

# METHODS OF FORMATION OF FUNCTIONAL LITERACY COMPETENCIES AMONG STUDENTS OF SECONDARY SCHOOLS

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## Abstract

It is a pedagogical process aimed at developing the skills of forming functional literacy competencies, encouraging students to delve deeper into the world of nature and science, expanding the scope of thinking and creating knowledge that meets the needs of modern society. This process is undoubtedly important at all levels of education and helps students to acquire basic skills and competencies necessary for life. In this article, the formation of functional literacy competences is a pedagogical process aimed at developing the ability to acquire knowledge in the field of natural sciences and science. includes. In order to build such literacy, it is important to integrate and focus on practice in the design of curricula, the selection of teaching methods and the provision of teaching materials.

**Keywords:** PISA, TIMSS, PIRLS, functional literacy, competence, integration

## INTRODUCTION

Integration of natural sciences can be seen in subjects like physics, chemistry, biology, and geography. Therefore, when developing functional literacy, we, as chemistry, biology, physics, and geography teachers, should temporarily forget about our specific subject areas. Order No. PF-5538 of the President of the Republic of Uzbekistan, dated September 5, 2018, regarding additional measures to improve the national education system, specifically clause 5, mandates the participation of secondary school students in international programs and research related to assessing student achievement (PISA, TIMSS, PIRLS, etc.). In 2018, from September 10 to 12, under the "Developing Pre-school and Secondary Education" project, jointly implemented by the Ministry of Public Education and the World Bank, a seminar titled "Technology for Creating Tasks in Line with International Standards and State Educational Standards for Assessing Students' Knowledge," was held at the National Information Technologies Development Center in the Ministry of Public Education. An international trainer, Mark Zelman, a testing specialist, took part in the seminar.

In today's world, functional literacy is not just a collection of information; it encompasses problem-solving, analytical thinking, innovation, and teamwork skills. These skills are crucial drivers of socio-economic development and play a key role in addressing global challenges.

## METHODOLOGY

Developing functional literacy in students is linked to the teacher's professional competence, which in turn depends on their understanding of the concepts of "competency" and "competence." The "Explanatory Dictionary of the Uzbek Language" defines competency as the scope of authority, responsibilities or powers of a particular government body or official

specified in formal documents; the level of a person's awareness and understanding in a specific field [1].

Competency (from Latin "competo" – to attain, be worthy, fit) is:

1) the scope of legal rights, duties and responsibilities of a specific government body (local self-governing body) or official as defined by the law, charter, or other documents;

2) knowledge and experience in a particular field [2].

The State Educational Standard for Secondary Education, approved by Order No. 187 of the Council of Ministers of 6 April 2017, defines competency as the ability to apply existing knowledge, skills, and abilities in daily activities [3].

N.A. Muslimov defines competence as the acquisition of knowledge, skills, and abilities essential for the personal and social significance of professional activity and their application in this activity [4].

A.X. Mahmudov defines competence as integrated qualities inherent in an individual that enable effective professional activity in constantly evolving conditions [5].

Competency-encompasses the combined sociological and linguistic norms, principles, requirements, rules, duties and obligations, as well as personal deontological standards necessary for a particular profession. Competence is related to a person's practical activities and represents the skill of demonstrating competency standards in practical work based on creativity and societal demands [6]

In developing functional literacy competencies, the first step is understanding and defining functional literacy competencies themselves. This involves understanding the goals and objectives based on the requirements of a specific profession and organization. This approach to literacy highlights areas such as teamwork, communication, chemistry, digital skills, and more.

The next step is identifying and organizing the necessary educational and training resources for developing successful literacy competencies. These resources include training materials, practical exercises, professional experience, formal curricula, online learning resources, interactive digital textbooks, and tutoring services. Various learning methods, procedures, and technologies can also be utilized in the process of developing literacy competencies.

Prioritizing the application and development of ten literacy competencies in practice is crucial. This should involve explaining the languages and methods, possibly through discussions, announcements to students, and mentoring programs. Such initiatives could provide support in addressing work-related issues, community improvement projects, food security, leisure time management, establishing legal frameworks for accessing resources and instructions, and resolving other similar issues.

Subsequently, a system of monitoring and evaluation tools is needed to assess and track the progress of developing literacy competencies. This includes demonstrating achievement of goals and objectives; identifying how to develop aspects of skills in the field, self-analysis; identifying key issues and solutions; evaluating results; and using databases and software tools to achieve designated objectives.

Finally, a solid plan and strategies for consolidating learned knowledge and skills are necessary in this ongoing process of developing competencies. This includes establishing comprehensive learning programs for students, ensuring service agreements, monitoring



service quality and nurturing enthusiasm, improving service delivery by relevant teams, upgrading the monitoring system, navigating the job market, and selecting quality employees.

Currently, the lack of diversity in the textbook creation system leads to monopolies in their production and publication, negatively impacting the content, methodology, and quality of these publications.

Despite the fact that state education standards are based on a competency-based approach, teaching and assessment methods, as well as textbooks and other learning materials, are primarily focused on memorization and information presentation, which hinders the development of critical thinking, independent information seeking and analysis, and other skills.

It's crucial to improve the quality of textbooks currently in use, and to introduce foreign educational materials as supplementary or alternative learning resources [7].

Developing functional literacy competencies requires a well-structured process, employing effective teaching and learning methods, monitoring and evaluation tools, and a plan for continuous improvement. These approaches are essential for effectively developing and maintaining high levels of functional literacy competencies. The following steps are suggested for developing functional literacy competencies:

1. **Explanation and Critical Assimilation:** Understand the competencies, how they develop, and how they are assimilated. Critically analyze the characteristics, skills, and developmental stages involved [8].

2. **Preparation of Explanatory and Instructional Materials:** Develop learning materials, including lessons, programs, and articles [9].

3. **Curriculum Implementation:** Design learning programs tailored to competency development and guide students in navigating them.

4. **Monitoring and Evaluation:** Track, evaluate, and highlight students' competency development.

5. **Active Listening and Communication:** Foster students' understanding and communication skills related to competencies through mentoring.

6. **Teaching Approaches:** Employ effective teaching approaches and methodologies to achieve optimal results.

7. **Open Dialogue:** Engage in open communication with students, supporting their competency development [10-11].

8. **Activities and Research:** Integrate activities and research aimed at achieving defined goals for competency development.

9. **Monitoring Development:** Track and highlight students' progress throughout the competency development process.

10. **Additional Resources and Updates:** Introduce updates through new applications, resources, and technologies to equip students with these competencies [11].

11. **Establishing a Robust Learning System:** Define and emphasize the learning system's role in developing students' competencies.

12. **Patience and Effectiveness:** Emphasize the importance of patience and effectiveness in developing functional literacy competencies. Help students achieve productivity and mastery in the stages of learning and assimilation [12].

## ANALYSIS AND RESULTS



In developing functional literacy competencies, it is essential to focus on students' ability to apply their knowledge practically. This ensures students can use their knowledge in real-life situations and solve problems encountered during the learning process.

Evaluation methods should accurately reflect students' comprehension levels and problem-solving capabilities. This can be achieved through student projects, research, and presentations, in addition to traditional tests, showcasing their achievements [13].

## DISCUSSION

Practical application is fundamental to developing functional literacy skills. Hands-on activities like laboratory work, experiments, and direct observation of natural phenomena ensure that theoretical knowledge is applied in practice. For example, information gained from biology can be directly tested through observations in botanical gardens or by studying the environment [14].

The evaluation process should reflect students' thinking processes and their ability to apply knowledge. This process should not be limited to traditional exams or tests, but should also include portfolios, student self-assessment, collaborative projects, and oral presentations.

Teachers require continuous professional development. Teachers need to regularly learn modern pedagogical methods, new teaching materials, and technologies, and be able to adapt to the individual needs of their students. Furthermore, it's crucial for teachers to encourage students' interests and broaden their scientific perspectives [15].

## CONCLUSION

Developing functional literacy skills prepares students to make sound decisions not just within a particular subject, but also in a wide range of life situations. This process should be integrated throughout all levels of education, focusing on developing students' thinking, observation skills, and problem-solving abilities at every stage. Teaching methods should empower students as active participants, encourage independent learning, and motivate creative application of new knowledge.

Consequently, developing functional literacy skills is a crucial component of student preparation, as these skills determine their future ability to effectively address social, environmental, and economic challenges. The education system, educators, and curriculum design must be capable of preparing students not only for the present, but also for future life situations.

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