



DEVELOPING INFORMATION VERIFICATION AND EVIDENCE-BASED CONCLUSION SKILLS AMONG PRIMARY SCHOOL STUDENTS

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Abstract. The development of information and communication technologies has considerably expanded the volume and diversity of information available to children. Primary school students encounter information through textbooks, electronic educational resources, websites, videos, social networks, and other digital platforms. Therefore, the ability to verify information, evaluate its reliability, identify relevant evidence, and draw well-grounded conclusions is becoming an increasingly important component of contemporary primary education. This thesis discusses methodological approaches to developing information verification and evidence-based conclusion skills among primary school students. Particular attention is paid to comparative analysis, problem-based learning, questioning techniques, source evaluation, discussion, and practical tasks. The systematic application of these methods can contribute to the development of students' critical thinking, analytical abilities, information literacy, independent reasoning, and ability to justify their opinions with evidence.

Keywords: primary education, information verification, evidence-based reasoning, critical thinking, information literacy, analytical thinking, conclusion, teaching methodology, primary school students.

Introduction. The modern educational environment is characterized by the rapid expansion of information resources and digital technologies. Children have access to a wide range of information from different sources, including educational websites, electronic textbooks, video materials, social networks, and online platforms. While this creates new opportunities for learning, it also increases the importance of teaching students to evaluate the reliability and relevance of the information they encounter.

Information literacy is not limited to the ability to find or receive information. A learner should also be able to understand the content of information, identify its source, compare different pieces of information, recognize evidence, and formulate an appropriate conclusion. These abilities are closely connected with critical thinking and analytical reasoning.

Primary school represents a particularly important stage for developing these skills. At this age, children gradually develop the ability to compare, classify, establish relationships between facts, ask questions, express opinions, and explain their reasoning. Therefore, methodological work aimed at developing information verification and evidence-based reasoning should begin at the primary education level.



Theoretical and Methodological Foundations. The development of critical thinking and independent reasoning has received considerable attention in international educational research. Critical thinking is generally associated with the ability to analyze information, evaluate arguments, identify evidence, and reach reasonable judgments. From this perspective, information verification and evidence-based conclusion-making should be considered interconnected learning processes.

The methodological principle proposed in this study can be represented as follows:
Information → Verification → Evidence → Analysis → Conclusion
At the first stage, students identify and understand the information. At the second stage, they examine its reliability. At the third stage, they identify evidence supporting or contradicting a statement. At the fourth stage, they analyze the evidence. Finally, they formulate a conclusion based on the available information.

This sequence is particularly appropriate for primary education because it can be implemented through simple texts, illustrations, tables, diagrams, questions, and practical classroom situations.

The Importance of Information Verification Skills. Information verification involves the ability to determine whether information is accurate, relevant, complete, and supported by evidence. Primary school students should gradually learn that information presented in different sources may vary and that conclusions should not always be made immediately.

For example, a teacher may provide students with two short texts describing the same natural phenomenon. Students can be asked to identify the information that is common to both texts, determine the differences, and explain which statement is supported by stronger evidence. Such activities encourage students to move from passive information reception to active information analysis.

Methodological Approaches to Developing Information Verification Skills. Comparative Analysis. Comparative analysis is one of the most accessible methods for primary school students. Learners can compare two texts, pictures, statements, tables, or descriptions of the same phenomenon.

- The teacher can ask:
- What information is the same?
- What information is different?
- Which statement is supported by facts?
- What evidence helped you make your decision?

Through these activities, students learn to examine information systematically.

Problem-Based Learning. Problem-based learning creates situations in which students must independently analyze information and make decisions. For example, students can be presented with two different explanations of the same event and asked:

- “Which explanation do you consider more convincing?”



- What evidence supports your answer?”

The important point is that students are encouraged not simply to provide an answer but to explain the reasoning behind it.

Question-Based Learning. Questions are an important methodological instrument for developing critical thinking. The teacher can gradually introduce questions such as:

- Where did this information come from?
- What evidence supports this statement?
- Can this information be confirmed?
- Is there another possible explanation?
- Why do you think this conclusion is correct?

Regular use of such questions helps students develop a habit of examining information before accepting it.

Evidence-Based Conclusion-Making. One of the central objectives of the methodology is to teach students to connect conclusions with evidence. A useful classroom model is:

Claim → Evidence → Reasoning → Conclusion

For instance, students may be given the statement: “Reading books improves children’s knowledge.” Rather than simply accepting or rejecting the statement, students can be asked to identify evidence that supports it.

They may use information from a provided text, classroom observations, examples, or other materials. The teacher then guides them toward distinguishing between a personal opinion and a conclusion supported by evidence.

This approach develops students’ ability to explain why they have reached a particular conclusion.

Practical Tasks. The methodology can be implemented through a variety of practical tasks:

Task	Educational purpose
Comparing two texts	Developing analytical comparison
“Fact or opinion?” activity	Distinguishing facts from personal views
Source-checking task	Developing information verification
Evidence identification	Recognizing supporting information
Problem-based question	Developing independent reasoning
Group discussion	Comparing different viewpoints
Conclusion writing	Developing evidence-based reasoning
Table and diagram analysis	Interpreting structured information

These activities can be adapted to different subjects and students’ age-related characteristics.



The Role of the Teacher. The teacher has a central role in creating an educational environment where students are encouraged to ask questions, investigate information, and justify their answers.

Instead of immediately correcting an incorrect answer, the teacher can ask:

“What makes you think so?”

“Where can we find evidence for your answer?”

“Can you prove your conclusion using the information provided?”

This approach changes the teacher’s role from simply providing ready-made answers to guiding students toward independent reasoning.

Digital Information Literacy. The development of digital technologies makes information verification especially relevant. Primary school students may encounter information online that is incomplete, inaccurate, or presented without a clear source. Therefore, basic digital information literacy should be introduced gradually. Students can learn simple principles such as checking the source, comparing information, distinguishing facts from opinions, and asking a teacher or adult when they are uncertain. The objective is not to make children distrust information but to teach them to approach information thoughtfully and responsibly.

Relevance to Uzbek Primary Education. The development of independent thinking, intellectual abilities, and modern competencies is also an important direction of primary education in Uzbekistan. National pedagogical research emphasizes the importance of active learning, student-centered approaches, innovative educational technologies, and the development of learners’ independent cognitive activity.

In this context, information verification and evidence-based reasoning can be integrated into reading comprehension, mother tongue education, natural sciences, mathematics, and other primary school subjects. For Uzbek primary school students, methodological tasks should also take into account national educational values, students’ age characteristics, linguistic abilities, and the content of national curricula.

Expected Educational Outcomes. The systematic implementation of the proposed methodology can contribute to the development of the following competencies:

1. identifying relevant information;
2. understanding and interpreting information;
3. comparing information from different sources;
4. distinguishing facts from opinions;
5. identifying evidence;
6. evaluating the reliability of information;
7. formulating logical conclusions;
8. explaining and justifying personal opinions;
9. participating constructively in discussions;



10. approaching digital information critically and responsibly.

These competencies can support students' academic development across different subjects and provide a foundation for lifelong learning.

CONCLUSION. Developing information verification and evidence-based conclusion skills among primary school students is an important task of contemporary education. The increasing volume of information available to children requires educational practice to move beyond the simple transmission of knowledge and focus on students' ability to analyze, evaluate, interpret, and use information responsibly.

Comparative analysis, problem-based learning, questioning techniques, source evaluation, evidence identification, collaborative discussion, and practical tasks can create favorable conditions for developing students' critical and analytical thinking.

The methodological model "Information → Verification → Evidence → Analysis → Conclusion" provides a clear framework for organizing learning activities aimed at developing these competencies.

Consequently, systematic development of information verification and evidence-based reasoning from the primary school level can help learners become more independent, responsible, and critically minded participants in the modern information society.

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