Application of artificial intelligence to improve the work of educational platforms

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Abstract
In the modern world of technology, education is constantly adapting, responding to the challenges of the new generation. In particular, learning platforms are becoming a key tool in this process, enabling globalized and interactive learning. The evolution of educational platforms, their impact on education and the possibilities for their further development due to artificial intelligence have been studied. It is shown that it is appropriate to use ChatGPT on the basis of the CREO platform for teaching English. That is, with the support and guidance of an intelligent system for learning English, ChatGPT analyzes the level of learning, the student's weaknesses and makes suggestions for learning. It was investigated that the average score of Group 1 was 7.3 out of 10, while Group 2 showed a result of 9.1 out of 10. Additionally, satisfaction with the course among Group 1 students was 70%, while in Group 2 this figure reached 95%.

Keywords
Artificial intelligence, ChatGPT, education platform, CREO

1. Introduction

Learning platforms are digital environments that allow students and teachers to interact, learn and communicate online. They may include video lectures, tests, discussion forums and other interactive elements. In particular, the first learning platforms appeared in the late 1990s and were simple learning management systems. With the development of technology, they have become more functional and interactive. With the advent of broadband Internet and mobile technologies, access to online education has become wider [1-2].

It is known that ten years ago the number of people who used online platforms was limited to thousands. However, with the development of technology and the increasing availability of the Internet, this figure has grown to tens of millions. For example, Coursera has over 40 million users. This rapid growth can be explained by the increasing need for flexible learning, the availability of courses from leading universities in the world and the opportunity to study at a convenient time for themselves [3].

The following platforms are the most popular:
- *Coursera:* cooperates with the world's leading universities;
- *Udemy:* allows any teacher to create their own course;
- *EdX:* a non-profit organization that offers university courses;
- *Khan Academy:* free platform for students of different age groups;
- *Moodle:* open learning management system for educational institutions;

- *Creo:* Ukrainian platform, which combines various mechanics of learning, and also uses a neural network.

Each platform has its own characteristics. For example, Coursera and EdX offer courses from world universities, while Udemy allows any teacher to create and market their courses. Khan Academy is focused on creating free educational materials for students of all ages.

2. Predictions about the future of online education

The future of online education promises to be a significant changing factor in the ways we acquire and exchange knowledge. This evolution of the educational process is determined by two key aspects: accessibility and interactivity. On the one hand, online education becomes extremely accessible to everyone, providing the opportunity to study at a convenient time and place for everyone. This is especially useful for those who have a variable schedule or limited access to traditional educational institutions. On the other hand, modern online learning platforms offer interactive opportunities that give learning a new level of interaction. Joint discussion, cooperation on projects and the ability to immediately receive feedback bring the learning process closer to classical learning in the classroom [4].

In addition, the concept of microlearning allows you to assimilate knowledge quickly and efficiently through short, focused lessons and tasks, which facilitates learning and improves the assimilation of material.

The education of the future will also be more personalized through the use of artificial intelligence and data analysis. This will create curricula that take into account the individual needs and level of knowledge of each student.

In general, the future of online education opens up new opportunities for learning and development, making education more accessible, interactive and personalized for everyone. In general, the future of online education promises to be more dynamic, accessible and aimed at developing practical skills and competencies. This opens up new opportunities for learning and self-development in the modern world.

2.1. Automation of artificial intelligence to improve the operation of platforms

In the context of rapid technological development, educational platforms continue to adapt to modern requirements, actively using the possibilities of automation and artificial intelligence. These innovative technologies can revolutionize the approach to learning, making it more efficient and individual.

One of the key benefits of automation is the ability to instantly check tasks. Modern algorithms allow you to analyze the answers of students in real time, giving them feedback and helping to assimilate the material faster. This not only facilitates the work of teachers, but also allows students to immediately get an answer to their mistakes.

In addition, automated systems can study the individual needs of each student. They analyze the current level of knowledge, choosing the most suitable materials for further study. This creates conditions for flexible and focused learning.

Gamification, or the use of game elements in the learning process, also plays an important role in modern platforms. Students can receive awards, points or medals for completed assignments, which encourages their desire to learn. Interactive tasks in the form of games make learning more exciting and dynamic.

As for artificial intelligence, it opens up new horizons for personalizing learning. Analyzing data about the student, his learning style and other characteristics, the system can offer the most suitable materials, tasks and techniques. Also, based on feedback and results, artificial intelligence can adapt the curriculum, making it as effective as possible for each student.

In general, automation and artificial intelligence can greatly improve the quality and efficiency of online education, making the learning process more individual, flexible and exciting [5-12].

3. Results and discussions

In recent years, the educational sector has been actively introducing the latest technologies to improve the quality of education. One such technology is artificial intelligence. We decided to explore how the integration of ChatGPT on the Creo platform can affect the process of learning English.

Within a month, two groups of students, each numbering 10 people, took an English course. The first group (Group 1) studied the language according to the traditional method, without additional technological tools. The second group (Group 2) received additional support from ChatGPT, which analyzed their responses, provided feedback and recommended additional materials for study.

After completing a month of study, we analyzed the results of both groups. In particular, Figures 1 and 2 show students marks of Group 1 and Group 2. The average Group 1 score was 7.3 out of 10, while Group 2 scored 9.1 out of 10 (Figure 3). These findings suggest that integrating ChatGPT can significantly improve student academic performance.
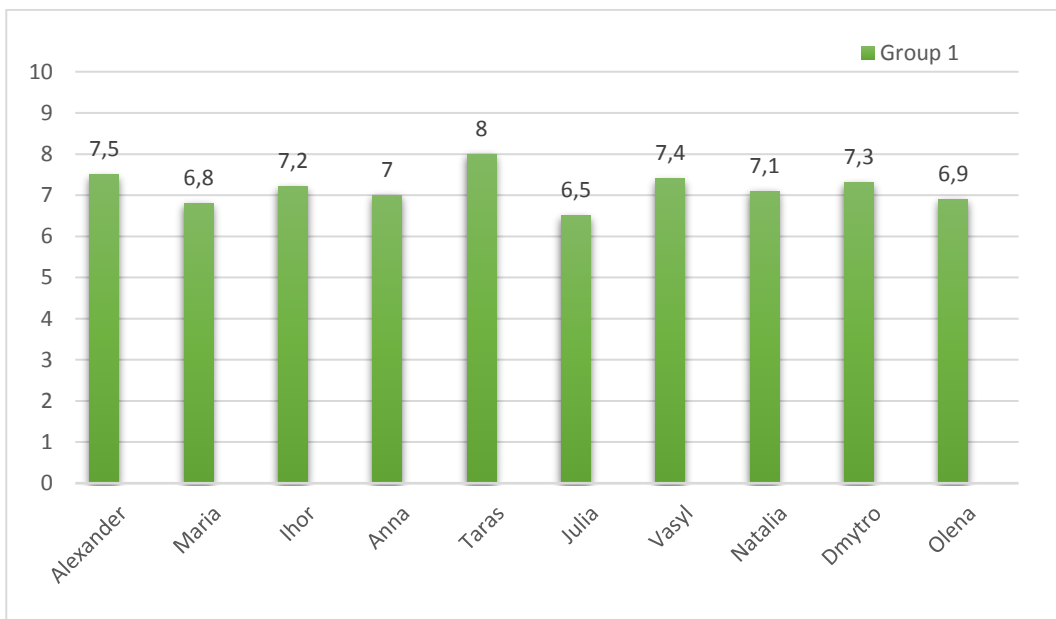

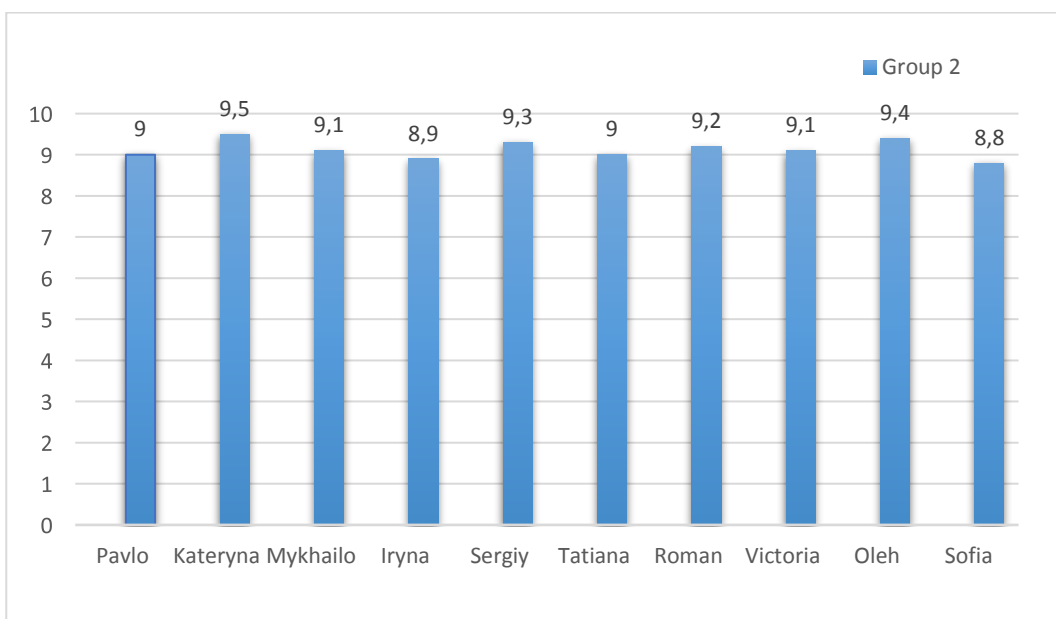**Figure 1:** Marks of students of Group 1

Figure 2: Students marks of Group 2

Additionally, 60% of students from Group 1 indicated that they had difficulty with certain topics, compared to 20% of students from Group 2. This confirms that ChatGPT helps students better understand the material (Figure 4).
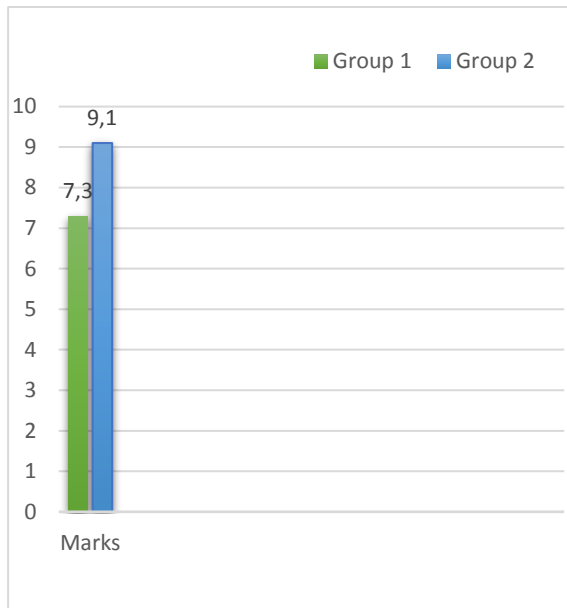

Figure 3: The results of both groups in terms of grades after a month of training
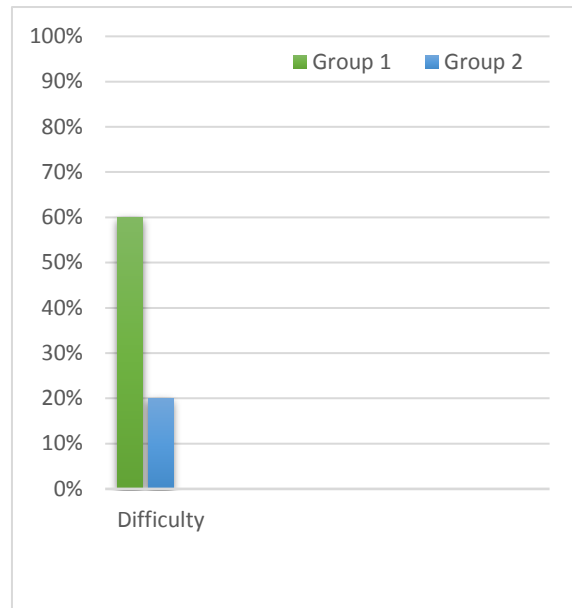

Figure 4: Percentage ratio of groups, which % of difficulties arose during training

Satisfaction with the course among Group 1 students was 70%, while in Group 2 this figure reached 95% (Figure 5). This suggests that the use of artificial intelligence can not only improve the quality of learning, but also make the learning process more exciting.

One of the key points was that in Group 1 only 7 out of 10 students reached the end of the course, while in Group 2 all 10 students successfully completed the course (Figure 6). This emphasizes the importance of integrating modern technologies into the learning process.
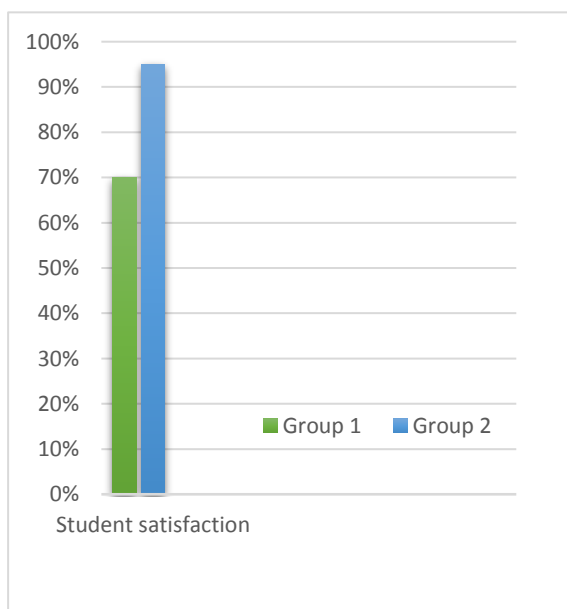

Figure 5: Schedule of groups of students, how much they liked their studies
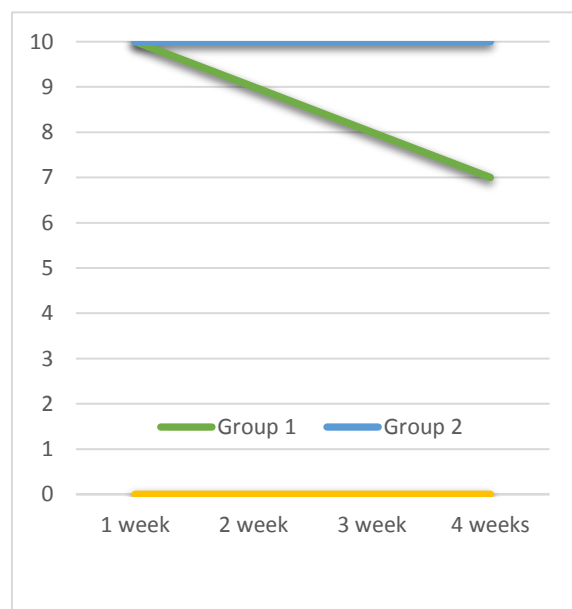

Figure 6: Number of students who have completed their studies

In addition, with the help of the two-sample unpaired t-test, the presence of differences between the two samples (Group 1 and Group 2) was verified statistically using Student t-test. In particular, t_{emp}= -16.84, while t_{kr}= 2.26 at a significance level of p=0.05. If $|t_{emp}| > t_{kr}$, it can be concluded that the differences between the results of both groups are significant at p=0.05.

4. Conclusions

Education is undergoing a period of rapid change, and digital technologies play a key role in this process. Learning platforms, enhanced by automation and artificial intelligence, open up new opportunities for individual and interactive learning. Gamification, as an element of motivation, can make the learning process not only effective, but also exciting. In the future, we can expect even greater integration of technologies into the educational process, which will make education more accessible and better for everyone. It was investigated that the average score of Group 1 was 7.3 out of 10, while Group 2 showed a result of 9.1 out of 10 with integrating ChatGPT. In particular, satisfaction with the course among Group 1 students was 70%, while in Group 2 was 95%. Additionally, the scores of both groups were tested by t-test, which showed that the difference between the results of groups 1 and 2 is statistically significant.

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