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CURRENT PROBLEMS AND SOLUTIONS OF ENVIRONMENTAL EDUCATION AND UPBRINGING

(ON THE EXAMPLE OF GENERAL SECONDARY SCHOOLS)

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Abstract: Environmental education is becoming an essential component of modern educational systems due to the rapid increase in global environmental problems such as climate change, biodiversity loss, and pollution. This study investigates the current problems of environmental education and upbringing in general secondary schools and proposes effective pedagogical solutions.

The research was conducted in biology classes of grades 5–6 using surveys, classroom observations, and experimental teaching methods. The results indicate that students' ecological knowledge is at a moderate level, while their ecological attitudes and practical skills are relatively low. Traditional teaching methods remain dominant, limiting students' active engagement and real-life application of ecological knowledge.

The study concludes that interactive teaching methods, project-based learning, and integration of environmental content into different subjects significantly improve students' ecological competence. The findings highlight the necessity of modernizing environmental education to develop environmentally responsible future citizens.

Keywords: environmental education, ecological competence, secondary school, interactive learning, sustainability

Annotatsiya: Ekologik ta’lim iqlim o‘zgarishi, biologik xilma-xillikning kamayishi va ifloslanish kabi global ekologik muammolarning tez ortib borishi sababli zamonaviy ta’lim tizimining muhim tarkibiy qismiga aylanib bormoqda. Ushbu tadqiqot umumta’lim maktablarida ekologik ta’lim va tarbiyaning mavjud muammolarini o‘rganadi hamda samarali pedagogik yechimlarni taklif etadi.

Tadqiqot 5–6-sinf biologiya darslarida so‘rovnomalar, sinf kuzatuvlari va tajriba-sinov o‘qitish metodlari asosida amalga oshirildi. Natijalar o‘quvchilarning ekologik bilim darajasi o‘rtacha ekanini, biroq ekologik munosabat va amaliy ko‘nikmalari past ekanini ko‘rsatdi. An’anaviy o‘qitish usullari ustun bo‘lib, bu o‘quvchilarning faol ishtiroki va ekologik bilimlarni real hayotda qo‘llash imkoniyatlarini cheklaydi. Tadqiqot shuni ko‘rsatadiki, interaktiv o‘qitish usullari, loyihaviy ta’lim hamda ekologik mazmunni turli fanlarga integratsiya qilish o‘quvchilarning ekologik kompetensiyasini sezilarli darajada oshiradi. Natijalar ekologik ta’limni modernizatsiya qilish zarurligini va ekologik mas’uliyatli avlodni shakllantirish muhimligini ta’kidlaydi.

Kalit so‘zlar: ekologik ta’lim, ekologik kompetensiya, umumta’lim maktabi, interaktiv ta’lim, barqaror rivojlanish

Аннотация: Экологическое образование становится важной составляющей современной системы образования в связи с быстрым ростом глобальных экологических проблем, таких как изменение климата, сокращение биоразнообразия и загрязнение окружающей среды. Данное исследование изучает актуальные проблемы экологического образования и воспитания в общеобразовательных школах и предлагает эффективные педагогические решения.

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Исследование проводилось на уроках биологии в 5–6 классах с использованием анкетирования, наблюдений за учебным процессом и экспериментальных методов обучения. Результаты показывают, что уровень экологических знаний учащихся является средним, тогда как экологическое отношение и практические навыки остаются на низком уровне. Преобладают традиционные методы обучения, что ограничивает активное участие учащихся и применение экологических знаний в реальной жизни.

Исследование показывает, что интерактивные методы обучения, проектная деятельность и интеграция экологического содержания в различные предметы значительно повышают экологическую компетентность учащихся. Полученные результаты подчеркивают необходимость модернизации экологического образования и формирования экологически ответственного будущего поколения.

Ключевые слова: экологическое образование, экологическая компетентность, школа, интерактивное обучение, устойчивое развитие

Introduction

In the 21st century, environmental issues have become one of the most critical global challenges. Rapid industrialization, urbanization, and population growth have led to serious ecological problems that directly affect human life and natural ecosystems. In this context, environmental education plays a crucial role in shaping environmentally responsible behavior among young generations.

Secondary schools are considered the primary institutions where ecological awareness and attitudes are formed. However, in many educational systems, environmental education is still taught in a theoretical and fragmented manner. Students often memorize ecological concepts without fully understanding their practical importance.

Therefore, improving environmental education requires not only updating curricula but also implementing modern pedagogical approaches that encourage active learning, critical thinking, and real-life problem solving.

The main aim of this study is to analyze the current problems in environmental education in general secondary schools and propose effective solutions based on experimental teaching practices.

Methods

This research was conducted in a general secondary school setting with the participation of 5th and 6th-grade students.

Research design

A mixed-method approach was used, combining quantitative and qualitative methods: Surveys (to assess ecological knowledge, attitude, and skills) Classroom observations, Experimental teaching intervention

Procedure-The study was conducted in three stages:

Initial stage (diagnostic phase):

Students completed a questionnaire assessing ecological knowledge, attitudes, and practical skills.

Intervention stage:

The experimental group was taught using:

Interactive discussions

Group work

Project-based tasks (e.g., waste sorting, school environment observation)

Real-life ecological problem analysis

Final stage (evaluation):

Post-tests were conducted to measure changes in students' ecological competence.

Results and Discussion - The analysis of the collected data revealed significant differences between the initial and final stages.

Initial findings

At the beginning of the study: ecological knowledge: moderate level, ecological attitude: weak motivation toward environmental protection, practical skills: very low level

Students mainly associated environmental education with textbook information rather than real-life application.

Identified problems

The research identified several key issues:

- Dominance of traditional lecture-based teaching
- Lack of practical ecological activities
- Insufficient integration of environmental topics into other subjects
- Limited student participation in environmental problem-solving
- Weak connection between theory and real-life environmental issues

Post-intervention results

After applying interactive teaching methods - ecological knowledge increased significantly, students showed higher interest in environmental protection, practical skills improved through project activities, group discussions increased critical thinking and engagement.

Overall improvement was especially visible in the experimental group compared to the control group.

Discussion

The findings confirm that environmental education becomes more effective when students are actively involved in learning processes. Project-based learning

allows students to connect theoretical knowledge with real environmental issues such as waste management, water conservation, and biodiversity protection.

Interactive methods also increase students' motivation and responsibility toward nature. These results are consistent with international studies emphasizing experiential learning in environmental education.

Conclusion

The study demonstrates that environmental education in secondary schools still faces significant challenges, mainly due to traditional teaching approaches and lack of practical activities. However, the implementation of interactive and project-based learning methods significantly improves students' ecological knowledge, attitudes, and practical skills. Therefore, it is recommended to:

- Integrate environmental topics across different subjects
- Increase practical ecological activities in schools
- Use student-centered teaching approaches
- Develop long-term environmental projects in school settings

Strengthening environmental education will contribute to forming environmentally responsible and socially active future citizens.

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