



MIRZO ULUG'BEK NOMIDAGI  
O'ZBEKISTON MILLIY UNIVERSITETI  
JIZZAX FILIALI



**KOMPYUTER IMLARI VA  
MUHANDISLIK TEXNOLOGIYALARI  
XALQARO ILMIY-TEXNIK  
ANJUMAN MATERIALLARI  
TO'PLAMI  
1-QISM**



26-27-SENTABR  
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**O'ZBEKISTON RESPUBLIKASI OLIY TA'LIM, FAN VA  
INNOVATSIYALAR VAZIRLIGI**

**MIRZO ULUG'BEK NOMIDAGI O'ZBEKISTON MILLIY  
UNIVERSITETINING JIZZAX FILIALI**



**KOMPYUTER IMLARI VA MUHANDISLIK  
TEXNOLOGIYALARI**

*mavzusidagi Xalqaro ilmiy-texnik anjuman materiallari  
to'plami  
(2025-yil 26-27-sentabr)  
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Globallashuv sharoitida davlatimizni yanada barqaror va jadal sur’atlar bilan rivojlantirish bo‘yicha amalga oshirilayotgan islohotlar samarasini yaxshilash sohasidagi ilmiy-tadqiqot ishlariga alohida e’tibor qaratilgan. Zero iqtisodiyotning, ijtimoiy sohalarni qamrab olgan modernizatsiya jarayonlari, hayotning barcha sohalarini liberallashtirishni talab qilmoqda.

Ushbu ilmiy ma’ruza tezislari to‘plamida mamlakatimiz va xorijlik turli yo‘nalishlarda faoliyat olib borayotgan mutaxassislar, olimlar, professor-o‘qituvchilar, ilmiy tadqiqot institutlari va markazlarining ilmiy xodimlari, tadqiqotchilar, magistr va talabalarning ilmiy-tadqiqot ishlari natijalari mujassamlashgan.

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Mazkur to‘plamga kiritilgan ma’ruza tezislarining mazmuni, undagi statistik ma’lumotlar va me’yoriy hujjatlarning to‘g‘riligi hamda tanqidiy fikr-mulohazalar, keltirilgan takliflarga mualliflarning o‘zlari mas’uldirlar.

# THE GAMIFICATION IN EDUCATION AND TRAINING: BASIC PRINCIPLES, REALIZATION AND TRENDS

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**Annotation:** The article is devoted to the implementation of the principles of gamification as an innovative approach in pedagogy. Gamification in education and training contributes to the creation of an extraordinary atmosphere in the educational process and strengthens motivation of students and helps to achieve real educational goals.

**Key words:** gamification, gamified system, PBL, education, training.

In today's world, the reality is that a search is being conducted everywhere for new, non-standard approaches to increasing efficiency in managing various educational systems and processes. One of the latest technologies for organizing the educational process is gamification. Gamification is a relatively new technique, and therefore it has been partially developed. However, in the last decade, it has been considered one of the most promising innovative techniques in pedagogy thus possessing considerable educational potential. The implementation of the principles of gamification in the educational environment as one of the modern and effective technologies contributes to the creation of an extraordinary atmosphere in the educational process, increasing the student motivation and achieving real educational goals.

Gamification is the use of game approaches to non-game processes and it allows to increase the involvement of participants in solving applied problems, using service products, enhancing customer loyalty, etc. However, the essence of this mechanism is rather the consequences of such usage. Moreover, the most important aspect of applying game approaches is often the process itself, which is modified and transformed due to the emergence of a completely different vision of the system, and the goal or final action becomes a pleasant bonus for participation.

When implementing this phenomenon in non-gaming systems, the following occurs: the rules, mechanisms and purpose of work remain the same but the participant wants to engage in activities on their own, without anyone's instructions. This means that the action itself remains the same but the angle of vision and perception become different due to the introduction of principles that are non-standard for such activities. In this case, we can say that gamification is the adaptation of game approaches to various systems and processes [1]. In other words, the task is to make the new mechanics intuitive and simple, as well as to find a way to apply it correctly to your needs and purposes. If this rule is not well thought out, the so-called cargo cult appears – thoughtless imitation that does not work and often leads to the failure of the entire campaign. It is merely a poor copy that lacks the proper, specially adapted principles

of operation. Thus, simply applying game mechanics in non-game processes may worsen the situation due to the emergence of new incomprehensible rules and solutions. That is why, when speaking of gamification it is better and more accurate to use the term ‘adaptation’.

Thus, we come to the conclusion that gamification is an attempt to create a friendly environment adapted to the needs of those within it. This product should evolve over time without violating internal principles and goals. Gamification should be a dynamic process, where the main elements are the process itself and the subsequent result for the consumer. It can be argued that the primary goal is not to obtain the final result, but to focus on the process itself and maximize participant retention.

It should be noted that when implementing the principles of gamification in their own systems, it is essential to understand the distinction between gamification and badgefication. The concept of badging is mistakenly equated with gamification, which is incorrect. The basis of badging is the so-called PBL – points, badges and leaderboards. It is this system of awards that constitute the essence of badging, but is not always used in gamification.

Let us dwell on the concept of PBL in more detail. It cannot be denied that these are some of the most common elements of gamified systems. PBLs are idiosyncratic ratings and incentive systems designed to motivate people during gameplay. This system is far from mandatory in the context of gamification, and its application should be approached with caution and purpose. It is also worth adding that the use of badges in educational institutions at any level is one of the most challenging and even painful experiences for students. The issues arise during the entry process (students sometimes cannot understand why they are obliged to do this, do not grasp the rules, do not want to earn points or be part of the ranking), in the participation itself (with the encouragement of some students the rest of the group may feel that they have lost leading to a loss of interest and motivation) and as well as in exit from the system (the student may not fully understand why such a game was needed, those who ‘won’ may not be satisfied with the prize while those who ‘lost’ could feel disappointed and angry with the leader for attempting to manipulate them).

Nowadays education and training use gamification successfully because, first of all, these fields deal with the younger generation, which directly constitutes an audience interested in an unusual format and additional motivation. That is why teachers borrow tools from board games, adapt classes for the younger generation in order to correspond to the modern way of life and motivate, maintaining their focus. Gamification helps to revise unclaimed knowledge or work formats because with its help the goal of training is not the result in the form of assessments, but the process itself. Moreover, many note an increase in the internal motivation of students of all ages, rather than endless attempts to influence them externally.

Nevertheless, one should not confuse the various techniques used in the educational process directly with gamification. For example, the difference between gamification and game-based learning (GBL) is obvious. The first and most important difference is that GBL does involve remaking the system for the needs of the audience, it only uses ready-made games for entertainment. In other words, when using

gamification in training, only selected game elements and tools adapted to the audience's needs are used, but not whole, ready-made games created in advance. Moreover, ready-made games and simulators cannot be equated with the concept of gamification, but can be part of it.

To sum up, it is worth focusing on one more important point regarding the use of gamification. Kevin Werbach, a professor at the University of Pennsylvania, argues that in order to implement gamification, one must pay attention to the rule of six Ds, which are as follows:

- Define – determine why you need to implement gamification;
- Delineate – describe the desired behaviour of the players;
- Describe – imagine and describe who your players are;
- Devise – develop activity cycles within the game;
- Don't forget – don't forget to come up with an entertainment component;
- Deploy – select tools for your gamified system [3].

### **References:**

1. Kapp K. M. The gamification of learning and instruction: game-based methods and strategies for training and education. – Pfeiffer; ASTD, 2012. – 336 p.
2. Werbach K., Hunter D. For the Win: How Game Thinking Can Revolutionize Your Business. – Wharton School Press, 2012. – 148.

## **ПОДГОТОВКА УЧИТЕЛЯ ИНФОРМАТИКИ: КУРС НА ИСКУССТВЕННЫЙ ИНТЕЛЛЕКТ И БОЛЬШИЕ ДАННЫЕ**

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**Аннотация:** в работе рассматриваются вопросы обучения будущих учителей информатики основам искусственного интеллекта и большими данным. Приводятся возможные структурные изменения в учебных планах, призванные ликвидировать разрыв между декларируемыми на государственном уровне целями и реальным содержанием подготовки педагогических кадров.

**Ключевые слова:** искусственный интеллект; большие данные; подготовка учителя информатики; этика искусственного интеллекта.

В настоящее время искусственный интеллект (ИИ) и большие данные (Big Data) перестали быть узкоспециализированными техническими областями и трансформировались в фундаментальные компоненты современной цифровой грамотности, а также в критически важные факторы, определяющие экономическую конкурентоспособность государств. Стремительный рост числа рабочих мест, требующих владения этими сквозными цифровыми технологиями,