

RESULTS OF UZBEKISTAN'S PARTICIPATION IN INTERNATIONAL ASSESSMENTS (PIRLS 2021, PISA 2022, TALIS 2024, PISA 2025) AND PEDAGOGICAL IMPLICATIONS FOR PRE-SERVICE TEACHER EDUCATION

Gayniddinov Shaykhislom Tolibjon ugli
Lecturer, Namangan State Pedagogical Institute, Uzbekistan
E-mail: gshayxislom@gmail.com, +998 95 001 45 95

Abstract. The article outlines the regulatory and organisational basis of Uzbekistan's participation in PIRLS, PISA and TALIS in 2021–2025 and systematically analyses the official results. The dynamics of PISA 2022 and PISA 2025 (an increase in science from 355 to 438 points and in the share of students reaching the baseline level from 19% to 65%), the PIRLS 2021 results (437 points) and the TALIS 2024 indicators characterising the teaching workforce are compared. A gap between teachers' high self-efficacy and students' low performance is identified, and on this basis priority content areas for preparing pre-service teachers for international assessments in pedagogical universities are substantiated.

Keywords: PISA 2025, PISA 2022, PIRLS 2021, TALIS 2024, Uzbekistan, functional literacy, proficiency levels, teaching workforce, pre-service teacher, pedagogical implications.

Introduction

Within the framework of fundamental reforms in education, the Republic of Uzbekistan has, since 2019, followed the path of evaluating the quality of education against international criteria. The Concept for the Development of the Public Education System until 2030 set the goal of the country's entry into the top 30 countries of the PISA ranking [1], and a schedule of participation in international studies and the responsible bodies were defined [2]. As a result, the country took part in PIRLS in 2021, PISA in 2022, TIMSS and TALIS in 2024, and PISA for the second time in 2025. Within five years, a rich, internationally comparable database on the state of the education system was thus formed.

Although these data are being extensively analysed for education policy and school practice, their significance for pedagogical higher education institutions – the system of pre-service teacher education – has not been sufficiently studied. Yet, according to TALIS 2024, Uzbekistan's teaching workforce is one of the youngest in the world, and large numbers of new graduates enter the profession every year; the preparation with which they enter it directly affects student outcomes.

The aim of the article is to carry out a systematic analysis of Uzbekistan's official results in PIRLS 2021, PISA 2022, TALIS 2024 and PISA 2025 and to draw pedagogical implications for pre-service teacher education.

Literature Review and Methodology

Uzbekistan's results in international studies have been published in the official reports of the OECD and the IEA and in national reference materials [3; 4; 5; 6]. The analysis of PISA 2022 results and the improvement of educational content on their basis are addressed in the works of A. A. Ismoilov, N. A. Karimov, Sh. Axunjanova and others [7; 8], while the significance of PISA results for language and literature education has been examined in separate studies [9]. The relevance of the TALIS programme for Uzbekistan is considered in the article by N. Meyliyeva [10]. However, no integrated analysis of the

© 2026 International Journal of Literature and Language Studies. All Rights Reserved.

results of the four studies from the standpoint of teacher education has been carried out; moreover, the PISA 2025 results, released in September 2026, have not yet been reflected in the scholarly literature.

The study employed document analysis (official reports, national reference materials, regulatory documents), comparative analysis (across cycles, countries and the OECD average) and generalisation. The units of analysis were mean scores, rankings, the distribution of students across proficiency levels and TALIS indicators.

Results and Discussion

PIRLS 2021. Uzbekistan made its debut in international studies with PIRLS in April 2021; the study was conducted in 180 schools in the Uzbek, Russian and Karakalpak languages. The mean score of Grade 4 students was 437 points – 63 points below the scale centrepoint (500) – a result close to those of North Macedonia (442) and Azerbaijan (440) and 67 points below neighbouring Kazakhstan (504) [4]. The majority of students were concentrated at the low and intermediate benchmarks; the processes of interpreting, integrating, evaluating and critiquing proved the most difficult. The teacher questionnaire showed that primary school teachers rely mainly on traditional reading strategies.

PISA 2022. The first PISA results (December 2023) were a serious test for the education system: mathematics – 364 points (72nd place), reading – 336 points (80th place), science – 355 points (80th place among 81 participants); the gap from the OECD average was 108–140 points [3]. Between 81% and 86% of students did not reach the baseline Level 2, and not a single student reached Levels 5–6 in any domain. The country's leadership regarded these results as evidence of the need for fundamental reform of school education.

PISA 2025. In its second participation (233 schools, 8,652 students, 91 participating systems), Uzbekistan scored 438 points in the major domain – scientific literacy – and ranked 48th; this is an increase of 83 points compared with 2022, and the OECD listed Uzbekistan among the countries with the largest improvement in performance [5]. The share of students reaching the baseline level rose from 19% to 65% (OECD: 74%), while top performers accounted for approximately 1%. In the "Learning in the Digital World" domain, a score of 402 points was recorded (72nd place; OECD: 500). At the same time, because inconsistencies were identified in the response data for mathematics and reading in some schools and regions, the results in these domains were not published. The dynamics of the results are presented in Table 1.

Table 1

Dynamics of Uzbekistan's results in PISA 2022 and PISA 2025

Indicator	PISA 2022	PISA 2025	Change	OECD (2025)
Scientific literacy, points	355	438	+83	482
Rank in science	80/81	48/91	+32	–
At least Level 2, science	19%	65%	+46 p.p.	74%
Levels 5–6, science	0%	approx. 1%	+1 p.p.	approx. 7%
Learning in the Digital	–	402	–	500

© 2026 International Journal of Literature and Language Studies. All Rights Reserved.

Indicator	PISA 2022	PISA 2025	Change	OECD (2025)
World, points				
Mathematics / reading, points	364 / 336	not published	–	–

TALIS 2024. Uzbekistan took part in TALIS for the first time in 2024 with 210 schools and 4,507 teachers; the results were released in October 2025 [6]. Key indicators: the average age of teachers is 39 (OECD: 45), and 22% are under 30 (OECD: 10%); 87% believe that their profession is valued in society (2nd among 55 systems); 82% are satisfied with the terms of their employment (3rd place); 83% report that too many change initiatives are being introduced at their school (1st place); 56% of novice teachers have an assigned mentor; and 78% feel confident in adapting their teaching to cultural diversity (OECD: 63%).

Integrated analysis. An integrated review of the results of the four studies yields the following picture. In terms of student outcomes, the country lags noticeably behind the international average, but PISA 2025 has shown that positive dynamics can be achieved in a short period through targeted preparation. In terms of teachers, the workforce is young, positively disposed towards the profession and self-confident, but under the strain of rapid reforms. The relationship between these two pictures – the gap between teachers' high self-efficacy and students' low performance – defines the central problem to be addressed in the system of pre-service teacher education. Researchers note that high self-efficacy does not always correspond to the actual level of practical competence [11]; this substantiates the need to develop a culture of evidence-based professional reflection in pre-service teachers.

Two aspects of the PISA 2025 results deserve particular attention. First, the growth in science confirms that teacher professional development and the introduction of PISA-type tasks into the teaching process are not ineffective; this experience needs to be extended to mathematics, reading and digital learning. Second, the data-quality problems show how important procedural integrity and a culture of academic honesty are in conducting international studies – a culture that should be instilled in pre-service teachers at the university stage.

Pedagogical implications. The analysis of the results defines the following priority areas in the preparation of pre-service teachers:

– students' low performance stems not from a lack of knowledge but from an inability to transfer knowledge to contextual situations – pre-service teachers must master the methodology of competency-based teaching and the technology of working with context-based tasks;

– the weakest aspect of reading literacy is interpreting, integrating and critical evaluation; primary school and language and literature teachers must acquire the methodology of developing precisely these processes;

– the low level of digital learning skills calls for preparing pre-service teachers to teach and assess in a digital environment;

– the gap between teachers' high self-confidence and actual results requires the development of evidence-based professional reflection – a culture of evaluating one's own practice on the basis of student outcomes and TALIS indicators;

© 2026 International Journal of Literature and Language Studies. All Rights Reserved.

– the youth of the teaching workforce shows that international assessment competence must be developed not at the in-service stage but already during initial preparation in pedagogical universities.

Conclusion

Uzbekistan's participation in international assessment studies in 2021–2025 has made it possible to see the actual state of the education system against international criteria and to track the dynamics of its development. While the positive dynamics in PISA 2025 confirm that the reforms are heading in the right direction, the fact that 35% of students have still not reached the baseline level, that the share of top performers does not exceed 1%, and that the results in mathematics and reading remain uncertain shows the need to place preparatory work on a systematic and continuous footing.

The decisive condition for sustaining the improvement achieved is that every new teacher enters the profession with international assessment competence. This makes the development and implementation of an integrated pedagogical system for preparing pre-service teachers for PISA, PIRLS and TALIS in pedagogical universities an urgent scientific and practical task.

References

1. Decree of the President of the Republic of Uzbekistan No. PF-5712 of 29 April 2019 "On Approval of the Concept for the Development of the Public Education System of the Republic of Uzbekistan until 2030" // National Database of Legislation, 30.04.2019, No. 06/19/5712/3034. (In Uzbek)
2. Resolution of the President of the Republic of Uzbekistan No. PQ-4312 of 8 May 2019 "On Measures to Organise International Studies in the Field of Assessing the Quality of Education in the Public Education System". (In Uzbek)
3. OECD. PISA 2022 Results (Volume I): The State of Learning and Equity in Education. Paris: OECD Publishing, 2023. 491 p.
4. Mullis I.V.S., von Davier M., Foy P., Fishbein B., Reynolds K.A., Wry E. PIRLS 2021 International Results in Reading. Boston College, TIMSS & PIRLS International Study Center, 2023.
5. OECD. PISA 2025 Results (Volume I): Future-Ready Students. Country Notes: Uzbekistan. Paris: OECD Publishing, 2026. https://doi.org/10.1787/73451bc5-en
6. OECD. Results from TALIS 2024: The State of Teaching. Country Notes: Uzbekistan. Paris: OECD Publishing, 2025. https://doi.org/10.1787/90df6235-en
7. Karimov N.A. Sample test items and assessment criteria in the mathematical literacy domain of the PISA 2022 main study // Physics, Mathematics and Informatics. 2024. No. 1. P. 129–138. (In Uzbek)
8. Axunjanova Sh. Ways of improving the system of assessing students' learning outcomes on the basis of PISA studies // Scientific Journal of the Abdulla Avloniy National Research Institute. 2024. (In Uzbek)
9. Khasanov B. PISA 2022 results: implications for language and literature education in Uzbekistan // CyberLeninka. 2024.
10. Meyliyeva N. Aligning the education system of Uzbekistan with global assessment standards (based on the TALIS programme) // Zenodo. 2024. https://doi.org/10.5281/zenodo.14286606 (In Uzbek)
11. Klassen R.M., Tze V.M.C. Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis // Educational Research Review. 2014. Vol. 12. P. 59–76.
12. Schleicher A. World Class: How to Build a 21st-Century School System. Paris: OECD Publishing, 2018. 296 p.

© 2026 International Journal of Literature and Language Studies. All Rights Reserved.