

METHODS OF DEVELOPING CRITICAL THINKING SKILLS IN PRIMARY SCHOOL STUDENTS (ON THE EXAMPLE OF READING LITERACY IN GRADES 3–4)

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Abstract: The development of critical thinking skills in primary school students is one of the key tasks of modern education. This study explores effective methods for fostering critical thinking among 3rd–4th grade students within the framework of reading literacy lessons. The research emphasizes the role of interactive and student-centered methods that encourage analytical reasoning, independent judgment, and reflective learning. Various strategies such as “The Pyramid of Ideas,” “INSERT,” “Brainstorming,” “Cluster,” and “Debate” were applied to strengthen students’ abilities to analyze texts, identify main ideas, and express their viewpoints logically. Comparative analysis between control and experimental groups demonstrated that the implementation of these methods increased students’ learning motivation and improved their comprehension and reasoning skills. The results confirm that integrating critical thinking methods into reading literacy lessons significantly enhances students’ cognitive, linguistic, and communicative competencies.

Keywords: critical thinking, reading literacy, primary education, analytical skills, interactive methods, independent learning, reflective thinking, communication competence, 3rd–4th grades, modern pedagogy.

In the context of global educational reforms, the development of critical and analytical thinking in students has become one of the central goals of primary education. The ability to reason logically, evaluate information objectively, and make evidence-based decisions is considered a crucial life skill for the 21st century. In Uzbekistan, the modernization of general secondary education emphasizes the formation of independent and creative thinkers from an early age.

Reading literacy lessons in grades 3–4 provide vast opportunities to shape these skills, as they engage students in understanding, interpreting, and evaluating textual information. However, traditional teaching methods often limit learners to memorization and reproduction of content rather than critical engagement with texts. Therefore, the introduction of critical thinking methodologies into reading lessons serves as an effective tool to enhance comprehension, encourage independent thought, and develop communication competence.

This research aims to identify and experimentally test the methods that contribute to the formation of critical thinking skills among primary school students. The study’s novelty lies in the integration of interactive strategies into reading literacy lessons, combining analytical and communicative approaches to foster intellectual independence in learners.

The research employed comparative, descriptive, and experimental methods. Data were collected through classroom observations, teacher interviews, and student performance assessments. Materials for analysis included reading texts from the official 3rd–4th grade curriculum, Uzbek folklore, literary works, and authentic classroom discussions.

The following methods were implemented:

- **“The Pyramid of Ideas”** – students identified key ideas in a text and arranged them logically, promoting synthesis and analysis.
- **“INSERT”** – learners marked known, new, and surprising information while reading, which improved active reading and comprehension.

- **“Brainstorming” and “Debate”** – encouraged collaborative reasoning, argumentation, and evaluation of diverse perspectives.
- **“Cluster Mapping”** – visualized relationships between concepts, enhancing analytical and organizational thinking.

Two groups of students were observed: the **control group**, which studied through traditional methods, and the **experimental group**, which used critical thinking strategies. Statistical comparisons of student performance were made to assess the effectiveness of the applied methods.

The analysis revealed a significant difference between the two groups. Students in the experimental group demonstrated higher levels of comprehension, analysis, and reasoning abilities. Approximately 78% of students could independently identify the main idea of a text, and 72% were able to support their opinions with arguments. In contrast, the control group showed results of 46% and 39%, respectively.

These findings are consistent with the theoretical frameworks proposed by J. Dewey, D. Halpern, and R. Ennis, who emphasized that critical thinking develops through active engagement, questioning, and reflection rather than passive memorization. In line with these theories, Uzbek scholars such as A. Ergasheva and M. Abdurahmonova have also noted that reading lessons play a crucial role in cultivating independent thought among learners.

Moreover, the integration of critical thinking strategies not only improved students' academic performance but also enhanced their communication, cooperation, and ethical interaction during discussions. Students became more confident in expressing their viewpoints and more respectful toward alternative opinions. The results confirm that the use of critical thinking methods transforms the learning process from a teacher-centered to a student-centered model, stimulating curiosity, inquiry, and intellectual autonomy.

The findings of this study highlight that developing critical thinking in primary education is an essential factor in ensuring quality learning outcomes. The integration of analytical, interactive, and reflective teaching methods into reading literacy lessons increases student motivation, comprehension, and creativity.

Implementing methods such as “Pyramid of Ideas,” “INSERT,” “Brainstorming,” and “Cluster Mapping” fosters logical reasoning, independent problem-solving, and communicative competence. These strategies help students not only understand the meaning of a text but also relate it to real-life experiences and draw well-founded conclusions.

In conclusion, the formation of critical thinking skills among primary school students should be viewed as a long-term pedagogical process that shapes intellectually active, socially responsible, and adaptable individuals. Incorporating critical thinking into the curriculum is therefore one of the key priorities of modern Uzbek education.

The experimental work conducted within the framework of this study provided valuable empirical evidence of how critical thinking methods influence students' learning outcomes in primary education. The data obtained during classroom observations, diagnostic tests, and teacher interviews revealed clear differences between the experimental and control groups in terms of reading comprehension, analytical reasoning, and communicative behavior.

At the beginning of the experiment, both groups of students demonstrated approximately equal levels of reading comprehension and text analysis. However, by the end of the term, substantial improvement was observed among students who were taught using critical thinking methods.

- In the **experimental group**, **78%** of students successfully identified the main idea and supporting arguments in the texts, while only **46%** of the control group achieved similar results.

- 72% of the experimental group were able to express independent judgments and justify them logically, compared to 39% in the control group.
- Furthermore, 81% of students in the experimental group showed increased participation in classroom discussions and demonstrated greater curiosity during reading tasks.

These data confirm that the systematic integration of analytical and interactive methods enhances the depth of students' comprehension and promotes higher-order thinking processes.

Qualitative analysis of classroom behavior indicated significant transformations in the cognitive and emotional engagement of learners. In the experimental group, students became noticeably more active during discussions, asked clarifying questions, and often proposed alternative interpretations of the texts. They developed the ability to:

- Distinguish between factual information and personal opinion;
- Formulate hypotheses based on textual evidence;
- Evaluate the credibility of different viewpoints;
- Express agreement or disagreement in a respectful and reasoned manner.

Teachers also noted improved discipline and attention in the experimental group, as the interactive methods required each student's participation and responsibility in the collective learning process. In contrast, students from the control group tended to rely more on rote memorization and passive listening, with limited evidence of analytical reflection.

The obtained results align with the theoretical principles of **J. Dewey**, who viewed education as an active process of inquiry rather than passive reception of knowledge. Similarly, **R. Ennis** and **D. Halpern** emphasized that critical thinking involves interpretation, analysis, inference, and evaluation—skills that can and should be taught systematically at an early age.

The experiment also corroborates national pedagogical research in Uzbekistan. Scholars such as **A. Ergasheva**, **M. Abdurahmonova**, and **D. Mamatqulova** have shown that the use of questioning strategies, debates, and reflective activities in reading literacy lessons contributes to deeper comprehension and moral reasoning.

Among the applied methods, several proved particularly effective:

- **“INSERT”** encouraged students to interact with the text dynamically. By marking known, new, and surprising information, learners developed meta-cognitive awareness and learned to monitor their understanding.
- **“Pyramid of Ideas”** enabled students to structure their thoughts logically, moving from general concepts to specific details. This enhanced summarization skills and the ability to synthesize ideas.
- **“Brainstorming”** and **“Debate”** stimulated creative and argumentative thinking, promoting confidence in public speaking and tolerance for differing perspectives.
- **“Cluster Mapping”** facilitated visual representation of key concepts, helping students recognize relationships and hierarchies among ideas.

These methods not only improved comprehension but also fostered teamwork, collaboration, and problem-solving—skills recognized as central components of 21st-century education.

The study also revealed that the development of critical thinking contributes to the overall intellectual growth and emotional maturity of young learners. Students who engaged in reflective dialogue became more self-confident and less afraid of making mistakes. They learned to view errors as opportunities for deeper understanding, rather than as failures.

This transformation reflects a shift from a **teacher-centered** paradigm to a **learner-centered** one, where the student is seen as an active participant in knowledge construction. Such an environment nurtures intrinsic motivation and a sense of ownership over learning outcomes.

Indicators	Control Group	Experimental Group	Improvement
Identification of main ideas	46%	78%	+32%

Indicators	Control Group	Experimental Group	Improvement
Logical justification of opinions	39%	72%	+33%
Active participation in discussions	52%	81%	+29%
Independent thinking skills	43%	74%	+31%

These quantitative and qualitative findings clearly indicate that the application of critical thinking methodologies in reading literacy lessons leads to measurable improvement in both cognitive and communicative domains.

The results demonstrate that fostering critical thinking from the early stages of education ensures long-term benefits for learners. Students who acquire the habit of questioning, analyzing, and evaluating are more likely to succeed in higher grades and in real-life problem-solving situations. Practically, this study offers teachers a set of adaptable strategies that can be integrated into existing curricula without radical restructuring. It highlights the importance of continuous teacher training in modern pedagogical technologies and suggests that reflective teaching should become an essential component of primary education in Uzbekistan.

In conclusion, the findings validate the hypothesis that critical thinking can be effectively nurtured through reading literacy lessons in grades 3–4. The applied methods not only develop analytical reasoning but also cultivate empathy, collaboration, and communicative competence. These outcomes correspond to the broader educational goal of forming an independent, creative, and socially responsible generation capable of navigating the complexities of contemporary life.