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FUNCTIONAL LITERACY COMPETENCIES AND METHODS FOR THEIR DEVELOPMENT IN FUTURE TEACHERS

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Abstract: This article analyzes functional literacy competencies and the methods and content for developing them in future teachers. In modern educational processes, it is crucial to form students' ability to apply their knowledge in real-life situations. The article also discusses the main directions for developing functional literacy, integrated educational approaches, and the effectiveness of interactive methods. The role of teachers in fostering functional literacy is emphasized, highlighting the importance of utilizing modern teaching methods. The research results demonstrate the impact of functional literacy on students' personal, social, and cultural development.

Keywords: Functional literacy, teaching methodology, competencies, teacher, integrated approach, interactive methods, 21st-century education, PISA, TIMSS, modern education.

Purpose of the article: The aim of this article is to explore the essence of functional literacy competencies and analyze methods for developing them in future teachers. It highlights the importance of improving students' ability to apply knowledge in real-life situations within modern educational processes. Additionally, it examines the effectiveness of integrated educational approaches and interactive methods, along with analyzing teachers' roles and responsibilities in this process.

Introduction: In today's rapidly evolving world shaped by technological advancements and globalization, the education system is continuously being updated. The primary goal of 21st-century education is not just to acquire knowledge but to develop the ability to apply that knowledge in practical situations. In this process, forming functional literacy—enhancing students' ability not only to read and write but also to apply their knowledge in problem-solving and practical activities—is of paramount importance. Functional literacy not only helps students apply their knowledge and skills in practice but also prepares them to become active and independent members of society [4].

Key foundations for developing functional literacy in educationOne of the main directions in developing functional literacy is teaching students







to use their knowledge to solve real-life problems. This, in turn, ensures that students grasp not only mathematical and scientific knowledge but also social, economic, and cultural literacy. For example, international studies such as PISA and TIMSS assess students' functional literacy by evaluating their ability to apply knowledge and adapt to new situations. Therefore, the process of developing functional literacy in education should not only focus on acquiring knowledge but also on learning to apply it in different contexts [1].

Integrated approaches: innovations in education.

One of the most effective approaches in developing functional literacy is the application of integrated teaching methods. For instance, integrating natural sciences enables students to connect subjects such as chemistry, biology, physics, and geography, allowing them to apply their knowledge collectively in solving real-world problems. Through this approach, students not only acquire knowledge in isolated subjects but also develop the ability to integrate them, broadening their worldview and encouraging creative and analytical thinking [3].

Additionally, interactive teaching methods such as role-playing games, discussions, and group work play a significant role. These methods help students develop essential social skills, including argumentation, collaboration, and effective communication. Role-playing exercises allow students to immerse themselves in various situations, participating in solving social and economic issues, thus enhancing their problem-solving abilities [5].

Modern educational demands and development.

The primary objective of modern education is to help students understand and adapt to the complexities of contemporary life. Developing the necessary competencies for successful participation in society in the 21st century is crucial. Functional literacy ensures that students not only apply their knowledge practically but also actively engage in social, economic, and political processes, express their opinions clearly, and approach societal issues critically.

The role of teachers in fostering functional literacy is of utmost importance. Teachers should not only impart knowledge but also cultivate independent thinking, problem-solving skills, and a passion for learning. By employing modern teaching methodologies, teachers can expand students' knowledge and help them apply it effectively in real-life scenarios. This process supports students' personal development, social integration, and cultural adaptation.

Practical results of the study:





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- Effective methods for developing functional literacy competencies in future teachers are identified.
- The impact of integrated approaches and interactive methods on enhancing functional literacy in the educational process is analyzed.
- The extent to which teachers utilize modern teaching methods and their influence on students is studied.
- Innovative pedagogical methods aimed at improving students' functional literacy levels are developed.
- Factors influencing students' formation as active and independent members of society are determined.

Research Methodology:

This study focuses on analyzing the process of developing functional literacy competencies and determining methodologies for their formation in future teachers. The research employs the following methodological approaches:

Theoretical analysis – Reviewing pedagogical and psychological sources to define the concept of functional literacy, its role in the educational process, and its developmental stages.

Empirical research – Conducting surveys, interviews, and observations among teachers and students to study practical experiences in developing functional literacy.

Experimental approach – Testing innovative methods to enhance functional literacy among future teachers and assessing their effectiveness.

Comparative analysis – Examining best practices in functional literacy development based on international studies (PISA, TIMSS) and comparing them with national education systems.

Statistical analysis – Processing experimental and survey results to develop recommendations based on the findings [7].

Conclusion:

One of the main objectives of modern education is to develop functional literacy among students. This process aims to enhance students' ability to apply knowledge in real-life situations, solve problems, and actively participate in social and political processes. Integrated approaches, interactive methods, and the role of teachers all contribute to increasing students' functional literacy. This process not only improves students' knowledge and skills but also prepares them to be active and effective individuals in social, economic, and cultural spheres.









References:

- 1. I.E.Shernazarov, D.E.Avci, A.Yu.Iskandarov, M.U.Tilyabov, M.F.Yakubova. Kimyoda fanlararo integratsiya. "DIMAL" MCHJ nashriyoti bosmaxonasida chop etildi. (darslik) Toshkent-2024 (199-b).
- 2. Lobarkhan K., Shernazarov I., Maksudjon T., Dilrabo E., Nazokat S. Methodology of using international assessment programs in developing the scientific literacy of future teachers. TheSecond Pamir Transboundary Conference for Sustainable Societies -2023/Pamir 2023. Spast Abstracts, 2(02). Dec 12, 2023
- 3. Tilyabov M. Oʻquvchilarda funksional savodxonlikni rivojlantirish metodikasini takomillashtirish // Amaliy va tabiiy fanlarni oʻqitishning dolzarb muammolari: muammo, yechim va yutuqlari" mavzusidagi Respublika ilmiyamaliy anjuman materiallari 10-11 oktabr 2023 yil. 192-196 bet.
- 4. Shernazarov I. E., Tilyabov M. U. Preparation for International Assessment Research by Forming Types of Functional Literacy in Future Chemistry Teachers// Web of Technology. Volume 1, Issue 7, October 2023
- 5. M.U.Tilyabov, I.E.Shernazarov. Preparation for International Assessment Research by Forming Types of Functional Literacynin Future Chemistry Teachers. Web of Technology: Multidimensional Research Journal. Volumel-1, Issue 7, October, 2023. 49-53.
- 6. I.E.Shernazarov, M.U.Tilyabov. Boʻlajak kimyo oʻqituvchilarning funksional savodxonligini rivojlantirish metodikasini takomillashtirish. Mirzo Ulugʻbek nomidagi Oʻzbekiston Milliy universiteti ilmiy jurnali 2024, [1/9] Issn 2181-7324 184-187 bet.
- 7. Tilyabov M. (2025). Innovative methods for developing functional literacy in teaching students to think independently. Science and Innovation in the Education System, 4(2), 5–8.