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Functional Literacy And Mechanisms For Developing Critical And Creative Thinking In Children

Mirzaliyeva Gulhayo Abdulazizovna
Basic doctoral student at Namangan State University, Uzbekistan

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Abstract: The article explores the role of functional literacy in fostering critical and creative thinking among students. Drawing on international studies and local practices, it analyzes mechanisms for developing independent reasoning, problem-solving, and creative approaches.

Keywords: Functional literacy, critical thinking, creative thinking, primary education, cognitive competencies, creativity, problem situations, PISA, metacognition, innovative education, creative approach.

Introduction: Functional literacy refers not only to the acquisition of knowledge but also to the ability to apply it in real-life situations, solve problems independently, and participate effectively in social activities. Therefore, in modern pedagogy, functional literacy is interpreted in close connection with critical and creative thinking. As noted in UNESCO and OECD documents, among the competencies of the 21st century, critical thinking, creative approaches, and problem-solving skills occupy a central place.

The results of PISA studies show that in countries that achieve high outcomes, students' functional literacy is closely linked to the development of critical and creative thinking. For example, in the education systems of Singapore, Estonia, and Finland, problem-based tasks, project work, and creative approaches play a central role in the daily learning process of students.

The period of primary education is considered the most crucial stage for the formation of critical and creative thinking. At this age, children have broad imagination, a high interest in learning, and—when guided by the right teaching methods—can be directed toward independent thinking. The role of the teacher as a facilitator, guide, and motivator is of particular importance in this process.

In Uzbekistan as well, in recent years, the development of critical and creative thinking has been identified as a priority direction in education policy. The national curriculum is increasingly incorporating creative assignments, problem-based situations, and project-based tasks. At the same time, interactive methods that allow students to freely express their own ideas are being widely applied. Thus, functional literacy, in its close interrelation with critical and creative thinking, serves as an effective tool for fostering independent thinking, problem-solving, and innovative approaches among students. This article is aimed at analyzing these mechanisms from both theoretical and practical perspectives.

METHODS

The methodology of this research was based on theoretical analysis, a comparative-pedagogical approach, and practical observation. The main sources included UNESCO and OECD documents, in particular the Education 2030 Framework for Action and the OECD Learning Compass 2030, which outline competencies in critical and creative thinking. The results of PISA-2018 and PISA-2022 were analyzed, and the experiences of high-achieving countries (Singapore, Estonia, Finland) were compared in terms of mechanisms for developing critical and creative thinking.

As national sources, the Uzbekistan National Curriculum, the Law "On Education," as well as methodological recommendations developed by the Ministry of Public Education were examined in relation to practices of fostering critical thinking and creative approaches among students. The scientific works of local scholars (Muslimov, Toshboeva, Rustamova, and others) on functional literacy and cognitive competencies were also analyzed.

The following methods were employed: content analysis – to study the content of international and national documents and scientific literature; comparative analysis – to compare strategies for developing critical and creative thinking in different countries; and practical observation – to generalize experiences of developing critical and creative thinking in primary school through phonetic games, project-based activities, and problem-based tasks. These methods made it possible to scientifically determine the interrelation between functional literacy and critical as well as creative thinking.

Literature Review

The concept of functional literacy has occupied a central place in international education policy over the past decades. It encompasses not only traditional skills such as reading, writing, and arithmetic but also the ability to apply knowledge in real-life situations. In this process, critical and creative thinking play a special role. A functionally literate student is not only able to assimilate existing information but also to analyze it, ask questions, find solutions in problematic situations, and generate new ideas. As noted in the literature, the very core of 21st-century competencies is critical and creative thinking.

UNESCO's Education 2030: Incheon Declaration and Framework for Action emphasizes that critical thinking, creative approaches, and innovative thinking are integral components of the Sustainable Development Goals. According to UNESCO, learners should not only acquire knowledge but also apply it in solving real problems, critically evaluate various sources, and develop new solutions. In the OECD's Learning Compass 2030 model, creativity and critical thinking are identified as global competencies. It is stressed that modern education should shape the individual not only as knowledgeable but also as someone capable of solving problems creatively and participating actively in society. The results of PISA-2018 and PISA-2022 further demonstrate that high-performing countries pay special attention to the development of students' critical thinking and creative approaches.

Singapore's experience. In the Singaporean education system, critical and creative thinking is developed through a competency-based approach. Schools widely use problem-based tasks, project work, and collaborative research. As a result, Singaporean students achieve high outcomes in PISA studies.

Estonia's experience. Within the framework of its Lifelong Learning Strategy 2014–2020, Estonia identified the development of creative thinking in students as a priority objective. In Estonian schools, problem-based tasks and interdisciplinary projects are widely implemented with the support of digital technologies.

Finland's experience. Finland's education system is considered one of the world's most successful models for fostering critical and creative thinking. In Finnish schools, students are seen as active participants in the learning process; they are trained to make independent decisions in problematic situations and to evaluate different perspectives.

Russian pedagogical traditions have long paid special attention to the development of critical thinking in the learning process. Vygotsky, in his socio-cultural theory of education, emphasized that knowledge is formed through social activity and highlighted the need to create problem situations to develop children's thinking processes. Davydov, in turn, revealed the developmental potential of learning activities and proposed forming critical thinking on the basis of generalized knowledge.

Local scholars such as Muslimov, Toshboeva, Rustamova, and Pirimov define critical and creative thinking as inseparable components in the development of functional literacy. Their studies emphasize that creative games, phonetic exercises, problem-based tasks, and project activities are effective tools for fostering critical and creative thinking in primary school.

The primary school period is considered the most favorable stage for the development of critical and creative thinking. At this stage, children have vivid imaginations, are inclined to experiment, to ask questions, and to show interest in problematic situations. Therefore, teachers should make wide use of interactive methods in the learning process—such as role-playing, solving problem situations, creative writing exercises, and group projects.

The analysis of the literature shows that there are several challenges in the process of developing critical and creative thinking: teachers' methodological preparation is often insufficient; textbooks contain too few problem-based situations and creative tasks; the traditional assessment system tends to measure reproductive knowledge more than it evaluates creative thinking; and parents are not sufficiently involved in their children's creative activities.

The review further indicates that functional literacy, critical thinking, and creative thinking are complementary concepts. Critical thinking ensures the ability to analyze knowledge, ask questions, and solve problem situations, while creative thinking serves to generate new ideas, find alternative solutions, and develop innovative approaches. Functional literacy, in turn, represents the integration of these processes as

the ultimate outcome of the educational process.

DISCUSSION

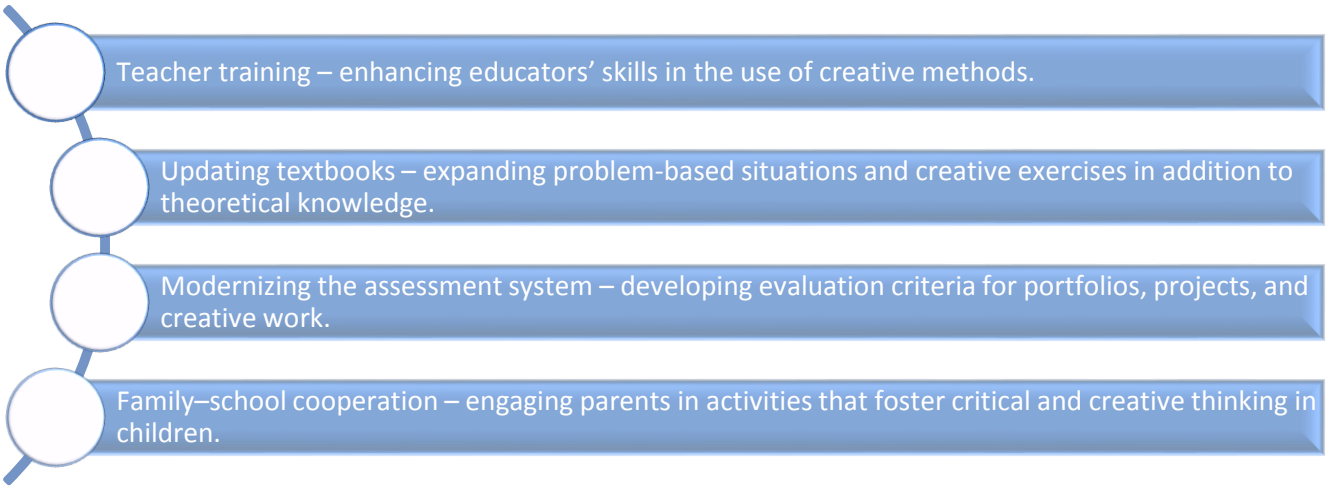
In modern education, functional literacy is understood as a broad competence that reflects students' ability to apply knowledge in everyday life situations. Critical and creative thinking hold a special place within it. Functional literacy involves not only the acquisition of knowledge but also the ability to analyze, evaluate, and effectively apply it in new contexts. From this perspective, analyzing the mechanisms for developing critical and creative thinking in the formation of functional literacy is of pressing importance.

Critical thinking develops students' conscious attitude toward knowledge, enabling them not merely to memorize but to analyze, justify logically, and adapt their knowledge to problem situations. According to Vygotsky's socio-cultural theory, a child acquires knowledge through active engagement in the social environment. Therefore, during the learning process, the student must encounter problem situations, ask questions, and have the opportunity to substantiate their own ideas. PISA studies also confirm that in high-performing countries, student assignments not only test theoretical knowledge but also require solving problems through critical thinking. For example, in Singapore and Estonia, the tasks given to students are based on modeling real-life situations, where it is necessary to analyze information, compare alternative solutions, and choose the most appropriate one.

Creative thinking is regarded as the innovative component of functional literacy. It is characterized by the learner's ability to generate new ideas on the basis of existing knowledge, apply unconventional approaches to problems, and produce creative outcomes. UNESCO and OECD documents identify creative thinking among the key global competencies, emphasizing that students should be encouraged to find new solutions within the learning process. Project-based activities, dramatization, phonetic games, visual tasks, and interdisciplinary integration play an important role in developing creative thinking. In Finland, for example, primary school students reinforce their knowledge during lessons through creative writing exercises, artistic representation of problem situations, or by creating new products. In primary education, the following mechanisms are considered effective for fostering critical and creative thinking: problem-based learning – open-ended questions are posed during lessons, encouraging students to engage in independent inquiry; creative games – phonetic and linguistic games help develop language and speech activity on the basis of creative approaches; interdisciplinary projects – integrating subjects such as mathematics, native language, and natural science teaches students to apply knowledge across different contexts. Reflection and discussion – students are involved in defending their opinions, evaluating alternative perspectives, and reaching a collective decision.

In Uzbekistan's education system as well, steps are being taken toward the development of critical and creative thinking. Creative assignments and problem-based situations are being incorporated into the national curriculum. However, a number of challenges remain: teachers' methodological preparation is insufficient, and many educators are unable to effectively organize tasks aimed at developing critical and creative thinking; textbooks are more focused on theoretical knowledge, with too few problem-based tasks and creative exercises; and the assessment system is largely oriented toward testing students' memorization abilities, while the opportunities to measure levels of critical and creative thinking are limited.

To address these challenges, the following strategies are proposed:



DISCUSSION

The discussion has shown that functional literacy is closely interconnected with critical and creative thinking, enabling students to apply knowledge effectively in real-life situations. Critical thinking develops the ability to analyze and justify knowledge, while creative thinking makes it possible to generate new ideas and solve problems in unconventional ways. Uzbekistan's education policy is taking significant steps in this direction; however, greater achievements can be obtained through effective use of international experience, improved teacher training, and the enhancement of assessment systems.

CONCLUSION

Functional literacy, as one of the most important outcomes of today's educational process, is directly linked with critical and creative thinking. The analysis of literature and international experience demonstrates that mere memorization or reproduction of knowledge is no longer sufficient. A student must be able to analyze knowledge, adapt it to real-life situations, create new ideas, and find unconventional solutions to problems. Therefore, functional literacy is formed through the integration of critical and creative thinking competencies.

International studies and the experiences of Estonia, Singapore, and Finland show that when the development of critical and creative thinking is systematically introduced from primary school, students' overall competencies increase significantly.

In Uzbekistan's education policy, considerable attention is also being paid to this direction. The national curriculum has incorporated more problem-based tasks, creative exercises, and project activities. However, certain challenges remain: teachers' methodological preparation is insufficient, the assessment system still emphasizes reproductive knowledge, and mechanisms for evaluating creative and critical thinking skills are underdeveloped.

Thus, functional literacy is fully manifested through critical and creative thinking. In order to form students as independent, creative, responsible individuals with global competencies, it is essential to introduce new methodological approaches for teachers, modernize textbooks, and strengthen family–school cooperation.

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