METHODOLOGY FOR DEVELOPING STUDENTS' COGNITIVE INTEREST IN PERFORMING GRAPHIC TASKS IN TEACHING ENGINEERING AND COMPUTER GRAPHICS

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Abstract

This article analyzes the methodology for developing students' cognitive interest in learning engineering and computer graphics. The psychological and pedagogical foundations of cognitive interest are studied, and innovative pedagogical methods, technologies, and approaches for effectively organizing this process are considered. Particular attention is paid to the role of interactive learning, problem-based approaches, gamification, and group assignments in increasing students' interest. These methods are aimed at strengthening students' knowledge and preparing them for future professional activities.

Keywords: cognitive interest, engineering and computer graphics, pedagogical methods, interactive learning, problem-based approach, student motivation, innovative pedagogy, educational process, practical results, recommendations for teachers.

Introduction

Today, the education system is aimed not only at imparting knowledge, but also at developing interest and motivation in students. The development of cognitive interest is especially important when teaching technical disciplines such as engineering and computer graphics. These disciplines require students to have a high level of logical thinking, analytical approach, creative and technical skills. Therefore, increasing students' interest in learning, increasing their motivation and active involvement in the learning process is becoming an important part of the educational process.

Cognitive interest is an internal motivation of an individual to acquire new knowledge, search for new information and work with it. Students strive to expand their scientific and practical capabilities, to delve deeper into their learning. Cognitive interest is an important component of the educational process, since it plays a key role not only in acquiring knowledge, but also in continuing to learn and working with new ideas. Therefore, the development of cognitive interest in students in technical disciplines such as engineering and computer graphics is necessary in order to explain the practical significance of these disciplines and make the learning process more exciting and effective.

Engineering disciplines teach students technical knowledge, as well as problem solving, creative thinking, and finding solutions to real-world problems. Computer graphics helps students develop practical skills in digital imaging, 3D modeling, animation, visualization, and many other creative areas. These disciplines help students combine technical and creative abilities, which in turn contributes to the development of their overall cognitive interest.

Computer graphics is closely related to engineering, teaching students not only practical technical skills, but also modeling complex systems with a creative approach. For example, teaching 3D modeling, visualization, virtual reality, and other modern technologies contributes to the development of students' cognitive and creative interests. All this contributes to the development of students' thinking skills through the use of engineering and computer graphics disciplines in the educational process.

Cognitive interest causes students' intrinsic motivation to acquire new knowledge. In this process, students become more passionate about their studies, they begin to feel ready to work independently in scientific activities. Providing students with problem-solving and innovative solutions in technical disciplines such as engineering and computer graphics activates their cognitive interests. When students are given the opportunity to study topics that interest them, they tend to perform better.

A decrease in student interest in technical subjects such as engineering and computer graphics often leads to a decrease in the effectiveness of the learning process. These subjects require students to have a high level of logical thinking, analytical skills, and creativity, but in some cases these abilities are not fully demonstrated. Students' internal motivation to learn, i.e. cognitive interest, has a significant impact on the acquisition of the subject. If students have low interest in the subject, this not only reduces their enthusiasm for learning, but also leads to difficulties in acquiring knowledge.

Objective 1: Developing cognitive interest.

As we know, when students show interest in learning, their level of assimilation of the material and efficiency increase significantly. The main objective of this article is to develop cognitive interest. To increase the interest and motivation of students in the learning process, it is necessary to apply modern pedagogical methods and interactive approaches. Increasing cognitive interest contributes to the fact that students not only continue their studies, but are also ready to apply the acquired knowledge in real life.

Objective 2: Forming high interest of students in disciplines.

To form interest in disciplines, teachers should use innovative and interactive methods. For example, problem-based learning, gamification, practical examples and virtual laboratories attract students' attention. Helping to solve real problems and find creative solutions increases students' interest in the subjects. In addition, when teaching technical disciplines such as

computer graphics or engineering, it is important to develop students' practical skills and involve them in practical activities.

The analysis of the problems and objectives demonstrate the need to develop effective methods for developing cognitive interest in students. Increasing students' interest in learning and involving them in practical activities will significantly improve the effectiveness of the educational process. Teachers can offer students interesting and interactive classes that will help them be ready to apply the knowledge they have gained in practice.

Theoretical background. Cognitive interest is an internal motivation and desire of a person to learn new knowledge and to understand previously studied materials more deeply. Cognitive interest basically means interest in a person's intellectual activity in the learning process. Psychologically, cognitive interest is associated not only with obtaining information, but also with its deep analysis, asking advanced questions and expanding the range of knowledge.

Development of cognitive interest is also associated with controlled difficulties and purposeful activity. When students apply their knowledge in practice and are convinced of their success, this increases their interest in further learning and learning new knowledge. For example, in technical disciplines such as computer graphics or engineering, creating conditions for solving real problems helps to increase students' interest in the learning process.

Psychological and pedagogical theories play an important role in the development of cognitive interest. Constructivism, interactive teaching methods and problem-based approaches contribute to the development of cognitive interest in students. The application of these methods in practice activates students in the learning process and increases their interest in acquiring new knowledge. Methods of Developing Cognitive Interest in Teaching Engineering and Computer Graphics. In technical fields such as computer graphics and engineering, various interactive and innovative pedagogical methods are used to increase students' interest in learning. These methods not only promote motivation to acquire knowledge, but also enhance the desire to learn. The following methods are effective in developing cognitive interest:

Interactive teaching methods provide active and continuous interaction with students in engineering and computer graphics classes. The main goal of these methods is not to turn students into passive consumers of information, but to make them active participants in the learning process.

The methods of developing cognitive interest in teaching computer graphics and engineering are aimed at ensuring students' active participation, increasing their motivation to learn, and expanding their scientific and practical knowledge. Pedagogical methods such as interactive methods, problem-based approach, group work, and gamification arouse students' interest and make the learning process more effective. With the help of these methods, students not only gain knowledge, but also prepare to apply it in practice.

Practical results and recommendations. The effectiveness of the methods used to develop students' cognitive interest is reflected in the educational process. Pedagogical methods such as interactive approaches, problem-based approaches, group work and gamification ensure not only the acquisition of theoretical knowledge, but also develop students' active participation, independent thinking and problem-solving abilities. The methods and approaches used to develop cognitive interest promote students' active participation in the educational process, problem solving and application of knowledge in practice. The recommendations offered to teachers will help make the educational process more effective through the use of technology, the introduction of innovative approaches, an individualized approach and increased student motivation. These recommendations are important for developing cognitive interest and improving the quality of the educational process.

Conclusion

The methods used to develop students' cognitive interest were scientifically analyzed, and the results they can yield in practice and how the educational process can be improved were considered. These methods not only help to improve the level of knowledge acquisition by students, but also play an important role in preparing them for future professional activities. In the learning process, it is important to make students active participants and ensure the acquisition of knowledge not only at the theoretical but also at the practical level.

1. Increasing the level of knowledge acquisition by students: Methods aimed at developing cognitive interest, such as interactive and problem-based approaches, gamification and practical classes, actively involve students in the learning process. This significantly increases their level of knowledge acquisition. Students master new topics, applying their knowledge not only theoretically but also in practice. These methods provide an individual approach to each student and motivate them to learn more successfully.

2. Application of innovations in the learning process: The use of modern technologies, innovative methods and pedagogical approaches makes the learning process interesting and effective for students. With the help of interactive programs, virtual laboratories, 3D modeling and gamification methods, students are involved in activities aimed at solving real-life problems. These methods contribute to the formation of cognitive interest in students and provide an opportunity to develop the necessary technical and creative skills for professional life. Preparation for future professional activity: One of the main goals of cognitive interest development methods is to prepare students for their future professional activity. For example, in technical disciplines such as computer graphics and engineering, students develop their technical and creative abilities through practical classes. This, in turn, ensures their successful professional activity in such fields as engineering, design, programming and others. By developing cognitive interest, students not only deepen their scientific knowledge, but also

master the necessary skills to solve problems in their workplaces. In conclusion, the methods used to develop students' cognitive interest improve the efficiency of the learning process, enhance their desire to learn, and play an important role in preparing them for their future professional activities. Innovative pedagogical approaches, the use of technology, interactive and gamification methods, and problem-based approaches deepen students' knowledge and contribute to the growth of their cognitive interest. These methods also play a significant role in developing students' technical and creative skills necessary for successful professional activity. Thus, the introduction of effective methods for developing cognitive interest is important for improving the learning process, helping students prepare for the future, and orienting them toward successful professional activity.

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