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## **The Development of Preschool Education: Strategic Goals For 2022-2026 and a Renewed Approach to Quality**

### **Abstract**

This article analyzes the impact of Azerbaijan's economic development strategy on the education system, emphasizing the role of education in human capital formation and sustainable economic growth. In the context of global economic challenges, the study examines the modernization of education, the adoption of innovation-driven approaches, and the alignment of educational outcomes with labor market requirements. Particular attention is paid to the key priorities and results-oriented objectives for preschool education outlined in the "Socio-Economic Development Strategy of the Republic of Azerbaijan for 2022–2026" (Republic of Azerbaijan President, 2022).

The article provides a scientific justification for initiatives aimed at expanding access to preschool education, strengthening quality assurance mechanisms, implementing alternative education models, and enhancing the professional competence of pedagogical staff (Ahmadova, 2021; Hasanova, 2022). Additionally, it explores the monitoring processes conducted in preschool education institutions during 2023–2025 within the framework of the project "Quality Assurance in Preschool Education Institutions," implemented by the Education Quality Assurance Agency (TKTA, 2023; 2024), and analyzes issues arising from evaluation outcomes.

Given that preschool education represents the foundational stage of human development, quality monitoring in this sector has a direct influence on the social, intellectual, and emotional development of future generations (Sylva et al., 2014). The activities of the EQAA contribute to the achievement of the objectives set out in the national policy document "Azerbaijan 2030: National Priorities for Socio-Economic Development" (Republic of Azerbaijan President, 2021). Overall, these processes facilitate the establishment of an objective evidence-based information system on the current state of education, thereby providing a scientific basis for informed socio-economic policymaking.

**Keywords:** *human capital, sustainable development, quality assurance, inclusivity, pedagogical development, socio-economic strategy*

### **Introduction**

In the contemporary global context, human capital has emerged as the principal driver of economic development, surpassing the role of material resources (Becker, 1993; Schultz, 1961). Consequently, the advancement of the education system has become a strategic priority within national socio-economic policy. The policy document "Azerbaijan 2030: National Priorities for Socio-Economic Development" underscores the centrality of competitive human capital formation and innovation promotion to the country's economic growth strategy (Republic of Azerbaijan President, 2021). In this regard, education reforms are systematically aligned with these objectives, with a strong emphasis on quality enhancement and inclusivity across all levels of education.

Within the "Socio-Economic Development Strategy of the Republic of Azerbaijan for 2022–2026," preschool education is identified as a critical stage in the early formation of high-quality human capital (Republic of Azerbaijan President, 2022).

The strategic framework “*Competitive Human Capital and a Space of Modern Innovations*” prioritizes the renewal of educational content, the continuous professional development of pedagogical staff, and the expansion of access to preschool education. International research confirms that investment in early childhood education yields long-term economic and social returns (Heckman, 2006).

Azerbaijan’s economic development strategy is oriented toward the long-term modernization of the national economy, diversification beyond the oil sector, and the transition to a knowledge-based economy. Key strategic directions include innovation-driven growth, digital transformation, labor market-oriented human resource development, and the promotion of social equity and balanced regional development. The restructuring of the education system is therefore considered a fundamental mechanism for achieving these objectives.

**Research**

From the perspective of human capital theory, education constitutes a primary source of economic growth (Becker, 1993). In Azerbaijan, this is reflected in the alignment of vocational and higher education with labor market demands, the implementation of quality assurance mechanisms (Institute of Education of the Republic of Azerbaijan, 2023) in accordance with the Bologna Process, the promotion of research and innovation through university-based startup ecosystems, and the expansion of digital competencies via targeted national initiatives. Collectively, these reforms enhance the quality of human resources and strengthen the intellectual foundations of sustainable economic development.

The integration of education, science, and industry—often conceptualized as the *Science–Industry–Education Triangle*—supports innovation-driven growth and evidence-based policymaking (OECD, 2018). Similar models have demonstrated positive effects on workforce readiness and applied research outcomes in both developed and developing economies (Silva et al., 2014).

Sector	Function	Direction of interaction
Science	Generates new knowledge, technologies, and innovations	Transfers research outcomes to education and industry
Education	Provides human capital development and knowledge transfer	Integrates scientific advances into the teaching process and prepares qualified specialists for industry
Industry (Production)	Represents the sphere of practical application	Places research demands on science, defines workforce requirements for education, and implements innovations to enhance productivity

Within this system, each stakeholder supports and complements the others. The primary objective of the model is to enhance the innovation potential of the economy, transform scientific and educational outcomes into practical industrial applications, address workforce shortages, ensure the applicability of university-based research to industry needs, and integrate educational institutions into real economic processes.

*In Azerbaijan, elements of this model are implemented through several state programs, including:*

1. Joint research projects between the Azerbaijan National Academy of Sciences (ANAS) and universities;
2. Cooperation between vocational education centers and industrial enterprises (for example, joint initiatives between educational institutions and the Sumgait Chemical Industrial Park);
3. “Startup schools” and innovation centers that facilitate the commercialization of students’ scientific ideas within universities;
4. The “Digital Skills” project, implemented through collaboration between the Ministry of Education and technology companies (e.g., Azercell and Microsoft Azerbaijan).

As a result of such initiatives, students gain practical experience in real production environments, while scientific research becomes more application-oriented. The advantages of this model include the creation of a bridge between education, science, and industry; increased alignment of university graduates with labor market requirements; enhanced applied value of scientific research; stimulation of innovation-driven economic development; and alignment of state education policy with market demands.

However, as with any innovative framework, several challenges persist. These include weak linkages between scientific research and industry, limited practice-oriented research within universities, insufficient financial investment by industrial enterprises in scientific innovation, and underdeveloped coordination mechanisms.

### **Mechanisms of education's impact on the economy**

*Education stimulates economic development through several channels:*

- ❖ **Increased production efficiency:** highly skilled labor utilizes technologies more effectively;
- ❖ **Strengthened innovation capacity:** growth in research and creative activity;
- ❖ **Improved social welfare:** promotion of income equality and poverty reduction;
- ❖ **Enhanced investment attractiveness:** increased interest of international companies in a qualified workforce.

At the same time, the education system faces a number of challenges, including insufficient alignment of curricula with the dynamic demands of the labor market, persistent regional disparities in education quality, uneven financing levels, and incomplete equity in access to digital opportunities. Addressing these issues requires increased public investment in education and the improvement of governance mechanisms within the framework of state economic policy.

Azerbaijan's economic development strategy regards education not merely as a social sector but as a strategic economic resource. The development of education ensures the enhancement of human capital, strengthens economic competitiveness, and supports sustainable development. In the long term, innovation- and technology-driven advancement of the education system will accelerate the country's transition to a knowledge-based economy and contribute to the sustainability of national welfare.

### **Strategic directions for the development of preschool education**

According to the Strategy, increasing the enrollment rate of children aged 1–5 in preschool education to 50 percent by 2026 has been identified as a key target (Republic of Azerbaijan President, 2022). To achieve this goal, infrastructure development, alternative education models, and public–private partnerships have been expanded (Republic of Azerbaijan Ministry of Education, 2022), and 18 new kindergartens have been commissioned in recent years. Currently, approximately 105,000 children are enrolled in 1,669 preschool education institutions.

In addition, alternative education models—such as community-based and family-type preschool education—have been introduced. Through these models, more than 20,000 preschool-aged children have gained access to education, while public–private partnerships have enabled the enrollment of over 1,300 additional children in preschool education.

Research indicates that inclusive and play-based learning environments significantly contribute to children's socio-emotional development (Huseynli, 2024). Accordingly, Azerbaijan has introduced community-based and family-type preschool models to enhance accessibility and inclusivity (Quliyeva, 2024). As a result, the geographical coverage of preschool education has expanded, and access to inclusive education opportunities has increased.

### **Professional development of pedagogical and administrative staff**

Teacher professional development is recognized as a decisive factor in ensuring quality preschool education (Hasanova, 2022). Motivation theories suggest that both intrinsic and extrinsic motivation influence educators' professional growth and performance (Deci & Ryan, 2000; Maslow, 1954).

Monitoring and mentoring mechanisms implemented by the TKTA contribute to reflective practice, continuous learning, and increased professional motivation among preschool educators (TKTA, 2023).

One of the key strategic priorities is the implementation of a system for professional development and certification of pedagogical and administrative staff. The Ministry of Science and Education plans to involve nearly 17,000 teachers and administrators in professional development and certification programs during 2022–2026. These measures are expected to significantly enhance management efficiency and improve the quality of teaching and learning processes in preschool education institutions.

### **Quality assurance and new governance mechanisms**

Between 2023 and 2025, the Education Quality Assurance Agency conducted monitoring activities in 250 preschool education institutions, assessing pedagogical practices, governance, and the material and technical base (TKTA, 2024). Studies confirm that systematic quality assurance mechanisms enhance institutional transparency and resource efficiency (Ahmadova, 2021).

Monitoring outcomes directly influence evidence-based decision-making and equitable allocation of public resources (Institute of Education of the Republic of Azerbaijan, 2023). International experience also highlights the effectiveness of such mechanisms in improving early childhood education quality (OECD, 2018).

On December 4, 2024, the Second International Conference entitled “*A new perspective on quality in preschool education*” was jointly organized by the Ministry of Science and Education, the Education Quality Assurance Agency, the State Agency for Preschool and General Education, and the Education Institute. The conference focused on the comparative analysis of international experience, the adaptation of best practices to the local context, and discussions on improving quality in preschool education. Experts from the United Kingdom and Finland, local scholars, and preschool educators participated in the event, highlighting progress in achieving result-oriented targets defined in national strategies and emphasizing the role of early childhood education in human capital development. The positive impact of school readiness programs on the transition to primary education and the prospects for implementing certification mechanisms for quality assurance were also discussed.

Within the framework of the conference, scientific discussions were held during panels entitled “*Green practices and play-based learning in preschool education*” and “*Sustainable quality and its management in preschool education.*” The event was conducted within the scope of the “*Year of solidarity for a green world,*” placing special emphasis on the integration of environmentally oriented pedagogy into preschool education. In recent years, initiatives promoting ecological literacy, climate awareness, and sustainability-referred to as the “Green World” approach-have been implemented in preschool education institutions, contributing to increased awareness among children and parents and supporting the transition to a green economy.

### **Impact of EQAA monitoring on the implementation of the state socio-economic development strategy**

A key component of ongoing reforms is the monitoring activities conducted by the Education Quality Assurance Agency in preschool education institutions. The primary role of the EQAA in this field is to assess and promote quality development across all levels of education, including preschool education. The objectives of these monitoring activities include evaluating the effectiveness of pedagogical practices, assessing the material, technical, and psychological environment, identifying institution-specific development directions, and analyzing factors influencing children’s developmental outcomes.

### Socio-economic strategy and its impact on preschool education development.

Level	Component	Description / Outcome
Strategic level	Socio-economic strategy	Defines national priorities for sustainable development and human capital formation
Impact dimension	Area of influence	Education system as a key driver of socio-economic transformation
	Socio-economic outcome	Long-term social and economic benefits for society
Core focus	Development of human capital	Investment in education as the foundation of economic competitiveness
	Ensuring a high-quality early childhood education and development environment	Creation of a supportive learning and developmental environment for children at an early age
Governance & management	Monitoring results influence decision-making	Monitoring outcomes play a decisive role in evidence-based policymaking
	Efficient allocation of state resources	Public resources are distributed more effectively based on performance and needs
	Effective governance of the education system	Improved management efficiency across education institutions
Equity & inclusion	Comparative assessment of institutions across regions	Evaluation of preschool institutions in different regions to ensure equity
	Gender equality in access to education	Equal access to education opportunities for girls and boys is monitored
	Reduction of regional development disparities	Regional inequalities in educational development are reduced
Infrastructure & quality	Improvement of E\educational infrastructure	Enhancement of physical and learning environments
	Strengthening the material and technical base	Development of recommendations to upgrade facilities and resources
Social impact	Social welfare and gender equality	Education contributes to social well-being and gender equity
	Social justice and inclusivity principles	Promotion of inclusive education and social justice
Long-term outcomes	Formation of more economically active youth	Preparation of economically productive and innovation-oriented future generations

#### Impact directions of the EQAA monitoring project on the socio-economic strategy

Observations based on the research methodology indicate that comparing the development indicators of monitored and non-monitored preschool education institutions provides a clear picture of institutional progress. As a result of monitoring activities, the level of governance effectiveness and transparency in preschool institutions has increased. State investments have been systematically directed toward improving material and technical infrastructure and strengthening safety standards. Data obtained through monitoring processes are taken into account in socio-economic planning documents, while the recommendations of the Education Quality Assurance Agency (EQAA) support the implementation of balanced regional development policies.

The improvement of quality indicators creates a foundation for long-term social welfare and economic stability. For this reason, the monitoring projects implemented by the EQAA in preschool education institutions represent one of the key implementation mechanisms of the state's socio-economic development strategy. This mechanism enhances the quality of early childhood education, serves as an investment in human capital development, promotes social justice, gender equality, and regional balance, and ensures the efficient use of public resources.

### **Impact of EQAA monitoring on the improvement of the material and technical base of preschool education institutions**

The effective functioning of preschool education institutions depends not only on pedagogical processes but also directly on the condition of their material and technical base (MTB). A safe, modern, and development-oriented learning environment has a significant impact on children's social, cognitive, and emotional development. In this context, monitoring activities conducted by the Education Quality Assurance Agency play a central role in assessing both educational quality and material and technical provision, as well as in identifying priority areas for improvement.

As a result of EQAA activities, many preschool education institutions have experienced infrastructure renewal, improved equipment provision, and enhanced safety standards.

#### **Relationship between the material and technical base and educational quality.**

*The material and technical base encompasses the infrastructure, equipment, furniture, teaching and play materials, technical facilities, and other resources that support institutional functioning. An improved material and technical base:*

- enhances children's comfort within the learning environment;
- facilitates the professional activities of educators;
- ensures compliance with health, hygiene, and safety requirements;
- creates conditions for the implementation of innovative approaches in the educational process.

Thus, the material and technical base is considered one of the core structural components of quality in preschool education.

Based on monitoring outcomes, evaluation reports and development recommendations are prepared for each institution. These reports clearly identify weaknesses in the material and technical base, equipment needs, and specific pathways for improving the learning environment.

#### **Mechanisms of monitoring impact on the material and technical base**

Through systematic assessment, evidence-based reporting, and targeted recommendations, EQAA monitoring serves as a catalyst for infrastructure development, resource optimization, and sustainable quality improvement in preschool education institutions.

<b>№</b>	<b>Impact direction</b>	<b>Outcome</b>
1	Identification of problems	During monitoring, group rooms, sanitary conditions, equipment, and play environment are analyzed. Material and technical deficiencies are systematically identified.
2	Provision of recommendations	Specific instructions and suggestions regarding material and technical base (MTB) are provided. Education management authorities plan improvement measures.
3	Planned resource allocation	Based on monitoring results, priorities for financial and technical support are determined. A fair and needs-based provision system is established.
4	Improvement of safety and sanitation standards	Inspections are conducted to create a hygienic and safe environment. Healthy and safe conditions are ensured for children.
5	Public accountability and transparency	Results are presented to the community and management bodies. Accountable management and transparent education policy are established.

As a scientific method for investigating the topic, observation and photographic documentation provide clear evidence from the analysis of reports during the assessment of the material and technical base (MTB). Comparative analysis enables a clear identification of differences between

institutions where monitoring is conducted and those where it is not. Overall, following the initiation of monitoring, corresponding improvements in the provision of MTM (material and technical means) are observed according to the results of the reports. For instance, the provision of resources supporting fine motor skills, demonstration materials for visual simulation, and other inventory items organized according to specific needs can be considered a significant achievement.

Furthermore, conducted monitoring and observations indicate that many preschool institutions have undertaken work to renovate rooms, acquire equipment, and improve playgrounds. In institutions with weak material resources, local executive bodies and education departments have allocated financial support based on data from the Quality Assurance in Education Agency (TKTA). The TKTA's quality standards have guided the planned development of the MTB.

These monitoring activities have drawn attention to the assurance of safety, fire protection, and sanitary-hygienic standards, exerting a systematic impact on the improvement of the material and technical base. This impact is manifested in the following directions: prompt identification of infrastructure problems, planning of specific improvement measures, optimization of resource allocation, and adaptation of the educational environment to safe and modern standards.

The impact of TKTA monitoring on increasing the learning motivation of preschool educators is also notable. In the modern era, ensuring the quality of education is one of the priority directions of the education system. In the Republic of Azerbaijan, this responsibility is among the main functions of the Quality Assurance in Education Agency (TKTA). The TKTA aims to create a high-quality learning environment in educational institutions, evaluate the effectiveness of the teaching process, and enhance it.

Monitoring in preschool institutions serves not only as a tool for organizational and administrative supervision but also as a significant factor increasing the professional development motivation of educators. Since 2023, the TKTA has conducted monitoring in preschool institutions. The objectives of these monitoring activities include evaluating the quality of teaching and educational processes, analyzing the performance of pedagogical staff based on development needs, identifying factors affecting children's developmental environment, and providing recommendations for the institutions' improvement. The results of these monitoring activities lead to an increase in professional learning motivation both at the institutional level and individually for educators.

Learning motivation refers to the set of internal and external factors that drive an educator to improve their knowledge, skills, and experience. In the quality assurance system, motivation is closely linked to these factors: monitoring promotes the development of self-analysis and reflection skills; educators identify the strengths and weaknesses of their work; and the design of development plans determines individual learning needs. Reports and training provided by TKTA strengthen continuous learning habits among teachers, illustrating the mechanisms through which monitoring influences motivation.

Nº	Impact direction	Nature of impact	Motivation outcome
1	Objective evaluation of professional activity	The teacher gains the opportunity to view their work from an external perspective	Internal interest in self-improvement increases
2	Feedback and recommendations	Specific directions for development are provided	Planned and purposeful learning occurs
3	Training and seminars	Mentorship is organized following monitoring	Habit of being open to new knowledge is developed
4	Inter-institutional comparison	Familiarity with the experiences of other institutions	Competition and professional motivation increase
5	Recognition and evaluation	Teachers demonstrating high results are acknowledged	Moral encouragement is generated

Scientific observations conducted during the study of this topic indicate that participation in monitoring affects the motivation levels of preschool educators, and its impact on teachers' self-assessment processes is clearly observable. Comparative analysis shows that institutions where monitoring has been conducted demonstrate greater improvement in motivation levels compared to

those without monitoring. Observations during mentorship sessions reveal that educators approach their work with increased responsibility and creativity, show greater interest in participating in additional training to enhance their professional skills, and that feedback obtained from monitoring positively stimulates learning motivation.

*Quality assurance mechanisms foster a reflective approach among educators toward their professional activities. To ensure the sustainability of teacher motivation, the following recommendations are essential:*

- Integration of monitoring results into individual professional development plans;
- Expansion of result-based training programs for teachers by the Quality Assurance in Education Agency (TKTA);
- Public and moral recognition of teachers' achievements;
- Further expansion of professional support and mentorship systems.

The 2022–2026 socio-economic development strategy of the Republic of Azerbaijan introduces a systematic and results-oriented approach to the development of preschool education. Quality assurance mechanisms, professional development initiatives, and alternative education models collectively contribute to sustainable human capital development and long-term economic growth (Heckman, 2006; Sylva et al., 2014). Strengthening international cooperation and aligning national reforms with global best practices remain essential for achieving the strategic goal of competitive human capital formation.

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