



‘PROBLEM-BASED LEARNING IS AN IMPORTANT STEP IN QUALITATIVE EDUCATION

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ABSTRACT

The article discusses problem-based learning as a new stage in the qualitative education. The authors of the article consider that it is now important to provide learners with a range of information and advice, as well as clear approaches to make data independent and to transform them into their own knowledge.

KEY WORDS: *problem-based learning, stage, education, learners, approach, transform, independent, data, system, teaching methods, qualitative.*

INTRODUCTION

The country's education system offers a large and wide range of educational opportunities for young people. New creative approaches to the educational process in preschool, general education and higher education institutions and the availability of modern teaching methods have a positive impact on the content and qualitative education. It is expected that training sessions will be organized using the capabilities of various pedagogical methods, information and communication technologies based on didactic requirements. Therefore, the use of project and problem-oriented technologies of education in modern educational practice will not only ensure effective learning, but will also enable students to think independently and critically. When self-study is assigned to a student, the teacher plays an important role in setting a clear goal, offering an algorithm for the work to be done, recommending literature, form and organization of the work to be done, timing and assessment criteria. In classroom

classes, students receive a certain level of knowledge, but it is desirable to work independently in order to consolidate the acquired knowledge. The main leading idea is to pay a lot of attention to students' independent activity in their learning from the traditional teaching methods [2].

Problem-based learning is a new level of qualitative education. In this era, it is not important to give students a certain amount of information and advice, but it is important that they have clear approaches to obtain information and transform it into their own knowledge. Of course, some information will not be available at lectures, but the time saved can be used to draw conclusions, summarize and form a worldview that reveals the problematic nature of learning.

It is important for students to think independently and critically and make decisions. The ultimate goal of training is not to memorize knowledge, but to develop practical skills necessary for their professional activity. At the same time, the interaction of the teacher with students in the



educational process, the formation of their confidence in independent learning, the ability of the teacher to show that he/she uses new pedagogical technologies, leads to positive results, which are expected to lead the lectures in the traditional direction, that is, not only give information, but also lead them to a new direction [1].

A teacher's task today is to organize the learning process in such a way that it promotes not only reproductive thinking skills of students, but also creative thinking skills. Problem-based learning is a way of learning that creates challenges and problems in the minds of students through research. Problems arise in the thinking activity of students, which encourage them to seek objectively and make logically correct scientific conclusions. The problem situation is well-known mental state of the student, which is associated with identification of contradictions in the performance of certain tasks. Understanding this conflict creates the need for students to look for new knowledge about the ways or conditions of doing the job. As a result, there will be four stages of logical form of problem-based learning; identify ways to solve it; choose the best solution to the problem; solve problems.

DISCUSSION

The main concepts of the concept of problem education are "problem", "problem solving". The problem situation is the initial appearance of this method, which is a subject that is fully or partially understood by the subject, which requires the acquisition of new knowledge, methods and behavioral skills. If a student does not have a basis to find ways to cope with difficulties, he or she will not be able to solve the problem, which is not reflected in his or her mind.

Discussion starts when a problem situation is understood, based on understanding, expression, complexity of existing knowledge and skills and research experience. In this case, the problem situation becomes the problem. Not every problem is a problem, but not every problem becomes a problem. The use of this method does not indicate or limit the way the problem is solved. This feature is typical of a problem. It is a problem if there are any signs that the problem has been resolved.

Any purpose of the problem is related to a particular problem. However, as noted above, not all problem situations can be a problem. The person always solves the problem. If there is a problem, that makes it a problem, that is to say, relying on one's own knowledge system to identify the problem and establish specific points.

Using problem-based education is one of the most effective ways for students to develop independent decision making skills. This method gives students the skills to make the right decisions in

situations that arise in the production process and to make quick decisions on the given situation.

METHODOLOGY

We would like to explain how technology uses problem-based elements in the educational process using the example of natural-scientific education.

The application of problem-based education in technical disciplines is done in three stages:

- In the first stage, students are divided into 5 subgroups depending on the nature of the subject. For the sake of clarity the groups are conditionally denoted as "1", "2", "3", "4", "5". In the process of dividing students into groups, attention is paid to forming groups in which students' knowledge and skills are equal. From the divided groups, 4 act as a problem-solving group and 1 as an expert group.
- In the second round, each group will be provided with a questionnaire reflecting the industry issues. The problem is that: 1) there is no explanation of the wiring diagram, no devices and no means to assemble the diagram; (2) a suitable wiring diagram has been created; (3) working diagrams are written in a poorly understood language. Students should find the principle and function of the schematic diagram, (4) there are schematic diagrams and explanations, and students use at least three versions of the devices required to make the diagram work. Questions should be prepared in at least 6 or 7 copies. Sub-group leaders will select the questions. Groups should be prepared for the survey within a short period of time. First, each student in a subgroup creates their own answer to the question. Then, all members of the group use the answer parameters to generate the group response. At the end of the set time, each group will explain their answer choices. "5" - The main task of the group of experts is to reveal and explain the mistakes and drawbacks of the answer choices given by the other four groups. At this time, the faculty is regarded as an independent judge.
- The third step is to evaluate students' knowledge. This can be achieved individually by assigning all students in the group as total number of students in the group is about 25-30. The members of the team are monitored and evaluated jointly, as well as with the individual aspirations and knowledge of each student. Team members are assessed by identifying remaining weaknesses in other groups and actually



proving that the weaknesses they have identified can help to alleviate the problem. Options for response team members will explore how other groups will benefit from improved options presented in response groups. The assessment is based on the individual assessment of each subgroup and the assessment of each learner's knowledge by summing up the final grades. Depending on the nature of the subject, teachers may make changes to the assessment criteria.

DISCUSSION

Advantages of this method

- It teaches a theoretical solution to real problems that technical education students face during their careers.
- The students of the group teach each other how to work together on a specific task.
- It creates criteria for transparency and fairness in evaluating students' knowledge.

CONCLUSION

We believe that such a problem-based learning method is a positive outcome in a group of students after they learn a particular educational course to use in the form of midterm or current assessments. This method was used in the course of the current assessment at the practical lessons of the subject "Electrical devices". According to the final results of the teaching process, the results of the students' learning in the groups used by this method were positive. One type of teaching is a problem-based learning, which helps students to develop skills such as creative research, small-scale research, promotion of certain hypotheses, checking the results and drawing conclusions.

REFERENCES

1. Shakhodjaev M.A., Begmatov E.M., Khamdamov N.N., Numonjonov S.D. (2019) *Methods of effective use of information and communication technologies in educational process*. Journal: *The problems of modern science and education*. № 10 (143). P.p.: 64 – 66. URL: <https://cyberleninka.ru/article/n/metody-effektivnogo-ispolzovaniya-informatsionno-kommunikatsionnyh-tehnologiy-v-obrazovatelnom-protsesse>
2. Shakhodjaev M.A., Begmatov E.M. (2019). *Independent education is a factor of development of free thinking and observation of students*. Journal: *The problems of modern science and education*. № 12 (145). P.p.: 137-141. URL: <https://cyberleninka.ru/article/n/samostoyatelnoe-obrazovanie-faktor-razvitiya-svobodnogo-myshleniya-i-nablyudatelnosti-uchaschihsya>
3. Nishonaliev U. N. (2002) *Modular pedagogical technologies*. Professional education. M: № 14. P.p.: 10-12.