

СЕКЦІЯ: ОСВІТНІ СТРАТЕГІЇ ПІДГОТОВКИ ФАХІВЦІВ ІТ-ГАЛУЗІ

GAME PROJECT AS A TOOL FOR DEVELOPING CRITICAL THINKING AND DIGITAL COMPETENCES

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Wadays, the education sphere is quite relevant and is constantly developing. Educational institutions in Ukraine were forced to switch to distance learning, in particular, in connection with the war. As a result, remote learning has become extremely popular and now is already interpreted as a regular form of studying. That is why a game project can be an effective tool for forming students' critical thinking skills and digital competencies. This interactive form of studying allows them to work independently with information, develop analytical and reasoning skills, and interact with the teacher and other students. Gamification can also help teachers to effectively monitor the learning process and ensure the quality of students' knowledge.

It will be easier for students to consolidate their knowledge with the help of gamification. It aims at developing critical thinking and analytical skills in the digital world. The practical application of gamification allows students to independently work with information, search for answers to open questions, analyze and use this information to solve problems and develop critical thinking. In addition, the game project will help students to create digital competences, such as working with the Internet and web applications, understanding the principles of digital technologies and ensuring Internet safety. Thus, the project has practical significance for the formation of skills that will be useful to students in the future, that will allow them to be effective in the digital world and ensure the quality of their education.

The main objectives of the project [2]:

- 1) Diversify the learning process of students.
- 2) Development of critical thinking.
- 3) Formation of digital competences.
- 4) Improving the level of practical skills.
- 5) Tracking students' progress and success.

The main idea is to create and to use interactive game tasks to promote the development of critical thinking and increase the level of digital literacy of students, which allows them to consolidate previously learned material while practicing.

Gamification can be used as an additional tool to improve the quality of students' learning. Completing tasks in this way allows them to develop their skills of independent work with information. The game project can be used as part of lesson planning, and the task that teachers give students to perform can be homework, and the student will be able to independently allocate a convenient time to complete it [3].

This approach will help involve more students in the learning process and increase their level of motivation. An additional way of using gamification in the

learning process is that they can be used as tools to assess the level of knowledge of students. Teachers can create some assignments that contain questions on a topic covered in class and give students a specific amount of time to complete the assignment. After students have completed the task, the teacher can assess their knowledge and development of technical skills.

This approach allows teachers to increase the effectiveness of assessment and help students prepare for exams. And, of course, students can use the game project as a tool for independent work and development of their knowledge, perform tasks on a topic that interests them, and learn new things without the presence of a teacher. This allows students to develop their digital skills and critical thinking in their spare time.

In general, the project can be used at school as an innovative approach to learning, which will help increase the level of digital literacy and develop critical thinking of students. Teachers can use gamification as an additional tool to improve the quality of learning and motivate students.

Based on the selected topic, some students can create an interactive educational environment that includes successive stages of practical tasks of varying complexity. The sequence of stages of practical tasks should be built in such a way that students have the opportunity to gradually increase the level of their skills and achieve more complex goals. For example, the primary stages may involve performing simple tasks from the elementary and intermediate levels, and the final stages – complex tasks of upper-intermediate and advanced levels. Students receive feedback on the performance of tasks, which allows them to understand how well they have mastered the material.

Today's students are more interested in using computers and the Internet than paper materials. Gamification provides this opportunity to use technology in the study of computer sciences or other subjects. There are many of them, which are used to test students' knowledge or improve it. That is why game projects are such a relevant method in the modern world. In recent years, the amount of information that students have to process and analyze has increased. In this regard, the development of critical thinking and digital competences has become increasingly important. It is also worth noting that modern technologies give us access to a huge range of practical tasks. However, our ability to find the right information and determine its quality is no less significant than the sheer number of tasks. The idea of the project is especially relevant in the context of distance learning, which has become the norm in connection with the COVID-19 pandemic and the war in Ukraine. Gamification as an interactive form of learning allows you to create an interesting and meaningful educational environment for students, which can be used both in class and at home. Thus, the idea of game projects is relevant and influential for modern education, as it allows students to develop critical thinking and digital competences, which are key skills for further success in life [1].

At the initial stage, it's necessary to choose the age of the targeted audience that is influenced by the project; collect material representing practical tasks of varying degrees of complexity; enter a structure with all tasks; establish connections between them; indicate the correct answers to each task. If necessary, add images or videos to support the visual component of the gamification and make it more interesting for students. After creating a gamification, it's necessary to test it to make sure it functions properly and meets the intended purpose. At the end of the testing and receiving the results, an analysis can be carried out to identify weaknesses and implement

improvements. To implement the project, you will need to use some technical resources: personal computers or laptops, (electronic) manuals or workshops.

The project is relevant today and can be used as a means of interactive learning, as the field of education is constantly developing. Therefore, methods and approaches to learning will constantly change, and gamification is one of the ways to interest students in learning subjects. In general, the game project is an important step in the development of the educational process' gamification and the preparation of students for life in a digital society.

One of the problems is the availability of technical devices. In connection with the war in Ukraine, interruptions with the Internet or electricity are possible, so not all students can have access to personal computers, smartphones, or the Internet, which is an obstacle in using the interactive learning environment.

References

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ПІДХОДИ ЩОДО ЗАСТОСУВАННЯ ТЕХНОЛОГІЙ ДОПОВНЕНОЇ РЕАЛЬНОСТІ ПРИ ВИВЧЕННІ АСТРОНОМІЇ

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Технології віртуальної і доповненої реальності є ключовими в сучасному світі, являючись новаторськими способами взаємодії, навчання і відпочинку. Ці технології впливають на багато галузей, починаючи з ігрової індустрії і закінчуючи медициною і освітою. Про технологію створення об'єктів доповненої реальності у фізичному просторі на заняттях з комп'ютерного моделювання йдеться у статті [1]. Технології віртуальної і доповненої реальності змінюють традиційні методи навчання, перетворюючи їх в більш інтерактивні. Студенти можуть проводити експерименти у віртуальній лабораторії, що є безпечним і економічним для освітнього закладу.

Використання інтегрованих навчальних практик у цьому контексті забезпечує оволодіння студентами потужним інструментом візуалізації та інтерактивності, який може покращити навчання астрономії, зробити його більш