Using Teaching Methods for Development Student Competencies

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Abstract - The article is devoted to the study of foreign experience of improving state educational standards in accordance with modern requirements. The article analyzes the results of studies on the implementation of educational standards based on the competence-based approach to the education system in Uzbekistan, as well as some aspects of effective assessment methods.

Keywords - Competence, Student, Development, Methodology, Standard.

State educational standards determine the level of knowledge and skills that students must master in their subjects, and continue to serve as the basis for the development of curricula and textbooks. The need to develop a state educational standard (GOS) for general secondary education based on a competence-based approach to education in Uzbekistan is aimed at improving continuous compulsory education based on a competitive approach in order to ensure accurate definition of qualification requirements for graduates in the field of knowledge in physics.

The improvement of SES involves the selection of scientific and basic competences in the learning process, through the effective use of foreign experience in the formation of basic competence. The reason for this is that life itself shows how quickly the demand in the labor market changes and that employers are focused not only on knowledge and skills, but also on personal qualities.

In particular, the concepts of formation and improvement of personal competence were studied in the works of J. Raven, I.A. Zimnoy, A.I. Subube, A.V. Khutorskiy and others [2,3], in the works of the leading teachers-psychologists I. I. Lerner, V.V. Krayevsky and VV Davydoa studied scientific views, problems of expression and the formation of basic competences, and in foreign theory and education S. Sho, E. Zeer, V. I. Baydenko and others. [4, 5] analyzed the issues of implementation in practice. The importance of competence is reflected in the fact that modern requirements are thoroughly improved, the logical thinking of students rises, the interest in learning increases and the effective demonstration of the ability of graduates to quickly adapt to learning after they are required. The method of students' activity was chosen in the process of lessons for mastering the five necessary competencies that students should form: communicative; work with information; self-development as individuals; socially active citizenship; general cultural; mathematical literacy, news awareness of science and technology. Taking into account the fact that these competencies are formed in the process of teaching each subject and taking into account the age, psycho-physiological characteristics of the student,
students are provided with equality, the introduction of the principle of the practical orientation of the subject is related to physics: understanding and explaining physical processes and phenomena; skills to conduct experiments, measure physical dimensions and draw conclusions, the ability to use equipment in practice. In this regard, it should be noted that an important aspect is to formulate the competence of students in the subject. At the same time, we will conduct a brief overview of the dynamics of the development of students’ competences, as well as the results of research on the chosen method, methodology and effectiveness of educational technologies.

To determine the basic level of students in general education schools, test tasks and questionnaires on general educational curricula were used. Experimental testing was carried out in three secondary schools, in one academic lyceum and medical colleges. In addition to improving the accuracy of the experiment, it is also envisaged to analyze some of the shortcomings of secondary special and secondary schools. To determine the competencies of students on an urgent basis were selected tests in general education subjects. It is desirable that the number of tests ranged from 10 to 15 tests. Most of the tests that are selected have ready answers, and some of them should only be recorded. Special attention was paid to the fact that in each test it is possible to reveal certain knowledge, skills or abilities.

In order to test the formation of general competences in physics and to check the formation of basic competences, assignments can be given for subjects that serve the formation of intellectual knowledge. [6] In the course of the study, tests in physics were aimed at determining the ability to apply more general scientific knowledge in practice. In particular, when studying the level of preparation of students in physics who entered medical colleges, their chosen profession was taken into account.

For example, tests like below:

1. It is known that computed tomography is used to detect diseases in humans. The device is installed in the room with a metal coating. What is the reason?
   A) In order not to listen to extraneous noise
   B) Do not damage walls and tomographs to external influences.
   C) To protect against external electric field
   D) Avoid external magnetic field.

2. If a force of 9.86 N acts on a medical syringe with a radius of 1 mm, do you find the pressure in the syringe?

3. Heartbeat was 75 minutes per minute. Find the periodicity.

4. The loudspeaker increases the volume to 1.5 V in the ear. How many watts is consumed if current power is 0.001A?

According to the results of the experiment, the average rate of students enrolled in the 1st course of the 2nd Republican Medical College was about 54%. It can be concluded that they are ready to master the following sections of the curriculum. When asked about the physical study of the “flow rate at the end of the needle of a medical syringe,” students of the medical college in the control group correctly answered 82.3%, and in the experimental group 87.9% of the students answered correctly. But the answer to the question “Electrophoresis is based on what physical phenomenon?” In the control class was given the correct answer by 53.3% and in the experimental class by 41.4%. This indicates that little attention is paid to the practical study of physics at school.

As in the case of criteria for assessing scientific competencies, there are no generally accepted methods for determining the degree of competence of students. They are difficult to identify either through tests or by written (oral) control. Accordingly, in this case, traditional valuation methods cannot be used. An effective way to determine student competencies is to conduct these surveys. In this regard, questions about the core competencies to be obtained by students are included in the questionnaire. Formation of competence is not a separate issue, but a series of issues for discussion. For example, (42) questionnaires that we chose, the following competencies were selected: 1. Communicative competence -6; 2. Competence on working with information-5; 3. Competence in self-development, as a person - 10; 4. Civil and civil civil competence - 6; 5. Universal competence -9; 6. Knowledge of mathematical literacy, science and technology innovation -6.

Students along with the questionnaires were provided with a guide to fill out the questionnaire. For example, if you completely agree with these sentences, you should mark (+3), if you do not agree, then it is recommended to mark (-3), and if it is not fully inserted, it is better to scroll (0). If the sentence that was given to the text was not completed, it should be continued and give its opinion.

Questions Marks Numbers

9. My duties as a citizen ____3-2-1 0 + 1 + 2 + 3
15. If I’m wrongly accused of my behavior, I will be _______-3-2-1 0 + 1 + 2 + 3

18. If I was entrusted with organizing an event at school, I would ________________________-3-2-1 0 + 1 + 2 + 3

35. I can not express a personal opinion. -3-2-1 0 + 1 + 2 + 3

There are seven options for selecting answers to the questionnaire. Since the assortment is large, the student can freely indicate his point of view and practical activities.

The answer to the question “How can I know?” Or “I do not know?” To the question “My friends rate __________ qualities” is rated - 1 point, if answer is incomprehensible or difficult, then 2 points, if you answer the question with details, you can put up to 7 points.

According to the results of the survey, all 7 points were determined by the students. This means that students are positive about this issue. Likewise, students can use mental development tasks that can be used to determine basic competence. At the same time, the battery pack consists of six collections, and the exact time for each task is determined.

Task description number 1

The proposed tasks are interrogative. Each of them does not have a single word. You need to draw only one word that fills up to five suggested words.

Example: Which of the following events are mechanical events?

a) water boils; b) frozen; c) lightning strikes; c) bloating; d) the sound of the radio.

Description of tasks number 2

Find a synonym for a four-word word that appears on the left side of the form that matches the meaning.

For example: forecast - a) weather; b) notification; c) predictability; d) the reason.

The correct answer is “predict.” Duration 3 minutes.

This is a task, in which one must find the connection between the first and second words, take one of the five words in four words, identify and find a sequence of two words that obey an indefinite pattern (for example, 2,4,6, 8, 10, ... the next line in this line is 2 times the previous one. Thus, taking into account a number of tasks, such as the next 12th, to determine the overall competence of students in the curriculum. It was proved that through the questionnaires one can effectively determine the moods of students, their motivations, the pedagogical conditions created in school and out-of-school spaces, as well as the conditions created for teachers, school administrators and parents of their children.

REFERENCES


