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THE ARTICLE ANALYZES THE POSSIBILITIES OF USING INTERACTIVE METHODS IN TEACHING BIOLOGY TO DEVELOP GLOBAL COMPETENCE AMONG STUDENTS

Annotation: The article analyzes the possibilities of using interactive methods in teaching biology to develop global competence among students. Global competence is an essential skill in the modern world, encompassing the ability to communicate effectively across different cultures and environments, as well as understanding and solving environmental issues.
The article discusses various interactive methods in biology education, including roup projects, problem-solving activities, laboratory experiments, and ecological research. These approaches help students acquire subject-specific knowledge while also gaining a deeper understanding of global environmental challenges, fostering environmental awareness, and promoting a sense of responsibility.
The research results show that using interactive methods in teaching biology positively impacts the development of global competence. Additionally, the connection of biology with ecological, social, and technological issues plays a significant role in making the learning process more engaging and effective.

Keywords: Global competence, biology education, interactive methods, environmental issues, environmental awareness, group project, laboratory experiment, problem-solving, educational technologies, environmental responsibility.

Аннотация: В статье анализируются возможности использования интерактивных методов преподавания биологии в процессе формирования глобальной компетентности у студентов. Глобальная компетентность является важным навыком в современном мире, включающим умение эффективно общаться в различных культурах и средах, а также понимать и решать экологические проблемы.
В статье рассматриваются такие интерактивные методы преподавания биологии, как работа над групповыми проектами, решение проблемных ситуаций, проведение лабораторных экспериментов и экологические исследования. Эти подходы способствуют не только усвоению предметных знаний, но и формированию более глубокого понимания глобальных экологических проблем, развитию экологического сознания и ответственности.
Результаты исследования показывают, что использование интерактивных методов в обучении биологии оказывает положительное влияние на формирование глобальной компетентности. Кроме того, связь биологии с экологическими, социальными и технологическими проблемами имеет особое значение для повышения интереса и эффективности образовательного процесса.

Ключевые слова:Глобальная компетентность, обучение биологии, интерактивные методы, экологические проблемы, экологическое сознание, групповой проект, лабораторный эксперимент, решение проблемных ситуаций, образовательные технологии, экологическая ответственность.

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Introduction

1. Cooperation and teamwork among students:

Team projects and problem-solving techniques develop cooperation and teamwork skills in students. These skills are useful not only in biology, but also in other areas. Combining students' ideas and solving problems in groups during the lesson makes the learning process more effective for them.

2. Practical experiments and environmental awareness:

Laboratory experiments and environmental studies make learning more interesting and practical for students. Through these methods, they take on environmental responsibility and are active in protecting nature.

3. Connections between global and local issues:

Interactive methods teach students to analyze global environmental issues in a local context while studying them. This approach helps students understand the connection between social and environmental issues and make decisions at the global level.

4. Sharing ideas and critical thinking:

Students' critical thinking skills are developed during the study of ecological problems in biology. Problem situations and ecological research encourage students to express their opinions, understand different points of view, and make critical decisions. This process helps to strengthen their global competencies.

Teaching biology based on interactive methods has yielded positive results in developing environmental awareness and responsibility among students.

Students have become more active in understanding ecological problems and proposing solutions. Interactive methods effectively contribute to the formation of students' global competencies, especially in environmental and social issues.

Team projects and laboratory work have strengthened students' independent learning skills and created the opportunity for them to apply knowledge in practice.

The modern education system defines the formation of global competence as an important task. Global competence includes such skills as effective communication in different cultures, languages, and social environments, understanding environmental problems, and active participation in solving them. This process is necessary for the personal and professional development of students.

Biology plays an important role in the study of global environmental problems, as it provides knowledge about life processes, ecosystems, and the sustainability of nature. Therefore, teaching biology in interactive methods is effective in broadening students' worldviews, developing environmental awareness, and a sense of responsibility.

This article analyzes the effectiveness of interactive methods of biology in the formation of global competence in students. It also examines how methods such as team projects, laboratory experiments, and problem-solving used in biology lessons develop students' knowledge and skills.

Main part

Currently, the development of bioengineering is an important step in solving not only environmental, but also medical problems. This field is a natural continuation of biology and includes many areas of science.

1. Solving environmental problems.

Genetic Modification: Genetically modified organisms (GMOs) are creating opportunities to increase productivity, maintain ecological balance, and conserve natural resources.

Environmental Protection: New technologies are also important in preserving biodiversity, protecting it, reducing pollution, and creating biological filtration systems.
2. Innovations in Medicine.
Genetic Treatment: Treatment of hereditary diseases, elimination of incurable diseases using gene editing technologies.
Artificial Organs: Artificial hearts, kidneys, and other organs are being transplanted through bioengineering, which is expanding the possibilities of saving lives.
Vaccines and Biotechnology: During pandemics, the role of bioengineering is increasing, and the creation of new vaccines is accelerating.
Bioengineering is an integral part of biology and an effective tool for forming global competencies in students. Studying this area develops not only scientific knowledge, but also the ability to solve global environmental and medical problems. Therefore, it is relevant to provide a broader understanding of bioengineering using interactive methods in biology.
1. The concept of global competence and its importance
Global competence is the ability to communicate effectively in different cultures and social environments, to understand international issues and actively contribute to their solution. This skill helps students broaden their worldview, understand environmental, economic and social issues, and make responsible decisions. The formation of global competence has become an urgent task of the educational process
2. The role of biology in education
Biology studies life processes, explains to students the complexity of ecological systems and the impact of human activity on nature. Through biology courses, students understand the principles of sustainable development, develop skills in environmental responsibility and respect for the environment.
3. The use of interactive methods in biology
Interactive methods increase students' interest in the lesson and provide them with the opportunity to learn actively. The following interactive methods are widely used in biology education:
Group projects: Students prepare a project to study and solve environmental problems, which develops their creative thinking and sense of responsibility.
Solving problem situations: By analyzing life situations, students propose solutions to environmental issues.
Laboratory experiments: Scientific experiments allow students to apply their theoretical knowledge in practice and develop scientific research skills.
Ecological research: Students study local environmental problems and develop proposals for their solutions.
4. The impact of interactive methods on students
Studies show that the use of interactive methods makes biology interesting and effective. Students develop teamwork, communication, critical thinking, and problem-solving skills. They also gain a deeper understanding of the principles of environmental responsibility, rational use of natural resources, and sustainable development.
The use of interactive methods not only increases scientific knowledge, but also informs students about global environmental problems and encourages them to make responsible decisions. This directly contributes to the formation of global competence.
Discussion and results
The use of interactive methods in biology forms not only scientific knowledge in students, but also important skills such as global competence. The methods used in the learning process allow

students to think more deeply about environmental issues, develop environmental awareness and a sense of responsibility.

Discussion

1. Increased student engagement:

Interactive methods increase students' interest in the lesson, develop their independent learning and creative thinking skills. Team projects and laboratory experiments actively involve students in the subject and develop their skills in working together.

2. Problem-solving skills:

The problem-solving method teaches students to analyze environmental problems and propose solutions. In this process, they have the opportunity to apply their theoretical knowledge in practice, conduct scientific research, and feel responsible for making environmental decisions.

3. A sense of ecological responsibility:

By conducting ecological research in biology lessons, students are inspired to take practical actions in nature conservation. As a result, their interest in ecological awareness and sustainable development increases.

4. Formation of a global worldview:

Discussion of different cultures and international environmental problems expands students' global worldview. They understand the importance of environmental safety, nature protection, and international cooperation.

Results:

It was found that the use of interactive methods in biology is effective in forming global competence.

Students developed ecological awareness, problem-solving skills, and teamwork skills.

The learning process became more interesting and effective, and students had the opportunity to apply theoretical knowledge in practice.

Teaching biology based on interactive methods makes a significant contribution to the formation of global competence. Therefore, taking into account the connection of biology with ecological, social, and technological problems in the modern education system, it is recommended to widely use interactive approaches.

The use of interactive methods in biology not only increases students' scientific knowledge, but also strengthens their global competence. The methods shown in the study help students understand, analyze, and propose solutions to environmental, social, and cultural issues. Biology focuses on issues of environmental responsibility and sustainable development, and interactive methods serve as a key tool in making this process effective.

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