

SCIENTIFIC AND METHODOLOGICAL PERSPECTIVES OF USING PISA INTERNATIONAL ASSESSMENT RESEARCH TASKS IN TEACHING PHYSICS

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Abstract:

This article presents the perspectives of improving natural-scientific literacy, the use of tasks of the international assessment program in the teaching of physics.

Keywords: integration, globalization, creative ideas, modern pedagogical technology, PISA, education.

The rapid renewal and fundamental changes in the field of science, technology and technology that are taking place in the rapidly developing years require re-examination of all areas of human life with new views, concepts and attitudes from the point of view of the processes of globalization and integration, including in the field of education. . Today, the processes of globalization and integration are reflected in every field around the world, including education, which has become an urgent and priority area of state policy. Reforms on the development of the education sector on the basis of new innovative ideas have been implemented.

The changes taking place in society and life create a basis for a new innovative approach to the educational system, and for further accelerating the integration processes between education, science and production, as a result, the implementation of new innovations in the educational process has become one of the most urgent issues. In this regard, the use of several evaluation research tasks is being introduced in our country. More than a hundred countries in the world participate in international assessment studies such as PISA, TIMSS, PIRLS, TALIS, EGRA and EGMA in order to objectively evaluate the quality of education introduced in their country.

In particular, Uzbekistan is expected to participate in PISA and other international assessment studies for the first time.

The decree of the head of our state dated April 29, 2019 "On approving the concept of development of the public education system of the Republic of Uzbekistan until 2030" defines the tasks of achieving inclusion in the first 30 advanced countries of the world by 2030 according to the rating of the PISA student assessment program.

In order to prepare for the PISA, TIMSS and PIRLS international assessment programs, the scientific research institute named after A. Avloni created more than 100 training videos and launched the "Testing" platform as part of the "Testing" project. PISA tests are conducted in order to determine the extent to which schoolchildren acquire the skills to analyze, draw

conclusions from, and communicate with events that are needed in real life, and how well the education system adapts to these changes. This program was introduced in 1997 and is held every three years, for the first time in 2000. One subject is preferred every three years, and almost 50% of the total test set belongs to this subject. PISA tests the student's literacy at the time of the assessment, not the learning process.

Tasks are developed in connection with society, environment, natural phenomena, technique and technology, human development, health, global and daily life, situations, information and problems related to modern sciences. Contextual information is widely used in PISA tasks. In the assignments created for the purpose of evaluating students' reading, mathematical, and natural-scientific literacy, the processes in various real situations and the requirements placed on students to solve problems related to these processes are mentioned.

PISA tests use four different test methods:

1. One-answer tests;
2. Multiple answer tests;
3. Short or detailed answer questions;
4. The student's opinion on the solution of a problem (usually in such questions, the examiner has general answers, the student's answer is not required to exactly match the answer of the test maker, the student's creativity is supported).

According to the PISA international assessment study, "the ability to apply knowledge of natural sciences in practice, understand natural science problems, develop conclusions using scientific sources, understand decisions about natural and human-induced changes in nature" describes scientific literacy. This description natural scientific literacy is evaluated on the basis of tasks related to daily practical activities, various socio-economic and political issues in society.

Students are required to think independently, critically and creatively, make decisions and evaluate their own results and solutions. Students learn about the environment by observing and analyzing biological, physical, and chemical processes and phenomena in nature. to be able to use tools, tools, and methods correctly in learning, to be able to express terms, concepts, laws, quantities with mathematical formulas, achievements in the field of science, their The ability to develop scientific worldviews through practical application, to make proper use of the achievements of science and technology in the future, and to treat the creators of science and technology with respect belong to the structural content of natural-scientific literacy.

To participate in international assessment studies, to test students' knowledge and to achieve better results, in accordance with the requirements of international studies, state education standards, curricula and o It requires changes and additions to the content of educational literature, as well as elimination of many accumulated shortcomings in the educational process. Of course, comparing the results of international evaluations directly with national evaluations is comparing different measurements to the same situation, that is, it is inappropriate to draw

conclusions based on comparisons. In the course of daily or periodic (quarterly, annual) evaluation of students in school education, it is a world experience to evaluate the students based on different approaches. In order to master the subject, to overcome the difficulties he faces, to increase his interest in the subject he is studying in the future, teachers sometimes "motivate" him to give a higher assessment of the student's existing knowledge, allowing this student to strive even harder in the future. creates.

In international evaluation programs, students of all participating countries are evaluated based on the same criteria. At this point, as a continuation of our above opinion, it should be said that experiences in international evaluation programs allow to identify problems at the national level, to eliminate them, and to improve the teaching and evaluation system based on world experience. Singapore, Korea, China, Finland and other countries that have achieved high results in international assessment programs have participated in these programs and implemented many reforms in the national education system, assessment of student knowledge, and further improvement of the education system. Today, other countries are the countries that have gained attention. Therefore, it is important that we pay more attention to the improvement of the national evaluation system based on the gained experience, and not to measure the educational environment in Uzbekistan, the achievements of students in subjects by the criteria of international evaluation programs.

Deduction

It is necessary to carry out the following activities in order to form the skills of applying the knowledge acquired at school in life by participating in international studies:

- creation of a national evaluation system that allows for objective monitoring of the quality of education;
- formation of the material and technical base affecting the quality of education;
- conducting international scientific research;
- creation of additional methodological manuals and literature based on international studies;
- creation of a national database of questions in the directions of international studies and integration into educational programs;
- organization of advanced training courses on updating the methods and technologies of teaching in relevant subjects based on international research and increasing the awareness and training of students in this regard;
- adaptation of educational programs to students of international studies in higher educational institutions training pedagogical personnel.

In short, the development of the national innovation system and the improvement of the innovation potential are considered the most important factors of the country's economic growth. Therefore, the problems of researching these factors are relevant for many countries and international organizations of the world. The work being carried out in our country is

aimed at preparing for the PISA international assessment research programs, identifying the achieved achievements and shortcomings, developing suggestions and recommendations for improving the national system of evaluating the quality of education in secondary schools based on the results of the international assessment program, and preparing proposals for increasing the level of preparation of schoolchildren for future international assessment programs.

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