The Eurasia Proceedings of
Educational & Social Sciences (EPESS)
ISSN: 2587-1730

The Eurasia Proceedings of Educational and Social Sciences (EPESS), 2025

Volume 41, Pages 25-31

ICETI 2025: International Conference on Education in Technology and Innovation

Edutainment and Use of Artificial Intelligence-Based Technology

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Abstract: The article discusses the concept of edutainment, which combines educational and entertainment technologies for more effective implementation of knowledge. The author analyzes the main didactic principles, including the relationship between theories, consistency of presentation and accessibility of learning for different age categories. A classification of edutainment media is given, which is divided into traditional (books, films, radio programs) and modern (electronic textbooks, computer simulators, web technologies). Special attention is paid to the role of modern information and communication technologies in the learning process. It is concluded that the use of this method more effectively allows for to prepare teaching materials for processing students' accounts with the help of interactive and open forms of learning. Additionally, the authors of the research paper conducted a survey among teachers and students learning English analyze and study the role of edutainment.

Keywords: Edutainment, Games of mass media, Artificial intelligence

Introduction

Game-based learning has deep historical roots. Learning through playful activities is a teaching method that helps learners internalize and apply knowledge across various fields of science. Today, this form of learning is commonly referred to as edutainment, which encompasses all forms of education without coercion, as well as educational entertainment. It is widely recognized that the following games serve several fundamental functions: Entertainment, communication, self-realization through the game as a model of human practice, diagnostics, correction, interethnic communication, and socialization. In 14th-century Western Europe, Tommaso

Campanella and François Rabelais advocated for the true use of playful learning principles. They believed children should be introduced to all sciences without labor or compulsion, but as if they were playing.

Speaking of Artificial Intelligence, AI refers to the ability of machines, particularly computer systems, to perform intelligent reasoning. It is a branch of computer science that develops methods and software tools to manipulate the world around us, learn, and apply knowledge to accomplish tasks, thereby improving the efficiency of achieving goals (Arseniev,2020).

Some of the best-known applications of Artificial Intelligence include: advanced recommendation search engines (Google Search, Bing, Yandex), generative algorithms (YouTube, Amazon, Netflix), voice assistants (Google Assistant, Siri, Alexa, Alice), autonomous vehicles (e.g., Waymo), and generative and creative technologies (ChatGpT, Apple Intelligence). In Kyrgyzstan, AI is also applied in systems like Akylai. Additionally, AI is being used in strategic games, such as chess and others, to analyze and play at superhuman levels. Interestingly, many AI advancements have become integrated into everyday technologies and are no longer recognized as AI (Broussard, 2020; Laurer, 2021).

Alan Turing was the first researcher to systematically name machine intelligence. Artificial Intelligence, as an academic discipline, was formally established in 1956 through the efforts of its founders, John Mccarthy,Marvin Minsky, Nathaniel Rochester, and Claude Shannon (Dyakonova. 2015). Throughout its history, the field has gone through periods of change, leading to phases of disillusionment and development, such as the "AI winter." However, since 2012, interest in AI has significantly increased due to the successes of deep learning, and in 2017, the emergence of the Transformer architecture provided a new boost for development. In the early 2020s, Artificial Intelligence experienced a real boom, and key innovations in this field began to be developed on a standard basis in the United States (Bukatov, 2020).

To achieve these goals, Artificial Intelligence researchers have adapted and integrated a wide range of techniques, including search algorithms, mathematical optimization, formal logic, artificial neural networks, and methods based on statistics, operations research, and economics. AI also draws from psychology, linguistics, philosophy, neuroscience, and other fields (Laurier, 2024).

Edutainment emerged by fostering creativity and efficiency, positively influencing learning outcomes. The term itself refers to a combination of education and entertainment. It first appeared in Walt Disney's 1948 wildlife series "True-life Adventure." Later, in 1973, the term was used by Robert Heyman in a series of documentaries for the National Geographic Society. After the 1990s, traditional teaching methods became less engaging, prompting the need for teachers across various professions to enhance their qualifications with innovative knowledge and technologies. As a result, innovative programs and technologies, adapted to meet "new challenges" and bringing positive results in teaching new ideas and technologies to adults, began to emerge (Bukatov, 2020). Experts from various scientific fields define edutainment in different ways. For some, it is "An effective balance between information, multimedia products, psychological techniques, and modern technologies" (Sh. De Vari, 2008). Others describe it as "a combination of social order and entertainment mechanisms" (Utemov, 2013).

Later, a Russian version of "Edutainment" appeared, which is easier to pronounce and more familiar to hear. The simplest explanation for the use of the term reveals that people, often unknowingly, encounter natural and everyday edutainment on a daily basis. For example, watching an interesting movie in a foreign language, reading an engaging article or book, or participating in a collective intellectual and cognitive game or communication all of these activities, which we do voluntarily, for pleasure, and with enthusiasm, can be considered informal or non-traditional education.

Edutainment, or the playful form of learning, shares several similar features. Here are some of the main ones:

- Free development activity (organized by the "leader," but without the imposition of teacher authority), carried out by students at their own will, with enjoyment derived from the process itself, rather than for a prize or positive evaluation (Bukatov, 2014);
- Creative, improvisational work;
- Emotionally intense, competitive activity within the framework of unshakable friendliness;
- A paradoxical intersection of direct and indirect rules that link the content of the game with elements of social experience;
- Imitation-oriented, modeling professional or social conditions, situations, or contexts of human life.

With the proposed edutainment methods, it is possible to address challenges in teaching English.

Research Methods

The object of the study is the forms of AI and Edutainment in education. The following methods were used during the research: observation, analysis, synthesis, comparison, and generalization. The primary research method was a survey conducted among students and teachers of Osh State University who study english, which provided deeper insights into the topic under investigation. Game Artificial Intelligence refers to a set of software techniques used in computer games to create the illusion of intelligence in the behavior of computer-controlled characters. The phenomenon of the game has attracted the attention of philosophers, aestheticians, biologists, ethologists, psychologists, and other scientists. The development of Game Theory is typically associated with the names of 19th-century thinkers such as F. Schiller, H. Spencer, and W. Wundt. In developing their philosophical, psychological, and primarily aesthetic views, they explored the game as one of the most widespread phenomena of life, linking its origin to the origin of art. Schiller emphasized the aesthetic nature of the game and viewed it as a defining feature of human existence. For Schiller, play is a form of pleasure connected to the free, unencumbered expression of surplus life forces. He regarded play as an aesthetic activity.

Speaking about Edutainment, we can say that the term refers to obtaining education through games or Entertainment, which leads to effective learning outcomes by establishing an emotional connection between the teacher and the learner. This, in turn, fosters creativity in the learner and encourages active participation in the educational process, as well as self-education.

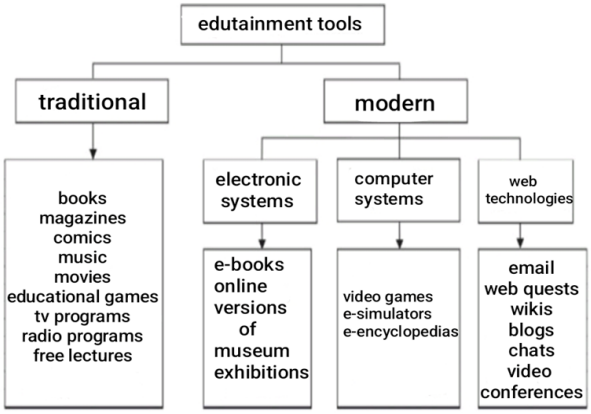

Figure 1. The classification of edutainment materials

Table 1. Popular TV game shows for learning English in the United States.

№	Show	Description
1	The Voice	A music show where famous mentors assemble teams of aspiring performers. Versions are available for the US, UK, and Australia.
2	Top Gear	A British show about cars and car culture, featuring distinctive British humour and accents.
3	The Ellen DeGeneres Show	An American talk show featuring conversations with famous personalities.
4	Jimmy Kimmel Live!	A nightly talk show with live spoken english and celebrity guests.
5	The Tonight Show Starring Jimmy Fallon	A late-night show featuring event reviews, interviews, and games with famous personalities. Episodes are available on YouTube with subtitles.
6	The Graham Norton Show	A British late-night show featuring international stars, full of irony and British humour.
7	Britain’s Got Talant	A talent show where contestants showcase their skills in various fields.
8	Travel Man	a British travel show featuring a host and a celebrity guest in each episode.

In modern education, active learning plays a crucial role, particularly with the use of edutainment at osh State University. These methods aim to stimulate students' learning and cognitive activity, encouraging them to

independently and thoughtfully master the material. The primary task of the teacher is to ensure that students acquire knowledge through active cognitive engagement. The use of such methods and technologies helps involve students in independent learning and provides practical applications for the knowledge they gain. It is essential that all skills—such as speech, memory, imagination, reading, listening, and writing—are integrated into these lessons to fully enhance learning outcomes. Below, the results of a survey conducted among 51 teachers and students of osh State University's Institute of World Languages and Intercultural communication will be presented, analyzing edutainment as a key tool in teaching a foreign language.

Results and Discussion

The study explored the level of awareness and usage of edutainment and artificial intelligence (AI) tools among English language teachers and students at Osh State University. Survey responses were collected from 104 participants to assess their familiarity with edutainment, preferred learning tools, and interest in integrating such kind of methods into their educational experience.

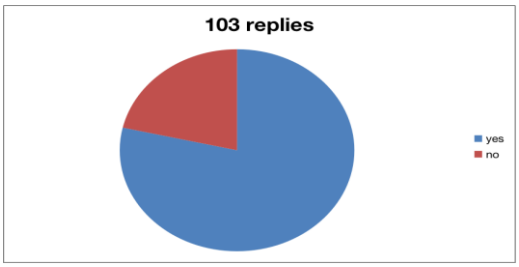

Diagram 1. Knowing edutainment

As shown in Diagram 1, approximately 78% of respondents reported being familiar with the concept of edutainment, while the remaining 22% indicated that they had not previously encountered this term. This suggests a generally high level of awareness within the academic community, likely due to growing global trends in educational innovation.

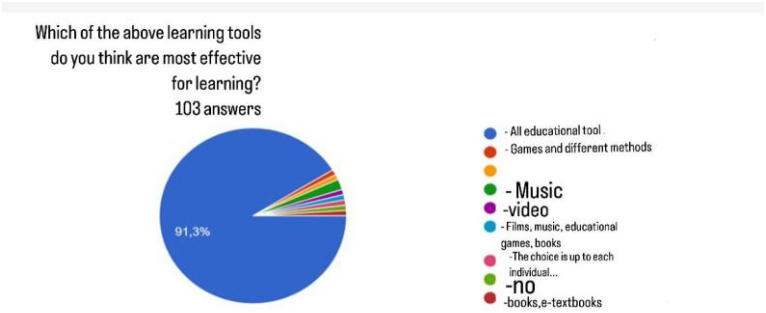

Diagram 2. Perceived effectiveness of learning tools

In Diagram 2. participants were asked to identify which tools they found most effective for learning. 91,3% of respondetns think – "all educational tools", responses varied, but many favored interactive and multimedia-based resources, such as educational games, music, videos, and films with subtitles. Some also emphasized the value of combining traditional and modern educational tools, indicating that multimodal approaches are viewed as more engaging and effective for language acquisition.

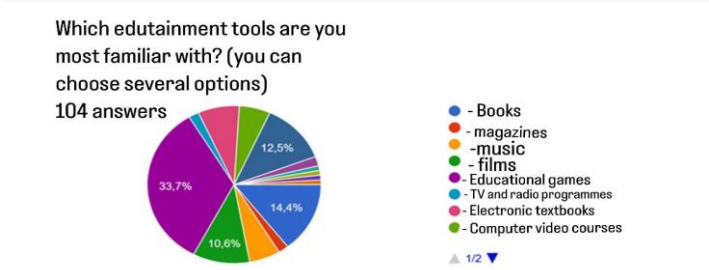

Diagram 3. Familiarity with edutainment tools

In diagram 3.was asked about which edutainment tools teachers and students were most familiar with, the top responses included:

- 12. 5 % Books
- 10, 6% Films
- 33, 7% Educational games
- 14, 4% TV and radio programs

This diverse range of tools highlights the broad exposure that students and teachers have to various formats of edutainment.

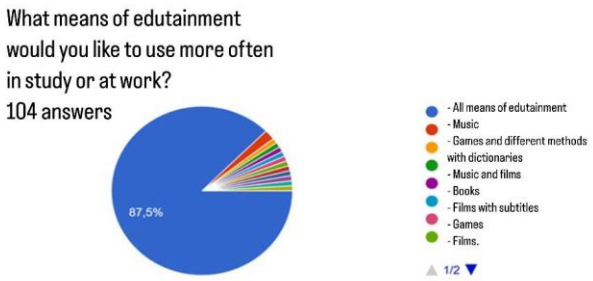

Diagram 4. Preferred edutainment resources

In Diagram 4. participants also indicated which edutainment tools they would like to use more often in their studies or work. A significant portion expressed a desire to incorporate films with subtitles, interactive games, and music-based activities more frequently. Notably, 87,5% of respondents showed interest in using all edutainment tools more regularly in their educational practices.

To further analyze edutainment trends, the prevalence of various platforms used in the edutainment format—an educational approach that combines learning and gaming elements—the authors conducted a scientific survey only among 50 English teachers at Osh State University to identify the most in-demand tools. The study analyzed respondents' preferences, based on which the most popular platforms were identified, and conclusions were drawn regarding trends in their use within the educational model. The study results are presented in the form of a histogram (Fig. 2).

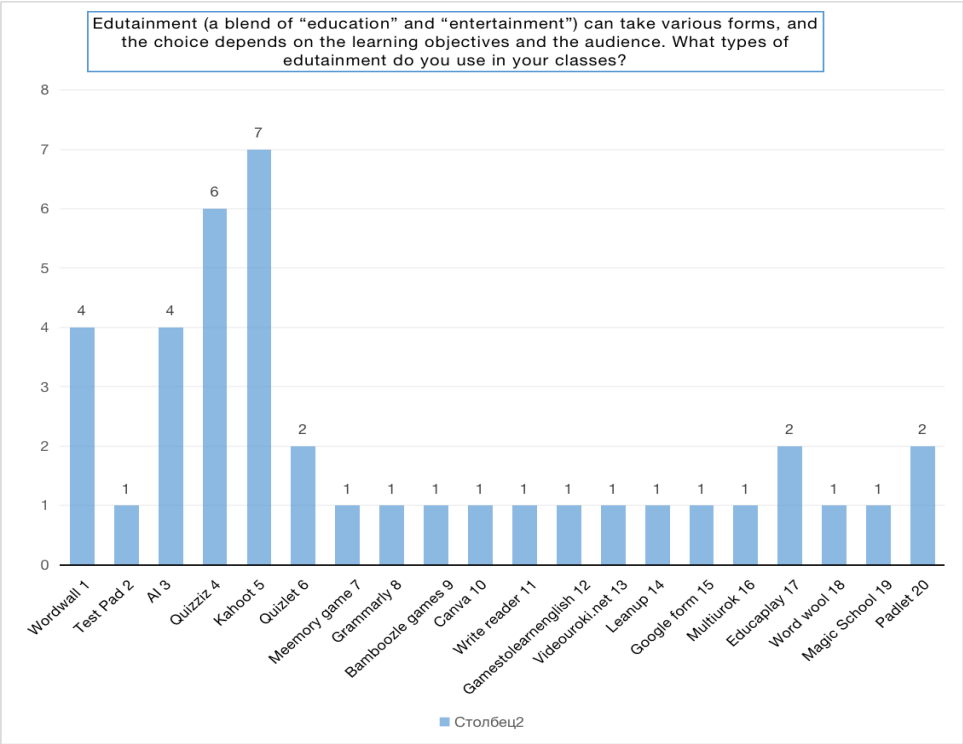

Figure 2. The popularity of learning platforms among english language teachers

In Fig. 2. the analysis of the teachers' survey on the types of edutainment they most frequently use in the educational process revealed that the most popular platforms among the respondents are:

- Quizziz –6 teachers
- Kahoot – 7 teachers
- Wordwall and AI tools – 4 teachers

and less popular platform that received only a few mentions may be used for more specialized purposes or may not be widely recognized among teachers. These platforms were praised for their interactivity, ease of use, and ability to foster student engagement. Teachers also reported that while some platforms were less widely adopted, they may still hold value for specific or niche educational goals. This analysis demonstrates that edutainment and AI are popular and in-demand approaches that can enhance motivation and learning outcomes for foreign language and culture learners.

Conclusion

The primary goal of traditional teaching methods is not just to provide students with academic knowledge but to develop professional skills that help them solve non-standard problems and generate unique ideas to achieve their creative goals. In this process, the teacher acts as a tutor, mentor, and instructor, focusing not on simply transmitting knowledge but on fostering students' abilities and motivation to seek out information independently.

Edutainment is one of the tools that can support human learning and problem-solving. Unlike traditional teaching methods, neural networks are designed to perform specific actions, make decisions, adapt to changing environments, and become more user-friendly. Edutainment serves as an excellent tool for both teachers and students in the educational process, enhancing engagement, motivation, and overall interest in learning by making lessons more interactive and enjoyable. The findings suggest that edutainment and AI are widely viewed as beneficial approaches for enhancing learner motivation, engagement, and retention—particularly in the terms of foreign language learning. The integration of creative, playful, and technologically advanced methods contributes positively to the learning environment. In addition, 87.5% of respondents considered edutainment tools to be an effective method for facilitating education. These results support the conclusion that modern educational strategies should increasingly incorporate interactive platforms, digital media, and AI technologies to meet the needs of contemporary learners. As technology becomes more accessible and integrated into daily life, its use in education is both practical and pedagogically sound.

Scientific Ethics Declaration

* The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Conflict of Interest

* The authors declare that they have no conflicts of interest

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Acknowledgements or Notes

* This article was presented as an oral presentation at the International Conference on Education in Technology and Innovation (www.iceti.net) held in Trabzon/Türkiye on May 01-04, 2025

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To cite this article:

Tazhibaeva G., Mamaturaimova G., Mamatilda-Kyzy E., Abzhaparova A., Toktorova T., Kubanychbek-Kyzy N., & Mamatova A., (2025). Edutainment and use of artificial intelligence-based technology. *The Eurasia Proceedings of Educational and Social Sciences (EPESS), 41,* 25-31.