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ARTIFICIAL INTELLIGENCE
READINESS FOR IMPLEMENTATION IN GEORGIA'S GENERAL EDUCATION SYSTEM

POLICY ANALYSIS DOCUMENT

AUTHOR: NINO UGREKHELIDZE

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Executive Summary

The policy analysis document, "Readiness for the Implementation of Artificial Intelligence in Georgia's General Education System," is based on a large-scale empirical study conducted by the author. The study aimed to assess the readiness of Georgia's general education system for the integration of artificial intelligence (AI). Its theoretical framework combines the Technology Acceptance Model (TAM), the Diffusion of Innovations Theory (DOI), and the Social Cognitive Theory (SCT) to explain how technological, organizational, and social factors jointly influence the adoption of new technologies. The research surveyed 2,814 public school teachers, 2,984 students, and 5,200 parents from different regions of Georgia. The proposed conceptual model was empirically validated using Structural Equation Modeling (SEM).

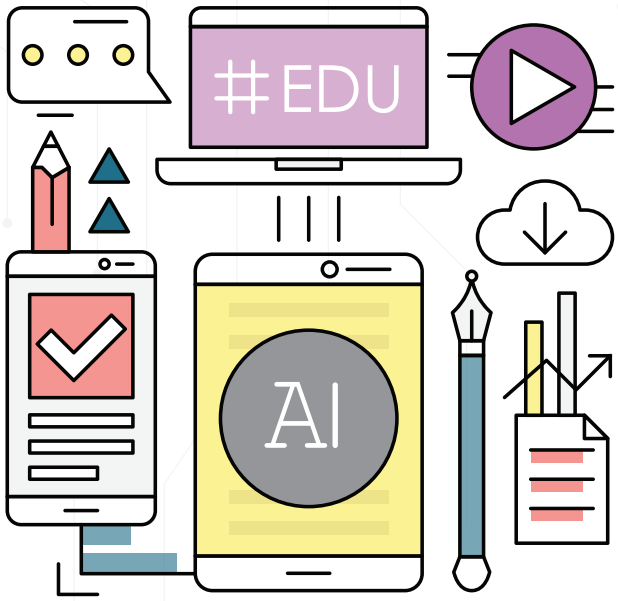
The findings indicate that Georgia's general education system is currently at a transitional stage of AI readiness. While there is growing interest in AI and a positive willingness to use it, its systematic implementation remains constrained by the lack of institutional policies, limited practical experience, and the absence of a comprehensive regulatory framework. The analysis confirmed that the strongest factors influencing AI adoption are perceived usefulness, perceived ease of use, practical experience, and the social environment. These findings suggest that effective AI policy should focus not only on strengthening technological infrastructure but also on enhancing teachers' practical competencies, reinforcing institutional support within schools, and developing a national ethical and methodological framework for AI integration.

The document examines three alternative policy scenarios, evaluating them against strategic, financial, and institutional criteria. Based on this analysis, it recommends a phased and systematic integration model as the most appropriate approach for ensuring the long-term development, resilience, and competitiveness of Georgia's general education system.

Problem Statement

Education systems around the world are rapidly moving toward the purposeful integration of artificial intelligence (AI). Countries such as the European Union member states, the United States, Singapore, China, and India have already developed national AI strategies, ethical frameworks, and practical guidelines that promote the responsible use of AI, strengthen teachers' professional capacities, and support the development of students' future skills. As a result, AI is no longer viewed simply as a technological innovation but as one of the key drivers of educational transformation.

In contrast, Georgia's digital education policy remains primarily focused on the development of basic digital infrastructure, including internet access and digital literacy. At the same time, there is still no comprehensive national AI strategy, regulatory policy, ethical framework, or pedagogical guidelines governing the use of AI in general education. Nevertheless, teachers and students are already using generative AI tools extensively in their daily teaching and learning activities.



To address these challenges, Georgia's education system requires a coherent, long-term, and evidence-based policy framework that supports both the integration of AI technologies and the implementation of ethical principles governing their use.

However, this process is taking place without institutional support, common standards, or a clear methodological framework. As a result, there is a significant gap in strategic governance, increasing the risks of academic misconduct, personal data privacy violations, and digital inequality. These challenges also limit the effective and responsible use of AI across Georgia's general education system.

To address these issues, Georgia's education system requires a coherent, long-term, and evidence-based policy framework that supports both the integration of AI technologies and the application of ethical principles for their responsible use in education.

Key Research Findings

The analysis of the research findings shows that readiness for the integration of artificial intelligence (AI) in Georgia's general education system is not determined by technological factors alone. Instead, it is shaped by the interaction of social, organizational, and experience-based factors.



Value-Based Technology Acceptance

The study found that teachers' intention to use AI is directly influenced by perceived usefulness and perceived ease of use, while for students and parents, the perceived benefits of the technology are the strongest drivers of acceptance. These findings suggest that the successful integration of AI in schools depends primarily on whether users perceive it as useful, accessible, and easy to use, rather than simply as a new technology.



The Role of Practical Experience

The research demonstrates that practical experience strengthens users' trust in AI and increases their perception of its usefulness, which in turn enhances their intention to use the technology. Therefore, providing opportunities to apply AI in real educational settings is essential for its successful adoption.



The Importance of Social and Organizational Context

The study also shows that, particularly for teachers, social influence is one of the strongest factors affecting the acceptance and intended use of AI. The attitudes of colleagues, as well as the positions of the Ministry of Education and school leadership, have a significant impact on teachers' willingness to adopt AI. This indicates that the implementation of AI in schools should be understood as a collaborative organizational process rather than an individual decision made by teachers alone.

Analysis of Policy Alternatives



Alternative A:

Non-Intervention (Status Quo)

Policy Approach

The Ministry does not intervene in the process, adopts no specific regulations, and leaves the use of artificial intelligence in schools to individual initiative and self-regulation.

Expected Outcome

Students continue to use generative AI tools without clear guidance or supervision. Some teachers experience professional uncertainty and disengagement due to the lack of institutional support. Private schools continue to advance rapidly in the adoption of AI technologies, while public schools fall further behind. This increases educational inequality and weakens the overall coherence of the education system.



Alternative B:

Restrictive Policy

Policy Approach

The Ministry introduces strict restrictions on the use of generative AI in schools. Access to major AI platforms (e.g., ChatGPT, Gemini, Claude, and others) is blocked through internet filtering and technical restrictions within school networks. Teaching continues in a traditional classroom format, while plagiarism prevention measures are strengthened.

Expected Outcome

Although a strict control system is formally established, its practical effectiveness remains limited. Students continue using AI through their personal devices outside the school network, creating only the appearance of effective control. At the same time, the education system loses the opportunity to teach students and teachers how to use AI critically, ethically, and responsibly. As a result, the gap between the education system and the realities of the digital world continues to grow. In the long term, this approach may reduce the international competitiveness of Georgia's education system.



Alternative C:

Phased AI Integration

Policy Approach

Artificial intelligence is integrated into the education system gradually, based on a well-designed methodological framework and clear ethical standards, in line with the principles of the EU AI Act. The policy focuses on practical teacher training, the establishment of a network of digital mentors in schools, and the development of national AI guidelines for education.

Expected Outcome

This approach ensures the gradual, well-managed, and responsible integration of AI into the teaching and learning process, where AI serves as a supportive educational tool rather than a replacement for teachers. Teachers' professional competencies are strengthened, while concerns about AI are reduced through continuous training and practical support. Schools adopt common standards for the ethical and effective use of AI, helping to reduce digital inequality. Students learn not only how to use AI tools but also how to evaluate them critically and apply them responsibly in their learning. In the long term, this model enhances the innovation capacity of Georgia's education system and improves the international competitiveness of Georgian students.

Criteria for Evaluating Policy Alternatives

The comparative assessment of the policy alternatives was based on four key criteria, reflecting the strategic, financial, institutional, and social dimensions of AI integration in Georgia's general education system.



Strategic Effectiveness

This criterion assesses the extent to which each policy alternative contributes to improving the quality of education, promoting personalized learning, increasing the effectiveness of teaching and learning, and strengthening academic integrity. It also considers each alternative's ability to reduce the risks associated with the inappropriate use of artificial intelligence.



Financial Feasibility

This criterion evaluates whether each policy alternative can be implemented within the existing budgetary resources and financial capacity of the education system. It includes the costs of developing digital infrastructure, providing internet access, ensuring the availability of digital resources, supporting teachers' professional development, and maintaining the long-term financial sustainability of the system.



Administrative Capacity

This criterion examines how easily and effectively each policy alternative can be implemented, coordinated, managed, and monitored by the Ministry of Education, Science and Youth of Georgia, its subordinate agencies, and general education institutions. It assesses whether the proposed measures are realistic given the existing institutional and administrative capacities.



Social Acceptability

This criterion evaluates the extent to which each policy alternative aligns with the expectations, needs, attitudes, and readiness of key stakeholders, including teachers, students, and parents. Particular attention is given to factors that encourage the responsible integration of AI based on trust, shared values, and practical usefulness.

Comparative Matrix of Policy Alternatives

Evaluation Criteria	Alternative A: Non-Intervention (Status Quo)	Alternative B: Restrictive Policy (Ban)	Alternative C: Phased AI Integration
Strategic Effectiveness	***Low –*** *Does not provide a systematic approach to AI governance, increases inequality between schools, fails to reduce ethical and academic integrity risks, and does not improve the quality of teaching and learning.*	***Low –*** *Restricts innovation, limits the development of teachers' and students' digital competencies, and increases the risk of technological lag.*	***High –*** *Improves the quality of teaching and learning, supports personalized education, enables the responsible adoption of innovation, and ensures effective management of ethical and academic risks.*
Financial Feasibility	***High (Short-term) –*** *Requires no additional investment in the short term; however, in the long run, it increases the economic costs associated with systemic underdevelopment and inefficiency.*	***Moderate –*** *Requires funding for technical restrictions, monitoring, and enforcement mechanisms, but does not create long-term educational value.*	***Moderate –*** *Requires initial investments in digital infrastructure, teacher professional development, and the development of national AI guidelines, but provides a high long-term return through improved educational quality.*
Administrative Capacity	***High –*** *Does not require additional administrative resources; however, it fails to establish mechanisms for AI governance, monitoring, and accountability.*	***Moderate –*** *Requires continuous supervision and enforcement, which is difficult to implement effectively, particularly when AI is used outside the school environment.*	***Moderate –*** *Requires interagency coordination, the establishment of governance mechanisms, and the strengthening of schools' institutional capacities, while creating a sustainable governance framework.*
Social Acceptability	***Low –*** *Creates uncertainty, inconsistent practices, and dissatisfaction among teachers, students, and parents.*	***Low –*** *Does not reflect the growing demand within the school community for the responsible use of AI and may generate resistance among those who support educational innovation.*	***High –*** *Fully aligns with the expectations identified in the research, promotes trust, collaboration, and the development of a culture of responsible AI use.*

Implementation Risks and Risk Management

Even the best-designed policy can fail if it is not implemented effectively. This policy analysis identifies the main implementation risks and proposes measures to reduce their impact.

RISK Teachers' Fear and Resistance

Indicator: *Teachers may be reluctant to use AI because they fear losing their jobs or believe that the technology is too difficult to use.*

Risk Management: *In line with the research findings, implementation should focus on increasing teachers' perceived ease of use and perceived usefulness of AI. Professional development programs should emphasize that AI is designed to support teachers as an assistant rather than replace them.*

RISK Financial and Infrastructure Gaps in Rural Areas

Indicator: *Schools in mountainous and rural regions may be unable to maintain stable access to AI platforms because of limited digital infrastructure and internet connectivity.*

Risk Management: *Provide targeted government funding and investment to strengthen the technological infrastructure and digital capacity of schools in underserved regions.*

RISK Violations of Academic Integrity

Indicator: *An increasing number of student assignments are completed using generative AI, reducing opportunities for independent thinking, creativity, and authentic learning.*

Risk Management: *Reform assessment practices by shifting the focus from the final product (e.g., essays and written reports) to the learning process. Greater emphasis should be placed on oral presentations, debates, project-based learning, and the evaluation of how students use AI throughout their learning process.*

RISK Lack of Institutional Coordination and Common Regulation

Indicator: *Schools adopt different approaches to AI use, resulting in inconsistent internal policies and the absence of unified national standards.*

Risk Management: *The* ***Ministry of Education, Science and Youth of Georgia*** *should develop a national policy framework for AI in education, including ethical standards and practical implementation guidelines. At the same time, schools should establish the role of a* ***Digital Mentor*** *to support teachers, facilitate the sharing of good practices, and ensure the effective implementation of new regulations.*

Monitoring and Evaluation

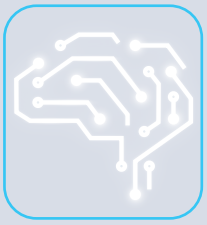
To measure the success of the proposed policy, a monitoring and evaluation system should be established based on the following key indicators:



Infrastructure Indicator:
The percentage of schools, particularly in rural and regional areas, that have access to high-speed internet capable of supporting the effective use of AI platforms.



Professional Development Indicator:
The proportion of trained teachers who regularly use AI tools in their weekly teaching practice, including lesson planning and the development of learning materials.



Institutional Development Indicator:
*The percentage of schools that have successfully established the role of a **Digital Mentor** and adopted an internal policy for the responsible use of artificial intelligence.*



Educational Quality and Social Impact Indicator:
*Annual measurement of student and teacher satisfaction; the number of reported cases of **violations of academic integrity**; and indicators reflecting the growth of personalized learning practices and student engagement.*

*The monitoring and evaluation process is recommended to be conducted annually under the supervision of the **Ministry of Education, Science and Youth of Georgia.***

Strategic Recommendation

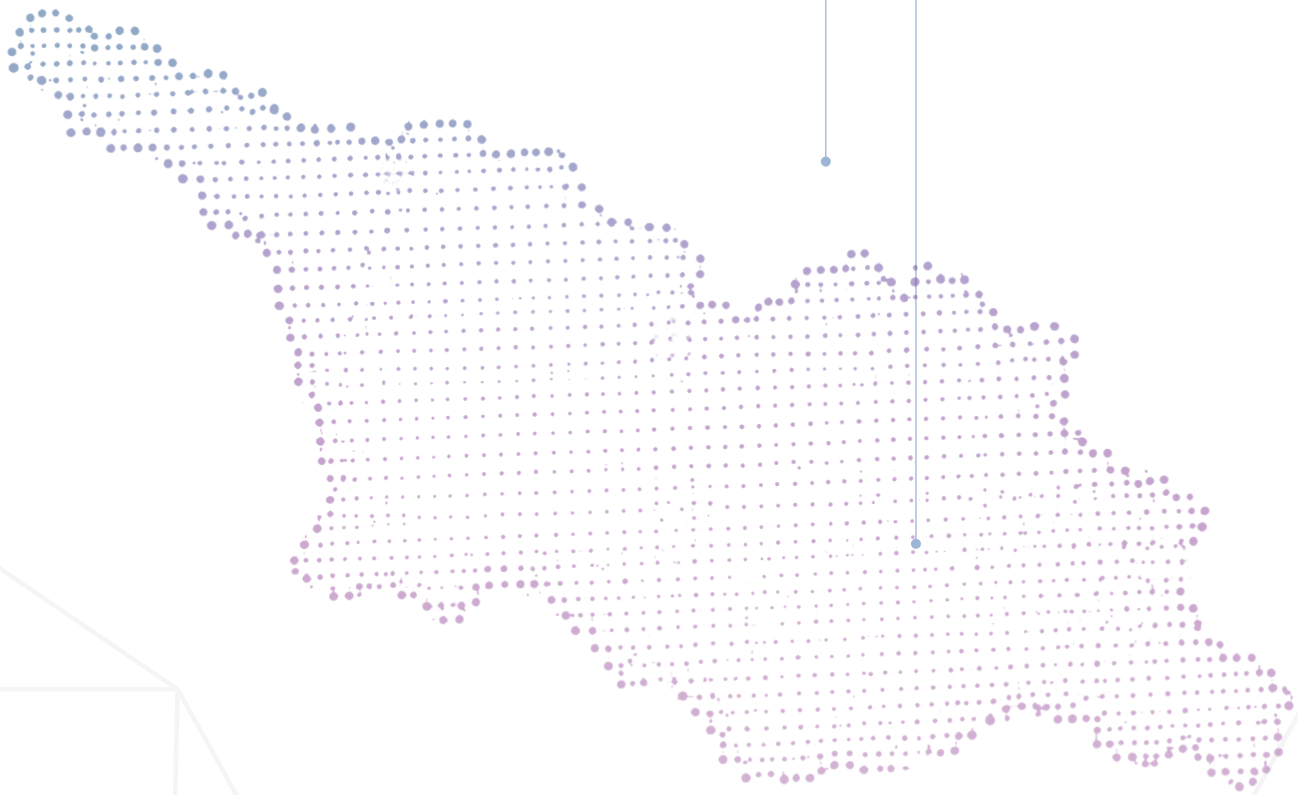
Based on the findings of the empirical research and the analysis of policy alternatives, it is recommended that the Ministry of Education, Science and Youth of Georgia gradually implement the integration of artificial intelligence and support the transformation of the education ecosystem through Alternative C: Phased AI Integration.

This recommendation is based on the combination of its strategic effectiveness and the existing social and institutional readiness for AI adoption. The research findings show that members of the school community-teachers, students, and parents demonstrate a transitional but clearly positive attitude toward artificial intelligence. Their willingness to adopt AI is influenced less by interest in technology itself and more by its perceived usefulness, practical value, and functional benefits.

Under these conditions, the role of the state is critical. The successful integration of AI cannot be achieved through the development of technological infrastructure alone. It requires a comprehensive policy approach that includes:

- *Developing a national strategy for artificial intelligence in education;*
- *Providing large-scale, practice-oriented professional development for teachers;*
- *Gradually integrating AI into the National Curriculum;*
- *Developing national guidelines and an ethical framework for schools;*
- *Establishing institutional mechanisms for digital mentoring and ongoing support;*
- *Ensuring equitable access to AI technologies across the education system.*

This approach will ensure not only the successful adoption of technological innovation but also the transformation of Georgia's general education system, where artificial intelligence is used as a tool to improve the quality of education, strengthen teaching practices, and enhance administrative efficiency.



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