



IMPLEMENTATION OF MODERN DIGITAL TECHNOLOGIES AND DIGITAL GOVERNANCE IN PRESCHOOL EDUCATION INSTITUTIONS: CHALLENGES, OPPORTUNITIES, AND PROSPECTS

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***Abstract** This article presents a comprehensive analysis of the process of implementing digital technologies and digital management systems in preschool education institutions. The challenges and opportunities of digital transformation in this sector are examined using theoretical and empirical methods. Based on surveys and observations, the advantages of digital governance, existing barriers, and future development directions are discussed.*

***Keywords:** preschool education, digital technologies, governance, infrastructure, transformation, information system*

1. Introduction

In recent years, digitalization in education has accelerated due to global changes and technological advancements. In Uzbekistan, significant reforms have also been introduced in this area. In particular, the implementation of **digital technologies and governance in preschool education institutions (PEIs)** has become a key factor in systematizing and improving the quality of teaching and administration.

The “*Digital Uzbekistan – 2030*” strategy outlines the main directions of this transformation. However, in practice, various **challenges, opportunities, and future solutions** exist in the digitalization of PEIs. This article aims to explore and analyze these aspects in detail.

2. Methodology

Research Methods

The study used the following methods:

Theoretical analysis: review of existing literature, regulatory documents, and international experience.

Empirical research: field observations at 10 PEIs in Tashkent city and region.

Survey: conducted with 60 preschool teachers, 15 PEI administrators, and 30 parents.

Interviews: held with 5 IT specialists and 3 preschool education methodologists.

Object of Study

The research focused on state and private preschool education institutions in Tashkent city and Tashkent region.

3.Results

Challenges

Challenge	Description	Stakeholder Feedback
Lack of infrastructure	Insufficient computer and internet access	68% reported this as a major issue
Low digital literacy	Limited ICT skills among staff	72% said they felt underprepared
No unified platform	Institutions not digitally integrated	64% cited disorganization
Weak legal-methodological base	Outdated or missing guidelines	58% demanded better standards

Opportunities

Improved digital supervision: Monitoring tools are now being used to evaluate teacher performance.

Enhanced parent communication: Real-time updates through mobile applications are effective.

Financial transparency: Electronic payment systems improve accountability.

Best Practices

In 3 private PEIs that implemented the “ERP for Preschool” system:

- 100% of reporting was digital;
- Teacher workloads were reduced by 35%;
- Real-time dashboards allowed efficient administration.

4. Discussion

Findings indicate that the main barriers to implementing digital governance include:

- **Inadequate infrastructure and digital literacy** among educators and administrators;
- Lack of integration across systems and insufficient legal-methodological support.

Despite these, **strong government support and access to international funding and partnerships** provide a clear path forward.

Countries like Estonia and Singapore have already achieved 90%+ digitalization in preschool education. These models could be locally adapted in Uzbekistan. However, success requires:

- A **unified digital governance platform** for PEIs,
- **Certified digital literacy programs** for all staff.

5. Conclusion

This research confirms that while preschool digitalization in Uzbekistan has significant potential, it demands a structured approach. Key priorities include:

- ✓ Strengthening infrastructure,
- ✓ Creating integrated platforms,
- ✓ Improving legal frameworks,
- ✓ Enhancing staff competencies.

In the long run, digital governance will not only increase administrative efficiency but also contribute significantly to early childhood development and educational outcomes.

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