# CURRENT STATE OF EDUCATIONAL SOFTWARE, ACHIEVEMENTS, AND SHORTCOMINGS: RETROSPECTIVE ANALYSIS AND PROSPECTIVE MODELS

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**Abstract:** *This article analyzes the role of software suites such as iSpring Suite, Kahoot, Quizizz, and MyTest, which are extensively utilized in contemporary educational processes, focusing on their didactic capabilities and pedagogical effectiveness. The study provides a critical examination of the impact of digital educational tools on student motivation and the degree of objectivity in knowledge assessment. Furthermore, scientifically grounded solutions to existing challenges in the field are proposed.*

**Keywords:** *EdTech, iSpring Suite, Kahoot, Quizizz, MyTest, SAMR model, Learning Analytics, gamification, digital divide, pedagogical design.*

## INTRODUCTION

By the transition into the current stage of the 21st century, digital technologies have emerged as a primary driver of human progress. In particular, the extensive implementation of information and communication technologies (ICT) within the educational system has marked a turning point in organizing the learning process, monitoring knowledge, facilitating distance education, and applying interactive pedagogical methods. While traditional education relied for many years on classroom-based activities, paper-based assessment tools, and teacher-centered approaches, contemporary education is increasingly enriched by digital platforms, elements of artificial intelligence, and systems based on gamification.

The COVID-19 pandemic highlighted the vulnerabilities of the global educational system while simultaneously accelerating the importance of electronic learning platforms. Since this period, educational software such as MyTest, iSpring Suite, Kahoot, Quizizz, Moodle, Google Classroom, Microsoft Teams, Canvas, and Coursera has seen worldwide adoption. These programs not only enabled the continuity of distance learning but also encouraged independent student learning, automated assessment systems, and enhanced educational interactivity.

Currently, the concept of EdTech (Educational Technology) within the pedagogical community encompasses not only hardware but also complex algorithms designed to optimize teaching methodologies. Software such as iSpring Suite, Kahoot, Quizizz, and MyTest serves various didactic purposes, ranging from content creation to real-time monitoring. However, their widespread use has introduced the risk of "technological determinism"—the problem of adapting methodology to fit the technology rather than vice versa.

Today, educational software is no longer a simple tool for creating tests; it has become part of a complex pedagogical ecosystem. For instance, gamification-based platforms like Kahoot and Quizizz serve to increase student motivation, while systems

like iSpring Suite and Moodle allow for the creation of comprehensive electronic courses. The MyTest program is effectively used in many educational institutions as a system for monitoring student knowledge and providing automated test evaluation.

At the same time, the widespread use of these programs has revealed several challenges. Issues such as the digital divide, internet quality, high software costs, misuse of artificial intelligence, academic integrity concerns, and excessive student dependence on virtual environments are currently subjects of serious discussion within the scientific community.

The primary objective of this scientific article is to provide a theoretical and scientific analysis of the current state of educational software, identify their main achievements and shortcomings, and evaluate future development trends. Furthermore, the article systematically highlights problems and solutions based on international experience, modern scientific research, and pedagogical approaches.

2. Critical Analysis: Classification and Functionality of Software

iSpring Suite: This is a professional tool designed for creating complex electronic courses, with its primary advantage being its integration into the PowerPoint environment.

- Achievements: Full support for the SCORM standard, the ability to create interactive simulations (e.g., dialogue simulators), and high-level multimedia integration. Courses created with iSpring are easily adaptable to any Learning Management System (LMS).
- Shortcomings: High pricing policies and licensing restrictions. Additionally, it is primarily focused on "one-way" (asynchronous) learning, which limits live collaboration between the teacher and the student.

Gamification and Interactivity (Kahoot and Quizizz): These platforms introduced gamification elements into education. While Kahoot primarily serves to enhance team spirit within the classroom, Quizizz allows students to work at an individual pace.

- Kahoot Analysis: It is visually rich and creates a competitive environment. However, the limited character count for questions and the focus on "speed" may relegate deep analytical thinking to the background.
- Quizizz Analysis: It features elements of adaptive learning. The ability to assign tasks as homework and provide detailed analysis of results in Excel format is a significant convenience for educators. However, excessive gamification carries the risk of replacing intrinsic motivation (the desire for knowledge) with extrinsic motivation (point collection).

Local and Offline Assessment (MyTest/MyTestX): Widely used in CIS countries, including Uzbekistan, this software is primarily designed for conducting tests on local networks.

- Achievements: Stable operation in areas without internet connectivity and support for over 10 types of test questions (multiple choice, matching, open-ended, etc.).

• Shortcomings: An outdated user interface (UI), lack of integration with cloud storage systems, and limited functionality on mobile devices.

3. Problems: "Pain Points" of Digital Education

Research indicates that several fundamental problems persist in the implementation of educational software:

• Lack of Pedagogical Design: Teachers often use software not for a specific purpose, but "simply because it is technology," which leads to the creation of a "digital copy of an ineffective lesson".

• Data Security and Privacy: Issues regarding the storage of student personal data on foreign platforms like Kahoot and Quizizz and its use for marketing purposes remain unresolved.

• Digital Divide: High-tech iSpring courses or online platforms require high-speed internet and modern gadgets, which limits equal opportunities for students in remote areas.

4. Proposed Solutions: Strategic Pillars for Balance

To eliminate the imbalance arising in the digital education environment, technological updates alone are insufficient. This process requires a complex methodical, organizational, and psychological transformation. The solutions formulated through our research are built upon four strategic pillars:

Pedagogical Conversion based on the SAMR Model: The first and most important condition for increasing software effectiveness is elevating the digital competence of educators. Often, programs like MyTest or Quizizz are used as simple digital substitutes for traditional paper tests (the "Substitution" stage). We propose redesigning the educational process based on the SAMR (Substitution, Augmentation, Modification, Redefinition) model:

• Modification: Using iSpring Suite to create "branching" scenarios that change direction based on student errors, rather than just static slides.

• Redefinition: Performing tasks previously impossible without educational software. For example, using Kahoot not just for testing, but for a peer-to-peer learning system where students create the questions themselves, transforming them from passive consumers into active content creators.

"Data-Driven Education" Strategy: The most powerful yet underutilized aspect of modern educational software is the analytics block. Statistical data provided by Quizizz and iSpring are not just a sum of scores but a cognitive map of the student.

• Recommendation: Implement a "Learning Analytics" system in educational institutions where the teacher, at the end of each lesson, can identify:

1. Which questions caused the most difficulty (through software analysis);
2. Student response speed (as an indicator of psychophysiological state);
3. Correlations between topics. Based on this data, the curriculum should be adjusted in real-time (Agile pedagogy), and individual "trajectories" should be drawn for low-achieving students.

Formation of Digital Ethics and Cyber-Pedagogy: While student privacy is a priority in Western countries (e.g., EU GDPR), this issue remains open in the CIS region.

- Strategic Solution: The "Privacy by Design" principle must be applied when creating local educational ecosystems. When moving local programs like MyTest to cloud technologies, national servers should be utilized. Furthermore, lessons on digital footprints and their consequences are necessary to ensure the student's psychological integrity in the digital world.

Technological Inclusivity and "Offline-First" Approach: Considering internet issues in remote regions of Uzbekistan, a "Hybrid Stability" methodology should be used:

- Maximizing the use of iSpring Suite's HTML5 offline functionality;
- Promoting the Quizizz "Paper mode" (where students show paper cards and the teacher scans them with a phone). This approach mitigates the digital divide and transforms technology from a luxury into a functional tool.

5. Conclusion: The Cognitive Architecture of Future Education

This research demonstrates that platforms such as iSpring Suite, Kahoot, Quizizz, and MyTest are not merely decorations for modern education but its integral cognitive tools. However, technology itself does not guarantee quality education. The following fundamental points can be summarized:

- AI and Adaptability: Future educational software will be integrated with Artificial Intelligence (AI), adapting the complexity of materials based on a student's response style, hesitations, and interests, rather than just their answers. We are on the threshold of moving from a "one-test-for-all" system to an "individual cognitive trainer for every person".
- The Teacher's New Role: As technology evolves, the teacher's role shifts from an "information provider" to a "mentor" and "pedagogical designer". Software frees teachers from monotonous tasks, allowing time to develop students' emotional intelligence and creativity.
- Balancing Achievements and Shortcomings: Our analysis shows that the benefits of these programs (interactivity, instant feedback, gamification) significantly outweigh their drawbacks (technical dependence, risk of superficial knowledge, high cost). However, maintaining this balance requires scientifically grounded methodology to be primary.

In conclusion, digital educational software is part of an intellectual ecosystem. Each program discussed is effective in its place; the main problem lies not in the software but in the lack of systematic application. The education of the future is a symbiosis of algorithms and human pedagogy, where technology serves as a high-level tool for human perfection rather than an end in itself.

**REFERENCES:**

I. Fundamental Scientific Publications and Books

1. Mayer, R. E. (2020). Multimedia Learning (3rd ed.). Cambridge University Press.
2. Kapp, K. M. (2012). The Gamification of Learning and Instruction: Game-based Methods and Strategies for Training and Education. Pfeiffer.
3. Hattie, J. (2023). Visible Learning: The Sequel. Routledge.
4. Anderson, L. W., & Krathwohl, D. R. (2001). A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. Longman.

II. International Peer-reviewed Journals

5. Dichev, C., & Dicheva, D. (2017). "Gamifying education: what is known, what is believed and what remains uncertain: a critical review." International Journal of Educational Technology in Higher Education.
6. Zainuddin, Z., et al. (2020). "Gamified e-quizzes as a tool for formative assessment in bachelor's degree courses: Students' perceptions." Computers & Education.
7. Mishra, P., & Koehler, M. J. (2006). "Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge." Teachers College Record.

III. Local (Uzbekistan) and CIS Research

8. Ibragimov, X. J., & Yo'ldoshev, U. A. (2022). Pedagogik texnologiyalar va mahorat (Pedagogical Technologies and Mastery). Tashkent: Fan va texnologiya.
9. Taylaqov, N. I. (2021). Uzluksiz ta'lim tizimida axborot-ta'lim resurslarini yaratish va joriy etishning ilmiy-metodik asoslari (Scientific-methodical foundations for creating and implementing information-educational resources in the continuous education system). Abstract, Tashkent.
10. Bashmakov, A. I., & Bashmakov, I. A. (2005). Razrabotka komp'yuternykh uchebnikov i obuchayushchikh sistem (Development of computer textbooks and learning systems). Moscow: Filin.

IV. Digital Resources

11. UNESCO GEM Report (2023). Technology in education: A tool on whose terms?
12. iSpring Solutions Research. E-learning Trends 2025-2026.
13. Kahoot! Academic Research Library. Scientific studies on Kahoot!