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**MEANS OF GAMIFICATION IN THE FORMATION  
OF MEDIA LITERACY AS AN ELEMENT OF INFORMATION  
AND DIGITAL COMPETENCE OF PARTICIPANTS  
IN THE EDUCATIONAL PROCESS**

**Medvedieva M. O.**

*Candidate of Pedagogical Sciences, Associate Professor,  
Head of the Department Informatics and Information  
and Communication Technologies  
Pavlo Tychyna Uman State Pedagogical University  
Uman, Ukraine*

**Titova L. O.**

*Graduate student of the Department of Pedagogy  
and Educational Management, Trainee teacher of the Department  
of Informatics and Information and Communication Technologies  
Pavlo Tychyna Uman State Pedagogical University  
Uman, Ukraine*

The main tasks facing the teacher in modern realities, when the distance form of education becomes predominant, are to encourage students to participate in the educational process and acquire the necessary knowledge, as well as the formation of key competencies. Therefore, taking into account the large-scale digitalization of society, we note that information and communication technologies, in particular game services and mobile applications, are quite often the means that increase the activity of students, their cognitive interest.

The use of resources of a game nature in the educational process is one of the elements of gamification technology, which consists in acquiring knowledge by the learner in the process of game activity, while it is important that he does not play directly, but learns according to certain rules similar to game [4].

It is also worth noting that, in addition to total digitalization, one of the key factors influencing society in general and education in particular is the media [5]. That is why, in modern educational programs, it is increasingly possible to meet content lines, the study of which is based on research and interaction with media resources. Also, according to the educational regulatory documents, the Concept «New Ukrainian School» [1] and the

Professional Standard «Teacher of a general secondary education institution» [2], media literacy acts as one of the components of information and digital competence. Thus, the formation of media literacy of participants in the educational process contributes directly to the formation of their information and digital competence.

Let's consider gamified services that contribute to the formation of media literacy of participants in the educational process.

*Educational online game «Mediaznaiko»*

The educational game «Mediaznaiko» (fig. 1) was developed as part of the program "Alternative resources for media" by the Center for Media Initiatives of Armenia with the financial support of the World Bank in partnership with Internews (USA) and with the financial support of the United States Agency for International Development (USAID) [3].

«Mediaznaiko» allows you to familiarize yourself with the concept of information, propaganda, the history of the mass media in general and in Ukraine in particular, the journalist's code of ethics, state media regulation bodies and the professions of employees involved in the creation and release of media products. The practical aspect of the game is interesting, which will allow you to create a layout of a newspaper, release a TV or radio program.



**Figure 1. Educational online game «Mediaznaiko»**

The game «Mediaznaiko» is intended, to a greater extent, for elementary and basic schools, but it will be interesting for older users as well.

*Online game «Adventures of Literatus»*

Another game created by the Armenian Center for Media Initiatives and adapted for use in Ukraine by the Academy of the Ukrainian Press is «Adventures of Literatus» (fig. 2).



**Figure 2. The main page of the game «Adventures of Literatus»**

The young Prince Literatus is the main character of the game, he travels through ten different locations of the kingdom of Informia in search of his beloved, Princess Veritas, who was kidnapped by the ruler of the neighboring kingdom Manipulis [3]. During the game, the user learns to work with information received from various sources, analyzes it, and exposes fakes. At the end of the game, the user will find out how competent he is as a media consumer. This service is advisable to use for high school students and students of pedagogical institutions of higher education, which will allow them to use these resources in their further professional activities.

In today's world, social networks, news channels and blogs have flooded the Internet space, so we should learn to think critically, analyze the information we receive and distinguish fakes from reality. This is the basis of media literacy – an important skill in today's realities and a component of information and digital competence, as one of the keys for life.

**References:**

1. New Ukrainian school: Concept from 27.10.2016 URL: <https://mon.gov.ua/storage/app/media/zagalna%20serednya/nova-ukrainska-shkola-compressed.pdf> (date of access: 06.11.2022).
2. On approval of the professional standard for the professions "Primary school teacher of general secondary education", "Teacher of general secondary education", "Primary teacher (with a diploma of junior specialist)": Order of 23.12.2020 № 2736-20. URL: <https://zakon.rada.gov.ua/rada/show/v2736915-20#Text> (date of access: 06.11.2022).
3. Project «Media literacy program for citizens». AYII. URL: <https://www.aup.com.ua/en/project-medialiteracy-program-for-citizens/> (date of access: 12.11.2022).
4. Kobernik A., Osadchenko I. Gamification of the educational process in a higher educational institution: theory and methodology. *Scientific Vector of the Balkans*. 2021. Vol. 5. № 1(11). C. 12–17. URL: [https://sci-vector-balkans.com/journal\\_article/gejmifikatsiya-uchebnogo-protssesa-v-vysshem-uchebnom-zavedenii-teoriya-i-metodologiya/](https://sci-vector-balkans.com/journal_article/gejmifikatsiya-uchebnogo-protssesa-v-vysshem-uchebnom-zavedenii-teoriya-i-metodologiya/) (date of access: 12.11.2022).
5. Rasi P., Vuojärvi H., Ruokamo H. Media Literacy Education for All Ages. *Journal of Media Literacy Education*. 2019. Vol.11(2). P. 1-19. URL: <https://doi.org/10.23860/JMLE-2019-11-2-1> (date of access: 14.11.2022).

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