TOOLS AND METHODS FOR DEVELOPING STUDENTS' LOGICAL THINKING SKILLS IN THE EDUCATIONAL PROCESS

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Abstract:
This article describes the means and methods of developing students' logical thinking skills in the process of learning their native language. In particular, it is argued that the main tools are mobile applications, virtual libraries and native language textbooks. The possibilities of using methods such as anogram, pictogram, and five-minute essay in the process of teaching a native language are also highlighted.

Keywords: etymological analysis, mobile applications, virtual libraries, native language textbooks, anogram, icon, five-minute essay, method.

Introduction

The following tools play a significant role in developing students' logical thinking skills:

Mobile Applications. The term "Mobile App" refers to software developed for platforms such as iOS, Android, and Windows Phone, designed to work on smartphones, tablets, and other mobile devices. This term has been in use since 2007. Mobile applications are especially convenient for young people, particularly students. They are primarily created for mobile phone use. Today, numerous mobile applications have been developed by programmers and researchers to assist students in language learning, using dictionaries, solving educational tests, and engaging with interactive exercises.

Virtual Libraries. Virtual libraries are useful and essential electronic libraries available on the internet. Similar to traditional libraries, virtual libraries allow students to search for all types of books. Students can access these libraries at any time and from any place. Virtual libraries provide students with the ability to download rare works, dictionaries, and textbooks. Additionally, there are no time restrictions, and users can access them as long as needed. The data in virtual libraries are systematically organized, like in regular libraries, and periodically updated.

The number of Uzbek-language electronic books has significantly increased. Besides books, students can find historical collections, images, and data. Such historical resources naturally spark student interest, especially with their unique terms and names. In such cases, students immediately refer to electronic dictionaries to find answers to their questions.

Native Language Textbooks. Native language textbooks serve as didactic tools developed for native language instruction. They explain concepts in a scientific manner and follow a systematic and sequential curriculum. Native language textbooks not only fulfill educational

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tasks but also foster students' logical thinking, creative abilities, linguistic competence, and literacy.

Students often encounter unfamiliar historical words, phrases, and idioms in native language textbooks, encouraging them to conduct further research and use etymological dictionaries. Poems, proverbs, and ghazals presented in textbooks also contain challenging words that require deeper exploration of their origins.

Effective Methods for Developing Logical Thinking. Based on experimental research, the following methods have proven effective in developing students' logical thinking skills through etymological analysis:

"Anagram" Method. The term "Anagram" comes from the Greek words ανα (again) and γράμμα (letter, writing). This artistic method rearranges the letters or sounds of a word to form new words or phrases.

Advantages of the Anagram Method:

Encourages students to rely on memory;

Activates logical thinking and cognitive operations;

Promotes peer competition and independent exploration;

Improves dictionary usage and reading skills.

Implementation:

Write several words on the board;

Students rearrange the letters to form new words;

Reward students who create the most words.

Examples:

Chaqna → qancha → chanqa → ancha

Idora → doira → iroda → radio → diora

Fakt → kaft

Hadis → sihad

"Pictogram" Method. This method was introduced in 1935 by L.V. Zankov as a psychological research tool. It can also be applied in native language lessons to enhance students' logical thinking and memory.

Objective: To reinforce the connection between words and images, developing logical thinking and memory.

Implementation:

Students are given a word or concept to remember;

They draw a picture or diagram based on the word;

In the following lesson, students recall the word or concept by looking at their drawing.

Outcomes: Students' drawings can be classified into:

Abstract images;

Specific images;

Narrative images;

Metaphorical images;

Symbol-based images.

"Five-Minute Essay" Method

This method enhances students' writing skills and logical thinking. It is often used at the end of a lesson or unit.

Advantages: Develops written literacy, attentiveness, and logical thinking.

Objective: To consolidate and summarize students' understanding of the topic.

Implementation:

Students write what they learned about the topic;

They write any questions they still have;

The teacher collects these questions and answers them in subsequent lessons.

Proposed "Junior Researcher" Program

As part of this study, the "Junior Researcher" program is proposed, which serves the following objectives:

Deepen understanding of word meanings and their evolution;

Identify synonyms and antonyms of words;

Recognize logical relationships, origins, and historical developments of words;

Foster critical thinking skills and correct word interpretation based on context.

Conclusion

Developing students' logical thinking skills through etymological analysis is a pedagogical process that enables students to express their ideas clearly, understand various word properties, and cultivate observational and cognitive abilities. This process also improves their vocabulary, dictionary usage, and quick thinking while deepening their awareness of words' evolution.

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