

Theoretical and Methodological Basis of Steam Approach in Mother Language Education

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Abstract: This article examines the theoretical and methodological foundations of using the STEAM (Science, Technology, Engineering, Arts, and Mathematics) approach in primary school native language lessons. It also analyzes the issues of developing students' logical thinking and creative competencies through the integration of native language lessons with other - subjects using the example of a 4th grade textbook.

Keywords: STEAM education, native language, integration, primary education, innovative approach, methodology, creative thinking, interdisciplinary connection.

Introduction: The priority task of today's education system is not only to provide students with theoretical knowledge, but also to form life skills in them. The STEAM approach, popularized in world education experience, plays an important role in the comprehensive development of students' intellectual potential. The use of innovative methods, in particular, interdisciplinary integration, to increase the effectiveness of teaching the native language is an urgent need in the education system of the Republic of Uzbekistan. STEAM (Science, Technology, Engineering, Art, Mathematics) is an educational approach based on teaching these subjects not separately, but as a whole. That is, STEAM is an integrative generalization of science, technology, engineering, art, mathematics, and is one of the educational reforms currently developing. The term STEAM was founded by G. Yakman in the 21st century on the basis of this theory. This theory went through several stages before its emergence. Descartes' ideas of methodological skepticism and rationalism served as the foundation for the modern scientific method. Although it is anachronistic to directly

associate him with the modern term STEM, Descartes is considered one of the philosophical founders of the STEM movement, as he cleansed science of subjective views and placed it within an evidence-based methodological system. Descartes' contemporary Jan Amos Comenius also made a significant contribution to the integration of education. Although he did not use the term STEAM, he laid the foundation for interdisciplinary connections with his idea of "Pansophia" (teaching everything in a common connection). Comenius saw education not as mere theory, but as "preparation for life" and practical experience, which is consistent with the principles of today's STEAM. STEAM is based on the following core principles: Problem-based learning: The student acquires knowledge by solving a real-life problem. Creativity: The student's imagination and aesthetic taste are developed through the Art component.

Practical orientation: Theoretical knowledge is immediately tested in a practical project.

In the learning process, STEAM transforms the student from a passive listener to an active researcher.

The main goal of the mother tongue subject in primary grades is to teach students to read and write literately, as well as to develop their speech, rich vocabulary and logical thinking. According to the national curriculum, communicative competencies are formed in the student through the mother tongue subject. The STEAM approach allows to achieve this goal by connecting language materials (words, sentences, texts) with life situations and technical processes.

Integration of mother tongue lessons (for example, mother tongue + mathematics, mother tongue + art, mother tongue + natural science) ensures the integrity of the student's worldview.

Linguistic integration: When working on a text, analyzing numerical data in it (mathematics) or describing natural phenomena (natural science).

Technological integration: Drawing or making small models to increase vocabulary (engineering and art).

Theoretically, integration in native language lessons serves to maintain the student's interest in science. In our study, the content of topic 29, exercise 117 in the 4th grade textbook "Native Language and Reading Literacy" (2023, part 3) was analyzed. The task is aimed at creating a logical text using counting and ordinal numbers based on a sequence of pictures:

S (Science): Scientific analysis of the stages of development or growth of animals (for example, a butterfly, a bird) in the exercise.

Practice: Representing the life cycle of animals with ordinal numbers such as "first stage", "second stage".

T (Technology): Students use tablets or electronic textbook platforms to search for information about animals. Practice: Sequencing the growth order of animals in the form of digital slides (PPT) or infographics. E (Engineering): Designing a logical algorithm or "growth ladder" model for arranging pictures in ascending order. Practice: Creating a visual scheme (layout) that shows the increase in weight or height of animals. A (Art): Using artistic images, adjectives and aesthetic coloring of pictures when composing a text about animals.

Practice: Increasing the artistic quality of speech through combinations such as "One beautiful butterfly", "The second agile bird". M (Mathematics): Learning the difference between counting numbers

(how many?) and ordinal numbers (how many?) through mathematical grouping and ordering. Practice: Strengthen the skills of counting objects (1, 2, 3...) and writing their place (1st, 2nd...) with numbers and letters.

Introducing the STEAM approach to native language education develops critical thinking and creative problem-solving skills in students. Integrated lessons transform the language learning process from boring grammar rules into a lively, interesting and practical activity. This, in turn, takes the quality of education to a new level.

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