

IMPROVING THE EFFECTIVENESS OF EDUCATION THROUGH THE PRINCIPLES OF CONTINUITY IN PROBLEM-BASED LEARNING

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ABSTRACT

The article deals with the students, who directly involved in creative research activities, research tasks, problem situations and business games. In addition, principles of continuity in the development of problem-solving tasks at different levels in the process of problem-based learning have been developed.

Keywords: Creative, connection, learning, effectiveness, forms of learning, coherence, individual, tree, classification, problem-based learning, conflict, activity, level.

INTRODUCTION

The education process should be organized in such a way that the need to acquire knowledge always precedes the acquisition of knowledge. Creative communication should be reflected in the content of education and the technology of its study. Meanwhile, it is important students are directly involved in the seek for creative activity, the search for cognitive tasks, problem situations, business games.

The opportunity to increase the effectiveness of education is hidden in the optimal choice of different forms, methods and tools of education and their application in a mutually compatible way. The idea that the effectiveness of education can be increased through a combination of different forms, methods and tools has been put forward by many scholars.

A.A. Kyveryalg shows that the choice of this or that method of teaching or a mixture of them is associated with:

- goals and objectives of educational activities;
- steps of the learning process;
- content of educational material;
- didactic possibilities of teaching aids and expediency of their use in specific learning situations;
- individual characteristics of students and teachers;
- formation of organization of educational activities, etc.

MATERIALS AND METHODS

L.V. Zankov pointed out not only the harmony of teaching methods, but also the harmonization and interdependence of its frontal, collective and individual forms of education. The frontal form of learning is understood as an organizational form in which the whole group of learners performs a specific task at the time being. The advantage side of this form is that the entire student body has the ability to control the cognitive process. However, in this form, the ability to take into account the individual characteristics of all students is not complete.

The organization of educational work in a collective form implies a certain mutually equally strong, group of students. Indeed, it allows the consideration of certain specific features.

The individual form of education implies that it is organized taking into account the individual characteristics of each student. The main disadvantage of such a form is that it requires a lot of time and money, as well as no positive impact on the team.

In the diversification of teaching methods (genealogy, classification) by Yu.K. Babansky, taking into account the organic interdependence of teachers and students, i.e. binary aspects, they are divided into three groups of methods: methods of organizing learning activities and self-organization; methods of stimulating and motivating reading; methods of monitoring the effectiveness of education and self-monitoring. The system of integrated teaching methods is aimed at developing the creative abilities of students, the formation of their cognitive independence. Self-organization, motivation, interest, self-control become an integral part of the learning process.

It should be noted that this is inextricably linked with the organization of student activities by the teacher in each of the separate group methods. The formation of a positive attitude to learning is embodied in the essence of teaching methods. This means that the share of independent work of students in teaching methods will be gradually increased, that is, the transition from self-organization in the organization to independent work in teaching.

RESULTS AND DISCUSSION

Problem-based learning is a type of developmental education in which students combine the acquisition of ready-made conclusions with regular independent work, and the system of methods is based on the principle of goal-oriented and problem-solving. The interaction of teaching and learning processes is aimed at shaping the dialectical worldview of students, their cognitive independence, interest in reading, thinking ability [2].

Problem-based learning is a leading element of developmental learning, through problem-solving situations. It has the potential to provide an integral interrelationship between unproductive and exploratory methods. Because independent, creative and research skills are effectively formed in problem-based learning, the scientific level of teaching increases, so such training is the basis for training highly qualified specialists.

As problem-solving situations in problem-based learning are gradually brought closer to the level of production issues, it allows students to become more active and acquire new and higher levels of knowledge. Such teaching is characterized by the formation of spiritual novelty and the discovery of subjective novelty.

The process of thinking that begins with a problematic situation is like a search for the unknown, ending with the discovery of something previously unknown, i.e., the discovery, and the creation of a spiritual novelty. In this case, the process of assimilation is generalized not on the basis of absolute zero, but on the basis of certain pre-mastered. The psychological basis of problem perception can be interpreted as a difficult situation, i.e., a specific conflict situation between what has been previously mastered and what is meant. In particular, great skill is required in selecting the content of the problem and putting it in front of the student. A problematic situation becomes valuable when it creates a desire in the learner about how to get out of a difficult situation, that is, when it evokes a sense of striving to overcome the conflict.

Therefore, the problematic situation should be of a practical nature and should arouse a strong need from students and listeners to find a solution.

In any education, the increasing sequence and complexity of problem situations should have a step-by-step description. M.I.Makhmutov distinguishes the following three characteristics of problem-based learning: problem solving, efficiency, learning.

The level of difficulty reflects the complexity, size and quality of the study material, as well as the type of independent activities of the learners.

The level of effectiveness gives the learner a description of the process of learning activities and the degree of independence.

The level of training is a qualitative description of the outcome of this study, the presence of knowledge and experience of creative activity in the student. The high level of parameters mentioned above is a result of the successful organization of problem-based learning. M.I Makhmutov described the following four levels of problem-based learning, each of which reflects not only different levels of mastery, but also different levels of thinking.

CONCLUSION

The general limitation of problem-based learning levels is of great importance for adherence to continuity in setting challenging tasks at different levels in the management of learners' learning activities. Let us dwell on describing them.

1. **The usual non-independent level of activity** - the perception of the teacher's explanations by students, mastery of patterns in problematic situations, the repetition of independent work without any changes (primary problem and learning efficiency).

2. **The level of semi-independence** is a method of applying previously acquired knowledge in new situations and searching for tasks set by the teacher (secondary problem-solving and learning efficiency).

3. **Level of independent activity** - a method of independent work of the unproductive type, independent work of students on the textbook, solving problems of moderate difficulty (tertiary problem-solving and efficiency) through logical analysis, applying previously acquired knowledge in a new situation.

4. **The level of creative activity** - the performance of independent work that requires creative description, logical analysis. At this level, the learner draws independent conclusions, generalizes, creates innovations (fourth level problem-solving and efficiency). A system of teaching methods is used in the transfer of learners from the primary problem to the higher problem. The possibility of such transitions is relatively large in the study of special (specialty) subjects. For example, all of the above levels can be used to teach "teaching methods".

Such challenging education, that is, the involvement of students in the conditions of production as much as possible, is not limited to the development of intellectual strength, independence and creative thinking, but also allows graduates to adapt to real production conditions.

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