

THE ROLE AND FUNCTIONS OF INTERNATIONAL ASSESSMENT PROGRAMS (PISA, PIRLS, TIMSS) IN THE NATIONAL ECONOMY

Scientific Supervisor: Akhmedov Azimjon

Student: Abduraupova Madinabonu

Andijan State Institute of Foreign Languages

Abstract: *In the context of the sharp intensification of global competition and the development of a knowledge-based economy, the quality of education has become a decisive factor for a country's long-term economic stability and competitiveness. International assessment programs—PISA, PIRLS, and TIMSS—serve as important tools for objectively evaluating the effectiveness of education systems and for shaping strategies aimed at developing a nation's human capital. This article analyzes the essence of these programs, their impact on the national economy, and the ways in which they provide guidance for the implementation of educational reforms.*

Keywords: *International assessment programs, economy, labor market, education system, infrastructure, strategy.*

PISA is a study conducted by the OECD that assesses the practical skills of 15-year-old students in reading literacy, mathematics, and science. PIRLS and TIMSS, on the other hand, are organized by the IEA and measure, respectively, the reading literacy of 4th-grade students and the knowledge levels of 4th- and 8th-grade students in mathematics and natural sciences. These programs analyze not only students' theoretical knowledge, but also their ability to apply this knowledge in real-life situations. When discussing the role of international assessment programs in a country's economy, first of all, the quality of education determines the quality of human capital — higher PISA scores are associated with increased rates of economic growth. Secondly, these results help identify the competencies demanded in the labor market and indicate to employers which areas lack qualified specialists. Moreover, international assessment results are aimed at developing the necessary science, mathematics, and technical preparedness required to accelerate the transition to an innovative economy. In strengthening the competitiveness of the labor market, the results of PISA and TIMSS play an important role in identifying policy measures by assessing young people's logical thinking, problem-solving abilities, and practical skills, and aligning them with the requirements of the global labor market. Countries that achieve high performance — such as South Korea, Singapore, and Japan — lead

in the markets of high technologies and innovations. Therefore, education policy and workforce training must be aligned with economic strategy. Accelerating the transition to an innovative economy: Fields such as artificial intelligence, robotics, biotechnology, and digital services require a strong foundation in science and mathematics. TIMSS and PISA identify weak areas and encourage the development of STEM education, as well as the training of personnel necessary to support startups and scientific research. Increasing the efficiency of investments in education, that is, identifying where public funds are being used effectively, is another important function of international assessment results. With their help, it is possible to optimize investments aimed at improving teacher qualifications, modernizing curricula, and enhancing school infrastructure. The country's position in global rankings: The results of PISA, PIRLS, and TIMSS shape a country's standing in the international educational arena and thereby increase opportunities for attracting foreign investment, expanding international cooperation, and obtaining grants. As for the functions of international assessment programs, these programs serve to evaluate the education system based on independent and objective external criteria, orient education toward the development of student competencies, and create a foundation for reforms in education policy. Through these programs, it is possible to identify regional disparities, ensure the fair distribution of resources, and provide transparency for parents and society. Uzbekistan participated in PISA (2022) and PIRLS (2021) for the first time, and the results clearly demonstrated the need to modernize the education system. This led to the introduction of new competency-based curricula, increased emphasis on STEM, improvement of teacher qualifications, enhancement of school infrastructure, and the widespread implementation of digital education technologies.

Conclusion: International assessment programs are not merely tools for measuring the quality of education, but also important instruments for determining a country's economic development strategy. They contribute to the development of human capital, increasing the competitiveness of the labor market, stimulating the transition to an innovative economy, and improving the efficiency of investments. The case of Uzbekistan shows that reforms implemented on the basis of international assessment results strengthen economic growth and competitiveness in the long term.

References

1. OECD (2019). PISA 2018 Results: What Students Know and Can Do (Volume I). Paris: OECD Publishing.
2. OECD (2023). PISA 2022 Results (Volumes I–III). Paris: OECD Publishing.

3. IEA (2017). PIRLS 2016 International Results in Reading. Amsterdam: International Association for the Evaluation of Educational Achievement.
4. IEA (2023). PIRLS 2021 International Results. Amsterdam: IEA Publishing.
5. IEA (2020). TIMSS 2019 International Results in Mathematics and Science. Amsterdam: IEA Publishing.
6. Hanushek, E., & Woessmann, L. (2015). The Knowledge Capital of Nations: Education and the Economics of Growth. Cambridge, MA: MIT Press.
7. World Bank (2020). Human Capital Project: Uzbekistan Education Review. Washington, D.C.: The World Bank.
8. Ministry of Public Education of the Republic of Uzbekistan (2022). PISA 2022 Special Report and National Analyses. Tashkent.
9. UNESCO (2021). Global Education Monitoring Report. Paris: UNESCO Publishing.
10. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan (2021). On Measures to Improve the Assessment of Education Quality and Expand Participation in International Studies. Tashkent.
11. Agency for Strategic Reforms of the Republic of Uzbekistan (2023). Analytical Report on the Development of STEM Education and Modern Competencies. Tashkent.