features of active learning is to deal with psychological problems in the team, a high level of cognitive (intellectual), analytic activity of students. Besides practical activity contributes to a more lasting learning knowledge. It increases the interest to lesson, which is associated with positive emotions and is emotionally - intelligent response to training. There is a high level of motivation and self-management. Communication takes place on a business basis. Creative and communicative abilities are developed.

Typically, active teaching methods are applied in a complex with traditional methods[11]. Active methods cover all types of classroom with students. In particular, among the most important types of these methods include problematic lecture, which was described above.

For improving and enhancing the educational process in higher education has very important account of the special high school training, which requires adjustment of the students stereotypes of academic work prevailing in school and adopted new skills and teaching skills of educational-cognitive activity.

Conclusion

With the development of scientific-technical progress, volume of information is increased, required for acquisition. It is set up, that information quickly becomes outdated and needs updating. The training focused mainly on the storage and preservation of material in memory is only partially able to meet modern requirements. Hence, the problem of the formation of such acts qualities of thinking that would allow the student to absorb constantly renewed information, the development of such abilities, which persisted even after the completion of education, provides a man to keep up with the accelerating scientific - technical progress. From this we can say that we need new methods and approaches to training that could teach students to learn learning, i.e. independently find and absorb the necessary information, by trial and error is absorbed better. Role of the teacher is to direct, point the way, but do not give all the ready-made, summarize the done independent student work, to point out errors.

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