



THE ROLE OF PISA, PIRLS, TIMSS IN EVALUATION OF QUALITY OF BIOLOGY COURSES ON THE BASIS OF INTERNATIONAL EDUCATIONAL PROGRAMS

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ABSTRACT

This article describes the current state of education in Uzbekistan and the world, the role of PIRLS, TIMSS and PISA in the development of students' knowledge in biology, students' interests and modern pedagogical technologies in science teaching.

KEYWORDS: PIRLS, TIMSS, PISA, software, education, strategy, global, function, research.

One of the most important tasks today is the active use of advanced pedagogical technologies in education, increasing the effectiveness of education, analysis and implementation in practice. It is very important to develop students' thinking, consciousness, worldview, to make them free listeners, free participants. The teacher should be the facilitator and the students should be the participants. The advantage of innovative activities in achieving this goal is multifaceted. It is necessary to use pedagogical technologies in order to attract the attention of students during the lesson, to use the textbook correctly and purposefully, to master the concepts and definitions of each new topic.

In the current era of rapid globalization of science and technology, general secondary school teachers are also entrusted with extremely important tasks.

Introduce modern approaches to teaching biology to students, develop the knowledge and skills needed to use innovations; to develop skills in the use of modern teaching aids in the classroom, ie the use of technical means, express surveys, test questions, brainstorming, group thinking, working in small groups and other interactive teaching methods is one. Methodical lessons are more effective than traditional ones.

Various modern international and domestic studies in the field of assessing the quality of education show that most education systems do not keep up with the rapidly changing economy and do not provide students with the necessary skills, such as the ability for critical, creative thinking, the ability to work collaboratively and the ability to adapt to constantly changing technology. used at home and at work.

Reforming knowledge assessment methods is essential to implement any systemic changes in the field of education, and today we need not just changes, but transformations of a

global nature. Only they can equip schoolchildren with the skills necessary for success [1;2;3;78].

In the concept of development of the public education system of the Republic of Uzbekistan until 2030, decisions were made at the level of the president and government on participation in prestigious international studies to assess the quality of education PIRLS, PISA, TIMSS and TALIS, which provide for the inclusion of the Republic of Uzbekistan among the 30 advanced countries in 2030 in the international ranking PISA [1].

PISA is a program aimed at assessing the competence of students to apply their knowledge in real life situations, which is assessed in the areas of mathematics, reading, science literacy and creative thinking [6].

These international evaluation programs and studies are organized by the International Association for the Evaluation of Educational Achievement (IEA), the Organization for Economic Co-operation and Development (OECD) with countries around the world on a periodic basis.

In accordance with the agreement signed between the State Inspectorate for Quality Control of Education and OECD organizations, and the IEA, Uzbekistan has started participating in the international student assessment program PISA-2022 (formerly PISA-2021) and the international program for assessing the level of reading and understanding of the text PIRLS-2021 .

The modern world civilization sends to humanity the expected and unexpected phenomena associated with nature. Mankind can deal with such situations only with the help of powerful science and forecasting the future, as well as measures against it. Natural literacy should be one of the basic knowledge of future citizens.



If the development of natural literacy has been unconsciously formed in the world education system since primitive times, then at present the main competencies and qualification requirements that schoolchildren should have are established by the state on the basis of educational standards. The necessary concepts existed in the education system: knowledge, skills and abilities, which are now fully integrated with competencies. Because to live in the modern world, to protect one's own and others' health, to develop and use technologies that do not harm nature, is the duty of modern active citizens.

The primitive idea of natural literacy as a set of a certain set of knowledge, skills and abilities (reading, writing, drawing, etc.) is understood as knowledge aimed at the development of logical thinking, which is necessary for human life and which today is not enough to solve modern social problems.

Organization of international research in the field of assessing the quality of education in the system of public education of the republic, establishing international relations, comprehensive support and stimulation of research and innovation activities of students, primarily creative ideas and creativity of the younger generation, the terms "Chirchik experience", "educational cluster" are as well as the activities carried out by the Chirchik State Pedagogical Institute in order to radically develop the education sector and ensure the continuity of education in our country. The development of natural literacy of students and its assessment at the international level are carried out with more preparation.

At the same time, along with the definition of secondary school No. 8 of the city of Chirchik, Tashkent region, as a basic school specializing in the natural sciences, the priority task was to organize relations between higher education and the school on a cluster basis, develop the natural science thinking of students, and train personnel in accordance with modern requirements.

During a visit to the 8th basic school in the city of Chirchik, in order to develop natural literacy among students, they got acquainted with the school team, and a "road map" was drawn up for completing assignments. In the future, school and university activities have established cooperation in the development of knowledge, skills and abilities of students in the framework of the program "Initiative students" based on the cluster system.

Science literacy is a person's ability to take an active civic stance on issues related to the natural sciences and their willingness to be interested in science ideas. [five]. The development of natural literacy is based on the natural science foundations of school education and ensures the technological modernization of the state through the natural literacy of students.

The innovative cluster of teacher education makes a great contribution to the development of the natural sciences. Drawing attention to the term quality literacy is associated with the conduct of global international studies of the availability of education in mathematics and the natural sciences TIMSS (Third International Mathematics and Science

Study) and the PISA (Programme for International Student Assessment) student assessment program. Within the framework of these studies, aesthetic literacy is understood as the ability and willingness of students to apply the aesthetic knowledge acquired at school in real situations [2].

The strategy for the development of education is a transition from solving the tasks traditional for the state national educational policy to the tasks of a broader global scale facing the world community, the rejection of confrontations in favor of cooperation, competitiveness and healthy competition. The PIRLS, TIMSS and PISA studies conducted since 2000 deserve special attention [1;3;5;7].

PIRLS (PIRLS) are reading literacy surveys designed for graduates of primary education and designed to assess not only the knowledge and skills acquired at school, but also the ability to apply knowledge in an unfamiliar situation, express one's opinion in writing and the ability to navigate in a certain situation. PIRLS were organized to "help" TIMSS, as studies of students' reading competencies, recognized as key and no less significant than natural-mathematical studies, needed to be expanded. TIMSS (TIMSS) - studies of the level of preparation of schoolchildren in mathematics and natural science, designed for students of the main stage of education. PISA (PISA) - research under the program of assessment of educational achievements in reading, mathematics, natural science, designed for the secondary school level, fifteen-year-old students from economically developed countries of the world. PISA is the most massive monitoring study of student achievement, the main purpose of which is to assess the ability to apply the acquired knowledge and skills in various life situations, and not to master the school curriculum [2;4;7]. These studies set themselves the following tasks:

- finding out how the systems of training students from different countries differ;
- changing target orientations in training and the transition from the formation of a trained person, a qualified performer, to the formation of a person being trained, capable of independently learning, retraining, acting responsibly and being ready to solve emerging problems in the conditions of the information society;
- Determination of what a modern school graduate should know and be able to function effectively in society;
- Creation of a system for monitoring educational achievements;
- Creation of an international methodology, a single toolkit for measuring the educational achievements of students for all countries participating in international comparative studies;
- Creation of a system of international standards [4; 5;7].

As part of the PISA study, a new direction in the study of general educational training of 15-year-old students, called

Problem solving - this term refers to the ability to use cognitive (cognitive) skills to solve real complex problems,

in which, at first glance, the method of solution is not explicitly determined. At the same time, the necessary skills are not formed within the framework of only one academic subject (it requires the use of skills and knowledge obtained in



the framework of studying various academic subjects or from other external sources of information) [5;7].

The process of acquiring knowledge is a complex process that requires several important continuous states. Universal, unified views of people on the natural environment are united on the basis of this international assessment system. Indeed, by developing the natural literacy of students, we can use the knowledge we have, the state of the unstable natural environment and human health in it, the achievements of science and education for the benefit of the development of mankind and nature.

To date, more than 88 countries are participating in the PISA program. Its assessment requirements are not comparable to any state national standard or curriculum. At the same time, it is checked to what extent students can use the knowledge gained in the field of reading, mathematical literacy and science literacy in life situations. In addition, the 2021 program will develop creative thinking skills and evaluate the positions of officials.

In Uzbekistan, special attention is paid to the field of education. This area of education is very different from the domestic one. And international studies came to our aid, such as the well-known PIRLS, TIMSS, PISA. Thanks to these studies, we can determine the level of knowledge of each student. It is these changes that have spurred our education to global changes and the scope of our education has become the most wide-ranging. The main goal is to apply the acquired knowledge in real life situations. To do this, we must make every effort to create comfortable conditions and to receive a quality education.

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