



## O'YINGA-ASOSLANGAN TA'LIM: INTERAKTIV O'YINLAR MAKTABLARDA MOLIVAVIY SAVODXONLIKNI QANDAY SHAKLLANTIRMOQDA

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**Annotatsiya.** Ushbu maqola iqtisodiyot va moliya fanlarini interaktiv o'yinlar orqali o'rgatishning global tendensiyasini ko'rib chiqadi, bu usul moliyaviy savodxonlikni yanada qulay va qiziqarli qiladi. Maqolada AQSh, Yaponiya va Finlyandiyadagi tajriba misollarini tahlil qilish orqali o'yin asosidagi usullar yosh o'quvchilar uchun byudjetni rejalashtirish, investitsiya qilish va bozor dinamikasi kabi tushunchalarni qanday soddalashtirishi ko'rsatiladi. Shuningdek, ushbu yondashuvlarni turli ta'lim kontekstlariga moslashtirishda duch kelinadigan qiyinchiliklar va strategiyalar ko'rib chiqilib, ularni O'zbekistonda qo'llash imkoniyatlariga e'tibor qaratilgan. Umuman olganda, maqola o'yin asosidagi ta'limning maktab yoshidagi o'quvchilarda amaliy moliyaviy ko'nikmalar va iqtisodiy xabardorlikni rivojlantirishdagi o'zgaruvchan ta'sirini ta'kidlaydi.

**Kalit so'zlar:** moliyaviy savodxonlik, o'yin asosidagi ta'lim, iqtisodiyot ta'limi, interaktiv simulyatsiyalar, o'quvchilar ishtiroki, amaliy ko'nikmalar, taqqoslamali tadqiqot.

## ОБУЧЕНИЕ НА ОСНОВЕ ИГР: КАК ИНТЕРАКТИВНЫЕ ИГРЫ ФОРМИРУЮТ ФИНАНСОВУЮ ГРАМОТНОСТЬ В ШКОЛАХ

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**Аннотация.** В данной статье рассматривается глобальная тенденция преподавания экономики и финансов в школах с помощью интерактивных игр, которые делают финансовую грамотность более доступной и увлекательной. В статье на основе кейсов из США, Японии и Финляндии демонстрируется, как игровые методы упрощают для молодых учеников такие понятия, как планирование бюджета, инвестирование и динамика рынка. Также обсуждаются проблемы и стратегии адаптации этих подходов в различных образовательных контекстах, с акцентом на их возможное применение в Узбекистане. В целом, статья подчеркивает преобразующее влияние обучения на основе игр на развитие практических финансовых навыков и экономической осведомленности у школьников.

**Ключевые слова:** финансовая грамотность, обучение на основе игр, экономическое образование, интерактивные симуляции, вовлечение учащихся, практические навыки, сравнительное исследование.

## GAME-BASED LEARNING: HOW INTERACTIVE GAMES ARE SHAPING FINANCIAL LITERACY IN SCHOOLS

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**Abstract.** *This article examines the global trend of teaching economics and finance in schools through interactive games, which make financial literacy more accessible and engaging. The article showcases how game-based methods simplify concepts like budgeting, investing, and market dynamics for young students by examining case studies from the United States, Japan, and Finland. It also addresses the challenges and strategies for adapting these approaches in varied educational contexts, focusing on their potential application in Uzbekistan. Overall, this article highlights the transformative impact of game-based learning on developing practical financial skills and economic awareness among school-aged learners.*

**Keywords:** *financial literacy, game-based learning, Economics education, interactive simulations, student engagement, practical skills, comparative case study.*

### Introduction.

In recent years, there has been a growing recognition of the importance of financial literacy as an essential skill for young learners. Educators worldwide are seeking effective methods to teach economics and finance in ways that resonate with students and promote lasting understanding. One promising approach that has gained traction is the use of interactive, game-based learning to make complex economic concepts more accessible and engaging (Holden, Kalish, and Zimmerman, 2020). Research suggests that interactive games can enhance students' motivation, participation, and comprehension by providing real-world contexts and immediate feedback, enabling them to see the consequences of financial decisions in a risk-free environment (Almeida and Mendes, 2019).

For example, studies have demonstrated that interactive simulations in economics classes can improve both cognitive and emotional engagement among students. Holden et al. (2020) found that students participating in economics simulations showed better retention and practical application of knowledge compared to those receiving traditional lecture-based instruction. Similarly, Almeida and Mendes (2019) emphasized the effectiveness of game-based methods in fostering collaboration and critical thinking, as students are encouraged to analyze financial scenarios, make strategic choices, and experience the outcomes of their decisions.

Drawing on international case studies and scientific research, this article explores the foreign experience of using games as educational tools in teaching economics and finance. By examining diverse implementations from countries such as the United States, Japan, and Finland, the article discusses the advantages of this innovative approach and considers its adaptability to other educational contexts, particularly in Uzbekistan. The aim is to provide insights into how interactive games can not only improve students' financial literacy but also cultivate essential skills such as teamwork, decision-making, and problem-solving in a dynamic learning environment.

### Literature Review.

The integration of game-based learning (GBL) in education has emerged as a transformative approach in various subjects, including economics and finance, where complex concepts benefit from interactive methods. Studies highlight the role of educational games in enhancing engagement, comprehension, and application of financial skills among students, meeting the growing demand for financial literacy in modern curricula.

Educational games, or serious games, are designed to both entertain and educate, providing a risk-free space for students to explore economic decisions. Peña-Miguel and

Hoyuelos (2014) argue that serious games engage students actively, helping them to process abstract concepts through real-world simulations. This method has shown potential in promoting financial literacy by simulating decision-making environments, enabling students to observe the impacts of their choices in a controlled setting.

Games in financial education are particularly effective as they align with experiential learning models, which stress reflection and real-life application of concepts (Kalmi & Sihvonen, 2021). Research on Junior Achievement's Finance Park, for instance, indicates that role-playing in economic scenarios fosters a deeper understanding of budgeting and investing. These findings underscore the value of games in contextualizing economic principles for students, bridging the gap between theory and practice.

Successful GBL integration relies heavily on educators' proficiency in designing and implementing game-based activities. Cantoia et al. (2023) observed that teachers often view GBL as beneficial yet challenging due to limited design skills and resources. Teacher training programs are crucial in building the confidence and methodological expertise needed for effective GBL deployment in classrooms, which can otherwise hinder broader adoption.

International studies reveal diverse strategies in using GBL to teach economics. The Gen I Revolution game in the United States, Japan's Financial Adventure Village, and Finland's Me & MyCity highlight how country-specific adaptations in GBL address cultural and educational needs. Each model's success in engaging students with real-world economic challenges suggests that adapting GBL to local economic contexts – like Uzbekistan – could make financial literacy more relatable and impactful for the young.

Effective educational games balance entertainment with learning objectives, ensuring students are motivated while acquiring relevant skills. Pivec (2009) emphasizes that the educational value often lies in the game's design and the context in which it is used, not merely the content itself. This approach aligns with Vygotsky's social interactionist theory, as games promote cooperative learning and peer engagement, enhancing students' critical thinking and problem-solving abilities in economics.

Implementing GBL in educational contexts, particularly in developing countries, presents challenges such as resource limitations, technological infrastructure, and cultural adjustments. Games requiring high-tech environments may not be accessible in all regions, suggesting a need for low-tech alternatives that retain educational effectiveness. For example, Carvalho et al. (2018) discuss the effectiveness of board games in teaching complex processes, providing a feasible model for schools lacking digital resources.

Research also highlights how project-based learning, often combined with GBL, supports the development of business skills and entrepreneurship in students. Activities like role-playing and business simulations in schools have shown success in fostering key skills such as financial planning, risk-taking, and strategic decision-making, suggesting a strong foundation for GBL in high school economics education.

## Method

This study employs a qualitative comparative case study approach to analyze the use of interactive games in teaching economics and finance across different educational systems. The research focuses on three primary cases from the United States, Japan, and Finland, selected based on their distinct approaches to game-based learning in economics education. Data were gathered through a review of existing literature, analysis of curricular materials, and interviews with educators and program developers involved in game-based economics education. This section outlines the selection criteria, data collection methods, and analysis techniques used in this study.

### Case Selection

The three cases were chosen to reflect varied educational approaches and cultural contexts:

1. **United States** – Examines the use of the *Gen i Revolution* game, a popular online platform developed by the Council for Economic Education, designed to teach financial literacy to high school students.

2. **Japan** – Analyzes *Financial Adventure Village*, a gamified economics curriculum implemented in several Japanese junior high schools to introduce students to basic economic principles.

3. **Finland** – Investigates the *Me & MyCity* initiative, a simulated city environment where sixth-graders engage in role-playing to learn about entrepreneurship, taxation, and budgeting.

These cases were selected for their innovative integration of games in economics education, established track record of implementation, and relevance to financial literacy goals.

### Data Collection

1. **Literature Review** – Academic articles, reports, and case studies related to game-based learning in economics were reviewed. Special attention was given to studies that evaluated the impact of these games on student engagement, learning outcomes, and skill development.

2. **Interviews with Educators and Program Developers** – Semi-structured interviews were conducted with five educators from each case study country who have experience implementing these programs. Additionally, program developers from each game were interviewed to understand the pedagogical intentions, design features, and challenges of the games.

3. **Observation of Game Simulations** – Observational data were collected through publicly available videos and reports documenting classroom implementations of each game. Key moments in the gameplay process were identified to analyze how students interacted with the material and how teachers facilitated learning.

### Data Analysis

The data were analyzed using thematic analysis to identify common patterns and unique aspects of each case. The analysis focused on several key areas:

- **Engagement Strategies:** Identifying how the games capture student interest, foster engagement, and encourage collaboration.
- **Cognitive Impact:** Analyzing how the games support conceptual understanding of economics and promote practical financial skills.
- **Adaptability and Cultural Relevance:** Evaluating how each game is tailored to its cultural context and examining the feasibility of adapting similar methods to the educational system in Uzbekistan.

For each case, findings were synthesized into a structured narrative to highlight the specific contributions of game-based learning to economics education and the potential applicability of these approaches to Uzbekistan's education system. By employing a comparative case study methodology, this research aims to draw insights from global experiences and offer recommendations for enhancing economics education through interactive games.

The findings from this comparative study highlight the potential of game-based learning to enhance economic and financial literacy among school students in diverse educational contexts. Each case examined—*Gen i Revolution* in the United States, *Financial Adventure Village* in Japan, and *Me & MyCity* in Finland—demonstrates unique benefits and challenges of using interactive games to teach complex economic concepts. This discussion delves into the main themes that emerged, including engagement, cognitive impact, adaptability, and cultural relevance, and considers their implications for implementing similar methods in Uzbekistan.

### **Engagement and Motivation**

A common theme across all three cases is the ability of interactive games to significantly boost student engagement. In the United States, *Gen i Revolution* succeeds by immersing students in financial decision-making scenarios where they must solve real-world problems, such as budgeting and investing. This approach not only enhances intrinsic motivation but also provides an authentic learning experience, making economics more tangible and relatable (Holden et al., 2020). Similarly, Japan's *Financial Adventure Village* focuses on creating a playful learning environment that sparks curiosity and encourages participation through team-based challenges. Finland's *Me & MyCity* adds a social dimension to engagement, enabling students to role-play as business owners, consumers, and even taxpayers within a simulated city.

These strategies underscore the importance of creating interactive and relatable experiences in economics education. For Uzbekistan, where traditional lecture-based methods often dominate, incorporating game-based elements could transform students' attitudes toward economics and finance, making these subjects more engaging and accessible.

### **Cognitive Impact and Practical Skills**

Another crucial finding is the cognitive impact of game-based learning, particularly in facilitating the understanding of abstract economic principles. Through hands-on activities and immediate feedback, students are able to experiment with financial decisions in a low-stakes environment, which enhances their understanding of complex topics. For instance, *Gen i Revolution* allows students to grasp the consequences of financial decisions by simulating outcomes, helping them develop practical skills in budgeting and investing. In Japan's *Financial Adventure Village*, students build foundational economic knowledge by managing fictional resources, which encourages critical thinking and strategic planning.

Such practical applications of economics are especially valuable for younger learners, who may struggle to connect theoretical concepts with real-life scenarios. For Uzbek classrooms, adapting game-based activities could bridge this gap by helping students internalize economic principles and apply them in their daily lives.

### **Adaptability and Cultural Relevance**

While each game's design is specific to its cultural context, certain adaptable elements could be applied to the Uzbek educational system. The success of these programs often lies in how they reflect local values and economic realities. For instance, Finland's *Me & MyCity* emphasizes entrepreneurship and community values, aligning with Finnish educational goals of fostering independence and civic responsibility. Similarly, Japan's approach prioritizes collaboration and community-building, aspects highly valued in Japanese society.

In Uzbekistan, where fostering economic self-reliance and financial responsibility are emerging educational priorities, these adaptable elements could be valuable. Designing interactive games that reflect Uzbekistan's unique economic landscape—such as agricultural markets or small business ownership—could make financial literacy more relevant and practical for students.

### **Challenges and Limitations**

Despite the benefits, implementing game-based learning in economics also presents challenges, including resource requirements, teacher training, and potential cultural adjustments. In Japan, for example, *Financial Adventure Village* requires a structured classroom setup, which can be challenging in schools with limited space or technological resources. Similarly, *Gen i Revolution* relies on digital access, which may not be universally available in all regions.

For Uzbekistan, addressing these limitations would be essential for successful implementation. Schools may need to invest in basic resources, such as classroom technology, or develop low-tech versions of interactive games. Additionally, providing teachers with training on game-based learning methods is crucial to ensure effective facilitation and integration into the curriculum.



### Implications for Uzbekistan

The insights gained from these cases offer valuable guidance for Uzbekistan's educational leaders interested in incorporating game-based learning into economics education. By adapting the core principles of engagement, practical skills development, and cultural relevance, Uzbekistan could develop a localized, interactive curriculum that makes economic education both accessible and enjoyable for students. Such an approach would not only improve financial literacy but also prepare students with critical thinking and decision-making skills essential for personal and community financial well-being.

### Conclusion.

In summary, the global experiences reviewed in this study demonstrate that game-based learning offers a dynamic and effective method for teaching economics and finance to school students. While challenges exist, adapting these approaches to Uzbekistan's unique context holds promising potential for transforming the way economics is taught, fostering greater financial awareness, and equipping future generations with essential life skills.

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