

# PROJECT-BASED LEARNING WITH GAMIFICATION ELEMENTS AS A MEANS OF PROMOTING SUSTAINABLE DEVELOPMENT PRINCIPLES

Kokhanova Liudmila<sup>1</sup>, Latenkova Vera<sup>2</sup>  
Aleksseeva Tatyana<sup>1</sup> Cheresheva Yulia<sup>1</sup> Aleksseeva Natalya<sup>3</sup>  
Lyudkova Ekaterina<sup>1</sup>

<sup>1</sup>Lomonosov Moscow State University

<sup>2</sup>Academy of Media Industry

<sup>3</sup>Moscow State Linguistic University

[L\\_kokhanova@mail.ru](mailto:L_kokhanova@mail.ru)

## Abstract

*The purpose of this study is to demonstrate that a distinctive feature and advantage of project-based learning is that it enables the integration of educational and research objectives, along with gamification and the introduction of interactive learning. While project-based learning focuses on helping students master specific knowledge on the topics of general education courses in accordance with the journalism curriculum, gamification provides an opportunity to engage students in the learning process and apply their acquired knowledge in a given course in practice, influencing student personality and motivation for pursuing the profession. It is becoming increasingly clear that sustainable development plays a crucial role in all aspects of modern society, and the professional training of journalists is no exception. Everyone needs to be aware of environmental issues, especially journalists, as environmental journalism is a distinct field within journalism. The development of project-based learning methods and forms using gamification elements is based on teaching practices that have contributed to the emergence of new areas of training in journalism, and more broadly, media, in a multimedia environment, as discussed in this article. Thus, during the course of ongoing educational activities, a number of projects have been implemented, primarily aimed at popularizing the principles of sustainable development.*

**Keywords:** gamification, project-based learning method, sustainable development, educational process, multimodal product, soft skills, media.

## I. Introduction

Modern education should no longer rely solely on reciting material. With access to a colossal amount of information, students can explore the basics themselves. There's a growing need to acquire practical skills using this information. A project-based learning method with gamification elements

allows students to immerse themselves in the topic and apply their knowledge in practice. A game-based format with research tasks helps develop students' abilities and makes the learning process engaging. Furthermore, project-based learning makes it possible to popularize the fundamental principles of sustainable development through specific examples and tasks solved during the learning process. Sustainable development is an integral part of lessons using a project-based learning method with gamification elements, as life in modern society is inextricably linked to these principles, allowing lesson topics and tasks to be as close to real-life situations as possible.

This article will cover the most significant aspects of the project-based learning method and provide answers to the following questions:

1. What is a project, a project-based learning method, and has it become a new format for presenting materials in journalism?
2. What are its features, what made us turn to it when a journalist found himself in a multimedia or digital environment;
3. Taking into account teaching practice, what should be taken into account when organizing it so that it is effective, and the student masters the skills of preparing a multimedia information product (text, audio, video);
4. What are the results of the projects we've implemented? How prepared are students to work in a digital, multimedia environment?

Answers to these questions will help characterize project-based learning methods and identify the advantages and disadvantages of introducing gamification elements into the educational process.

## II. Methods

To begin, it's important to understand two key concepts: project-based learning and gamification. Project-based learning relies on students working collaboratively to create their own product. Project (from Latin, meaning "thrown forward") has three meanings in S.I. Ozhegov's dictionary: 1) a developed plan for constructing or arranging something; 2) a preliminary text of a document; 3) a plan or intention [Ozhegov, 2010]. Generally speaking, a project is a practice-oriented, integrative activity aimed at solving research, cultural, social, and applied problems. In the educational process, these tasks have cognitive content [Krylova, 2007. pp. 8-12].

The project must have an ultimate goal. By achieving this goal, the student acquires the necessary research skills and abilities, refines them, and becomes a highly skilled specialist. The field of journalism is changing dramatically today, requiring new approaches to organizing the learning process [Golovko, Kokhanova, 2017. P. 72]. One innovative approach is the introduction of gamification elements.

Gamification implies the experience of using game models to resolve real-life situations [Huotari, Hamari J., 2012]. Gamification in education, in a broad sense, is the use of gameplay elements to adjust behavior during the learning process [Deterding, Dixon, 2011. P. 9-10], in a narrow sense, it is an educational approach that aims to increase student motivation through the use of game elements [Kapp . P. 31] .

According to the opinion of world scientists, the advantages of gamification are as follows [Pavlus , 2011. P. 43-44 ]:

1. The ability of students to influence the educational process
2. Opportunity for students to develop ("pump up") their own skills
3. The opportunity to try something new, to take risks
4. The ability to find your niche based on your skills and needs

#### 5. Opportunity to discover new skills in the process

In this article, we hypothesize that gamification in educational settings can increase student engagement and highlight individuals' propensity for collaborative work or individualistic behavior. In turn, the competitive nature of the process should add dynamism to learning and enhance its effectiveness.

Research shows that gamification increases student motivation, but at the same time, failure to learn can lead to aversion to the subject [Dominguez, 2013. P. 385-386]. In this case, reflection after the game-based lesson is essential. Based on the theoretical considerations presented above, we organized a series of projects within the framework of student training at the Faculty of Journalism at Lomonosov Moscow State University [Kokhanova, 2015]. The results of integrating gamification elements into the educational process are presented in this article.

### III. Results

To a certain extent, project-based learning allows us to adjust curricula, making them consistent with the challenges of the times, and within the framework of these programs we can and do teach students:

- cooperate;
- acquire knowledge independently;
- systematize the information received;
- use acquired knowledge to solve specific problems;

Gamification means that students can:

- work in diverse groups, fulfilling different social roles;
- use research methods and be able to analyze them from different perspectives;
- draw conclusions and inferences based on the results of individual and joint work;
- to obtain an effective result of solving the problem in the process of joint activities.

To achieve all this, we developed a project-based learning methodology aimed at preparing students for working in a multimedia environment, i.e., teaching them to work with text, audio, and video materials, which is currently common on social media. Moreover, this process must be multifaceted. Therefore, when developing this method, we encountered the need to classify projects according to various criteria, which provided flexibility in their organization.

**Table 1** Classification of projects on various grounds

<i>Reasons for classifications</i>	<i>Types of projects</i>
Project Contents	Single-subject Interdisciplinary
Inclusion of projects in the curriculum	Current

	Final
Duration of the project	Short-term Medium-term Long-term
Number of project participants	I am projects Group projects
Territorial feature	Domestic or regional International

We proposed a classification of projects based on various criteria. Analyzing the work completed, we found that we were able to implement almost all of the aforementioned project types, including international ones. Moreover, these projects aimed to teach students how to work in a digital environment and create multimedia products.

One of our first projects was the "School of New Media" in Bulgaria. We kicked off the 2014 academic year with a master class at the 35th Battery. This unique monument, created by the residents of Sevastopol on their own initiative, is a testament to the heroism of the city's defenders, a spot on the city map that didn't surrender until the very end. There was nowhere to go—the sea lay ahead. Our entire department (about a hundred people) traveled to this battery and, under the guidance of a journalist and cameraman who had arrived from Bulgaria, worked as journalists at an event we organized.

It's worth noting that the project-based learning method helped the work at the Moscow State University branch in Sevastopol during the very difficult period in Ukraine. Students, literally from their first years, worked in media outlets in the city and Crimea.

The installation of a bust of Yuri Gagarin in Varna in honor of the 50th anniversary of his flight (2013) should also be included here as a multi-disciplinary and medium-term project. Flowers were laid at it at subsequent Schools (three Schools).

Among the international projects are those of recent years. Project-based learning is primarily conducted in specialized courses for international students (Master's programs). One of the most recent is "Professional Journalism: Working with Social Media." Concurrently, project-based learning is being conducted in a research club for first- and second-year Master's students. The project is called "Media Expansion: China's Social Media." These projects emphasize multimedia as the foundation of journalism in the digital environment.

The "First Sevastopol TV Channel" project (2012-2013) was created using the Branch's digital equipment and was fundamentally new in technology for the city. Only one city channel, which was already digital (digital, not analog television), was able to broadcast it.

Today's students want to see more meaningful results from their work. In our projects, these are journalistic products (multimedia: newspaper and magazine publications, radio and television broadcasts, and even entire television series).

A crucial factor in organizing project-based learning is the selection of its topic, which deserves special attention. The topic is determined based on the following criteria:

- by subject;
- in accordance with the needs of students;
- taking into account the educational situation;
- taking into account the abilities of students;
- suggested by students based on their own interests.

After selecting the project topic, you should move on to determining the project type. Projects are categorized by type as follows:

- Research – well-thought-out structure; definition of goals, relevance for each participant; social significance, well-thought-out methods.
- Creative projects do not have a detailed structure; it develops in the process of work, subject to the logic and interests of the project participants.
- Adventure, gaming.
- Informational.
- Practice-oriented – with a clear focus on social interests.

As mentioned above, during project-based learning, students create a multimedia product. They assign roles within a team. The game-like nature of the work allows each project participant to express themselves. During the implementation of the projects presented above, it was observed that interacting with others develops students' soft skills—essential for 21st-century professionals. These new-age skills can be summarized in the 4Cs: critical thinking, creativity, communication, and coordination.

Let's take a closer look at one of our most recent projects. As part of the interfaculty course "Creating Broad-Specific Content and Preparing Material for Social Media," students from various faculties at Lomonosov Moscow State University were required to present their own guide on creating text, content, and products. Accordingly, all students were divided into three groups. A new innovation in the workflow was the use of artificial intelligence to speed up the presentation process and facilitate the search for theoretical background.

Processing large volumes of information requires critical thinking and the ability to establish cause-and-effect relationships. The ability to intelligently query artificial intelligence is a crucial foundation for successful work. AI can significantly accelerate the process of obtaining and structuring information, but, as practice has shown, this requires developing a proper approach to task setting. To collaborate, students had to effectively communicate and coordinate, establish rapport, and define a common goal and how to achieve it.

Given the role-based approach, students were required to demonstrate creativity in solving their own problems. The success of the entire project depended on the success of each team member. It's worth noting that students from different fields initially struggled to establish rapport and find common ground. After some time, everyone was able to find their role and begin to perform their assigned tasks. Thus, people with different thinking styles developed their own patterns of teamwork.

During the presentation of their collaborative work, participants from different teams examined the working styles of each student group, drew conclusions about the potential for collaborative activities, and explored aspects of internal communication between team members. It was clear which teams had managed to come together in a short period of time, creating a unified organism to achieve their goals, and which remained a cluster of individual cogs with a pronounced individualistic character. Not everyone was able to combine their efforts, and this is an inevitable consequence of any project.

Following the presentation of the resulting multimedia products, a survey was conducted among the students. This reflection allowed us to determine their attitudes toward game-based learning activities. The survey revealed that, in most cases, students were interested in implementing such games in class. They noted that after listening to several lectures on the fundamentals of journalism and media, they were eager to apply their acquired knowledge in practice. However, they found it difficult to create their own product alone. Teamwork, on the other hand, allowed each student to contribute and develop skills that best suited their individual personalities.

Students emphasized: "Practical classes are definitely useful for the knowledge transfer process," "I like when classes include an element of play and competition; it engages students and helps them better absorb the information," "It's really nice to be so involved in the process," "I like the interactive learning format because all students are fully engaged, and working in a group is more fun, faster, and more productive." Students cited the following advantages of project-based work with gamification elements: "development of public speaking skills and creativity," "development of neural connections when performing a new type of work," and "the opportunity to communicate with others and practice public speaking skills."

But negative feedback was also heard. Teachers are mistaken when they assume that any student can find their own way to achieve a goal. When a student doesn't understand how to achieve the expected result, they lose interest in completing the assignment [Kokhanova, Golovko, Alekseeva, 2021. P. 117].

Moreover, some students still value receiving information directly from the teacher and delving into the subject independently through reading. Thus, traditional learning remains relevant, but a significant portion of the audience now wants to diversify their classes with game-based practices.

## V. Conclusion

The study analyzed the results of implementing a game-based learning method using examples of completed projects. A classification of projects and the specifics of organizing a game-based lesson were presented. The advantages and disadvantages of implementing gamification in the educational process were identified, the results of project activities were documented, and potential ways to improve modern educational practices were explored. We concluded that project-based learning with elements of gamification can improve the effectiveness of the educational process, make lessons more dynamic, and enhance student engagement in learning the topic.

In summing up the results of the study, it's worth emphasizing once again that the project-based method is a way for students to create their own reality. By incorporating gamification elements, students themselves shape and develop the learning situation. They explore various activities and

identify their preferences and interests, thereby gaining independence. Students consciously select and apply various learning methods and accept responsibility for the results of their work.

The principles of proactivity, research, creativity, objectivity, behavioral awareness, partnership, subject-to-subject communication, and other aspects developed during the course contributed to the effectiveness of the project-based learning approach with elements of gamification. Following the project-based learning, most students continue their research in the form of coursework, theses, and research articles published in journals. They experiment with their writing, and thus develop a creative approach to life, themselves, and their future.

This experience has been summarized in monographs, teaching aids, and more than twenty articles by the authors, and is also being implemented in the practice of colleagues who apply it in their teaching activities.

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