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TECHNOLOGY FOR THE DEVELOPMENT OF TEACHERS' COMPETENCIES IN INTERNATIONAL ASSESSMENT PROGRAMS IN THE PROCESS OF PROFESSIONAL DEVELOPMENT

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ABSTRACT

The article provides information about international assessment programs (PISA, PIRLS, TIMSS, TALIS), their goals and objectives. Problems in preparing for international assessment programs. Recommendations were also made to increase the competence of teachers in international assessment programs in the process of professional development.

KEYWORDS: *International Assessment Programs, Pisa, Pirls, Timss, Talis, Global Innovation Index, Context, Mathematical Literacy, Natural Science Literacy, Reading Literacy, Creativity, Critical Thinking.*

INTRODUCTION

The knowledge gained in school determines a person's future life path. Many measure knowledge by evaluation. But assessment is not a clear criterion for determining knowledge. It is just a tool to motivate students to be active. Each teacher has his own method of work, the method of assessment. A general analysis of students 'knowledge and skills determines the level of quality of education in the country. For this purpose, during the academic year, internal and external monitoring is conducted in each educational institution. As a result, the most exemplary schools, the sequence, the potential of teachers and the level of mastery of students are determined. This process is one of the most important criteria determining the development of education. In order to further develop the system of assessment of students' knowledge at the level of international requirements and the quality of education, the first steps are being taken to use international assessment programs in the education system of the Republic of Uzbekistan.

Effective participation in international research programs, preparation of students for research, the creation of new national assessment systems of the education system is one of the most important issues today. The preparation of international assessment programs, the continuous improvement of knowledge and skills of teachers and students in these programs should become a key issue today. Today, the development of the national innovation system and the improvement of innovation potential are the most important factors of economic growth in the country.

Therefore, the problem of studying these factors is relevant for many countries and international organizations around the world. In this regard, the existence of an evaluation system designed for rapid and reliable analysis of the level of innovative development is of great importance.

International rating systems created by reputable international organizations are used as such evaluation systems.The most popular of these is the Global Innovation Index, used by INSEAD Business School, Cornell University and the World Intellectual Property Organization **[1]**.

The Global Innovation Index (GII) is recognized worldwide as the most important source of information on innovation activity and a useful monitoring tool for decision-makers. This index is noteworthy for its application to both economically developed and emerging market economies, as well as for its broad approach to innovation.

The rapid development of all spheres of life of society and the state is rapidly accelerating the path of reforms to make our country one of the leaders of world civilization and modern innovative ideas, developments that ensure quality advancement and technology-based implementation.

PISA is an international assessment program that assesses the literacy (reading, mathematics, natural sciences) of 15-year-old students in different countries and their ability to apply their knowledge in practice **[2]**.

The following will be examined under PISA:

How ready are young people for the confrontations they will face in the future?

Are students able to analyze, search for, and identify the causes of conflict and present their ideas?

To what extent do students have the ability to apply their knowledge and skills to real life?

The main goal of PISA is to assess the level of in-depth knowledge that allows students to take an active life position after graduation. Assessment of student readiness is carried out in three areas (Reading Literacy, Mathematical Literacy, Natural Science Literacy). Each of these corresponds to a specific academic discipline.The main focus is on students understanding the basic concepts, mastering the basic methods studied within the three areas outlined above. and focuses on the ability to apply their knowledge in a variety of situations. The assessment does not pay special attention to students' mastery of the full content of the subject.

General and cognitive competencies related to the mathematical content outlined in the PISA International Assessment Program Standards (FrameWork). The content of the assessment of mathematical readiness of 15-year-old students is based on the concept of mathematical literacy. Mathematical literacy is "the ability of a person to identify and understand the place of mathematics in the world in which he lives, to make reasoned mathematical judgments, and to use mathematics to meet the present and future needs of a thinking, curious, and creative citizen" **[3]**.

PIRLS is an international assessment program that measures the level of reading and comprehension of 4th grade students in a school. More than 50 countries are participating in the PIRLS study. The aim of this international study is to read the text of primary school students in countries with different education systems. and preparation for admission and identification and assessment of specific features of the education system that lead to different achievement of students. Of course, such research is of great importance to workers, scholars, Methodists, teachers, parents, and community members in the field of public education.

The aim of the research is to identify outcomes that are common and important to students by offering texts that are more commonly used in life for them to read and understand.

Monitoring to determine the quality of education of 4th and 8th grade students in mathematics and science at TIMSS-school.

The International Monitoring of the Quality of School Mathematics and Science Education (TIMSS - Trends in Mathematics and Science Study) is a program organized by the International Association for the Assessment of Educational Achievement (IEA). This survey is conducted once every 4 years.

The main task of the TIMSS international study is to make a comparative assessment of the quality of school mathematics and science education. Every 4 years, the academic achievements of 4th and 8th grade students are assessed, and at the same time, it is possible to compare not only their knowledge and skills, but also their attitude to these subjects, interest, and motivation for learning. The main plan of the research: for 4 years, the results of his knowledge of mathematics and natural sciences will be monitored until the 4th grade student reaches the 8th grade.

TALIS is reliable in terms of specific indicators that allow for appropriate analysis of the professional and pedagogical development of principals and students of general secondary schools, as well as the learning environment and conditions and an international evaluation program that develops comparative data**[6]**.

To train good teachers all over the world, to involve them in long-term work, to improve the skills of teachers. and interest in incentives is growing. Student achievement is the nature of the processes that take place in the classroom. and with quality, firstin turn, it was found to be closely related to teacher activities. Research in recent years has shown that a teacher's professional qualities are a key factor in determining students'achievements at the school level and can compensate for the lack of knowledge available among students who may have been performing poor quality education for several years. However, the problem of not having a qualified and enthusiastic teacher coming to every class still persists. To this end, the development of an acceptable policy on teacher status is, first and foremost, a specific national one. and the lack of information on what may be most effective in local conditions.

International Study of Teaching and Learning Systems (TALIS International Study System) conducted by the OECD on the working conditions of teachers. and is the first international comparison study of what conditions exist in schools.Its purpose is to enable states to adopt policies that support the conditions that ensure the effectiveness of school processes. and helping to develop**[7]**.

TALIS provides an opportunity to learn about teachers'perspectives on mutual pedagogical practices. In addition to the main topics, the surveys explore other topics that are important for relevant analysis. It should be noted that TALIS does not collect regulatory and administrative information, but teachers. and reflects the views of school principals, who are teachers. and the opinions of school principals. and reflects their own accounts of the general teaching and activities of the schools. This is through TALIS to make the necessary decisions in the field of education in the country, to train teachers and serves as a unique and critical source of information for the development of educational institutions.

The above international assessment programs are being introduced into the education system of the Republic of Uzbekistan, ie the relevant agreements for participation in these programs have been concluded and are being gradually implemented. For example, in April-May 2021, an experimental pilot phase of the PISA international program was conducted, and in April-May 2022, 15-year-old students participated in basic research. In 2021, our students participated in the main tests of the PIRLS study. In 2022, the TIMSS study participated in the experimental pilot phase, while preparations for the 2023 core test are underway.

The main purpose of participation in these studies is that students who pass international tests must have the knowledge, skills and abilities that meet this requirement, and they must be formed accordingly. In order to prepare students for these international programs, it is important for teachers to be aware of these programs, that is, to have knowledge and skills on international programs and their tasks.

Therefore, in order to prepare for these programs, it is necessary to perform the following tasks in the process of professional development in the education system in order to achieve high results and increase the competence of teachers in these programs:

- State educational standard, curricula in the native language, mathematics and natural sciences, based on the results of international research. and making changes and additions to the content of textbooks;
- Creating a national database of questions from international assessment programs and integrating them into curricula;
- Development and implementation of additional manuals and literature based on the curriculum, which includes questions of international assessment programs;
- Organization of short-term professional development courses in order to update the forms, methods and technologies of teaching the native language, mathematics and natural sciences and to increase the knowledge and training of teachers in this area;
- Posting information on international assessment programs on school websites.
- Creating training programs for teachers and students to prepare for international programs and implementation;
- Development and implementation of mobile applications on the example of open assignments of international programs;
- Development and implementation of electronic multimedia manuals on international programs;
- Principals, deputy principals in schools and organizing separate seminars for teachers on a regular basis;
- Creation of special platforms for preparation for international evaluation programs and constantly replenishing it with data;
- To establish contacts with leading educational and research centers, international and foreign organizations in the member countries of the Organization for Economic Cooperation and

Development, to participate in the PISA, PIRLS, TIMSS and TALIS evaluation programs and study the experience of advanced and developed countries;

- Study, analyze and teach seminar materials to others;
- Take measures to fully equip schools with modern computer technology, taking into account the fact that PISA research is organized on a computer basis;
- International research program, its goals and objectives, student, teacher and explain to parents;
- Mathematics participating in seminars and trainings organized by international expertsand the formation of groups of Methodists (trainers) in the natural sciences by region;

International assessment programs support decision-making in the field of education policy, providing countries with the opportunity to provide timely information on the achievements and shortcomings of the education system, to analyze the impact of relevant programs. Since international surveys such as PISA, PIRLS and TIMSS, aimed at assessing the quality of education, are being conducted for the first time in the education system of Uzbekistan, it is important to conduct them correctly, effectively and objectively.

Timely and high-quality implementation of the above tasks will ensure the integration of the education system of our country into the international educational process, increase the knowledge and skills of teachers in international assessment programs. Indeed, effective participation in international assessment programs is an important factor in improving the quality of education.

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