Foreign Experience of Preparing Students for International Assessment Programs in the Educational System

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Abstract: In this article, we will get acquainted with the STEAM educational technology, which the most developed top countries of the world are actually testing in the development of their educational systems. The research employs a descriptive approach to outline the key characteristics and objectives of PIRLS, PISA, TIMSS, and TALIS. The research aims to understand the global development of these programs and evaluates the readiness of the Uzbek system, particularly in the integration of STEAM educational technology. And we will consider the analysis of the results of international evaluation programs created to measure the effectiveness of education in Uzbekistan.

Keywords: quality of education, STEAM, PISA, PIRLS, TIMS, TALIS, assessment, analysis, knowledge, competence, skill

Introduction

International assessment programs are a set of tests and similar tasks that analyze the effectiveness of education and the literacy of students around the world. Programs conduct their research in different age groups and disciplines (Baranova, 2022; Bart, 2022; de Oliveira, 2023; Gardulf, 2019; Garzon, 2022; Lin, 2020; Lo, 2019; Murozi, 2022; Truong, 2020). However, we will consider several of its types:

PIRLS (Progress in International Reading and Literacy Study) is a system for evaluating the level of reading and understanding of the text of primary 4th grade students. It is held periodically every 5 years: 2001, 2006, 2011, 2016 and 2021. The assessment is divided into 3 levels: high level -550 points; middle level -475 points; lower level -400 points. PIRLS research was conducted in Uzbekistan for the first time among international assessment programs, because the program was fully compatible with the educational system.

PISA (The Program for International Student Assessment) is a system that evaluates the level of 15-year-old students’ ability to apply their literacy in reading, mathematics and
natural sciences in practice. The PISA study consists of a test, which has several types of tests: single-answer, multiple-answer, short or detailed answer, and opinions on the solution of a problem. The research is organized every 5 years. For the first time in Uzbekistan, this program was implemented in 2021 as a test, and in 2022 as a final one. The results of this will be announced after one year, that is, at the end of this year.

TIMSS (Trends in International Mathematics and Science Study) is a program that assesses the level of mastery of 4th and 8th grade students in mathematics and natural sciences by the International Association for the Evaluation of Research Educational Achievements (IEA). is organized. The program is held every 7 years and has been organized 7 times so far, and the next 8th study is planned to be held in 2023. The results are measured on a scale of 1000 points, and the average result is 400-500 points.

TALIS (The Teaching and Learning International Survey) is a program that examines the environment of teaching and learning in general secondary educational institutions and the working conditions of teachers.

Why were international assessment programs developed and piloted around the world? As we know, developed and developing countries with a market economy have radically reformed the education system, among other areas, and are using STEAM technology in their education systems, taking into account the needs of the 21st century technology and technology era. International evaluation programs have been developed to evaluate the effectiveness of STEAM educational technology after its implementation. And research is being done step by step. So what is STEAM educational technology? Unlike traditional education, STEAM is a method of teaching that combines natural sciences, technology, engineering, art and mathematics, ensuring that knowledge is not isolated, but mutually balanced.

In our educational system, the STEAM educational technology was formed on the basis of "Finnish education" and has not yet effectively passed the period of adaptation (Lavicza, 2022; Santamaria, 2022; Shatunova, 2019). The reason is that there are many differences between our educational system and the Finnish educational system, which brings high results from international evaluation programs, and we do not have the opportunity to fully apply them in practice. Maybe that’s why our efforts have not yielded the results we expected.

Methodology

The research employs a descriptive approach to outline the key characteristics and objectives of PIRLS, PISA, TIMSS, and TALIS. Additionally, this study investigates the role of STEAM educational technology in the context of these assessment programs and evaluates the readiness of the Uzbek educational system to align with international standards. The analysis includes the tasks and functions performed by the National Center

**Result and Discussion**

In practice, the National Center for the Implementation of International Studies on the Evaluation of the Quality of Education under the Cabinet of Ministers of the Republic of Uzbekistan implements and controls the effectiveness of education and the preparation processes for international evaluation programs. Tasks to be performed by the National Center:

a. participation as a representative of the Republic of Uzbekistan in the organization and coordination of international research;
b. conducting scientific research aimed at developing and implementing innovative methods of developing the level of literacy in the education system, mathematics and natural sciences;
c. establishment of international relations in the field of education quality assessment, development and implementation of international projects, participation in the organization and holding of international scientific conferences and symposiums;
d. conducting fundamental and applied research in the field of education quality assessment;
e. scientific and methodological support for research on the assessment of the quality of education;
f. to ensure the successful participation of general secondary education institutions in international research;

It is very important to prepare students for international assessment programs in general secondary schools in Uzbekistan. The reason is that entering the top 30 and increasing the efficiency of education by 50% by 2030 is the most important task. However, this process is being implemented step by step so far and our achievements are as follows:

1. Adherence to international standards: development of curricula and programs, manuals in accordance with international standards at all stages of the education system, and through them, increase students' literacy and build competencies;
2. Multimedia and technologies: organizing an effective teaching process using technological tools and ICT and creating various multimedia, Internet resources, interactive textbooks and using them to interest students;
3. International cooperation: international cooperation is important in general secondary schools, involving local teachers as well as foreign teachers and establishing close relations with them.
While we are happy with such achievements, it would be appropriate to provide an analysis of the shortcomings as well:

1. Languages of study: international assessment programs require students to be proficient in English. If students' language skills are low, this will naturally affect the test results.
2. Resources: international education is characterized by a lack of resources and a high need to translate them into the Uzbek language. This requires regular familiarization with foreign literature.

Conclusion

We can say that it is good to participate in international assessment programs, but we should not neglect the quality of education. For this, it is necessary to fundamentally reform the education system, starting with first-grade students, and not with upper-class students, and to develop new generation textbooks in accordance with world standards. And they are students when they learn several foreign languages, develop the competence of effective use of ICT and social networks.

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