



THE ROLE OF CONCEPTUAL TABLES AND
GRAPHIC ORGANIZERS IN IMPROVING THE
EFFECTIVENESS OF MOTHER TONGUE LESSONS
IN PRIMARY EDUCATION

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ARTICLE INFO:

Received: 06.10.2026

Revised: 07.10.2026

Accepted: 08.10.2026

KEY WORDS:

primary education,
native language,
conceptual table,
graphic organizer,
visualization, interactive
learning, cognitive
activity, independent
thinking, critical
thinking, language
competence,
pedagogical technology.

ABSTRACT

The article explores the scientific and methodological foundations of organizing mother tongue lessons in primary education through the use of conceptual tables and graphic organizers. It analyzes the didactic potential and types of these tools, as well as the pedagogical and psychological factors affecting their effectiveness in the learning process. Particular attention is given to their role in systematizing learning materials, identifying logical connections between linguistic concepts, and developing pupils' cognitive activity, independent, critical, and creative thinking. The article also highlights the methodological potential of using conceptual tables, clusters, Venn diagrams, mind maps, and algorithmic diagrams in mother tongue education.

Improving the quality of teaching and equipping the new generation of teachers with advanced teaching methods and pedagogical technologies is one of the priority tasks facing our national pedagogy. In education, the process is being visualized, innovative ways of expressing knowledge in a systematic and logical way, in particular, the effective use of conceptual tables and graphic organizers is being assumed by the era. On this issue, the President of the Republic of Uzbekistan, Sh.Mirziyoyev emphasizes: "We must now increase our intelligence, intellectual potential, knowledge and experience, and turn these very factors into points of economic growth and resource sources" [1].



Therefore, this article discusses the methodology for developing the competence of future primary school teachers in using conceptual tables and graphic organizers in their native language lessons.

The sharp increase in the volume of scientific knowledge that students and students receive in world educational practice, the limited capacity of human short-term memory, and the lack of time allocated for training have led to the need for graphic organizers and concept maps. Because graphic organizers and concept maps help students break down and visually present various learning materials, saving time and reducing the physical and psychological burden on students. J. In his research on neurobiology, Medina found that the human brain processes visual signals much faster than text, and that visual information is evolutionarily important for survival. According to the scientist, students remember 10% of what they read, 20% of what they hear, and 60–80% of what they see [5]. Distinguished scientist E. Dale admits that presenting or absorbing information based on graphic organizers and concept maps in text + image format has a positive impact on the quality and level of student learning [4; 69].

American psychologist D. Ausubel, as the founder of the idea of graphic organizers, in the 60s of the last century, put forward the theory of logically conscious assimilation of knowledge, proposing the idea of using a schedule, visual tools prepared in advance by the teacher in explaining topics. "Conceptual tables and graphic organizers help students learn by integrating new information into their existing knowledge," writes Ausubel [3; 97].

U.S. psychologist R. E. According to Mayer's "cognitive multimedia educational theory", visual tools are auxiliary didactic tools that apply didactic subject content to presenting information in a manner similar to graphics, pictures, diagrams, charts, drawings, videos, slides [6; 44].

D. Z. According to Tursunov, graphic organizers are tools for visually organizing information through drawings, tables, and diagrams, and they develop students' skills in analyzing, connecting, and independently drawing conclusions from information. They are widely used in interactive teaching methods and stimulate the active learning process and self-education of students [8; 153–155].

F. Qodirova interprets graphic organizers as visual learning tools, emphasizing that they ensure that new knowledge acquired in the native language is assimilated in a logical connection with previous linguistic knowledge [7; 83].

M. O. Abdujapparova "The main purpose of diagrams, tables, and drawings is to facilitate visual memorization of the material. This method of presenting material helps to trace the sequence of development of the topic, to identify the connection between the topic and micro-texts in the text, and to group them according to their specific characteristics, - writes [2; 71].

As you can see, the world and national pedagogical and psychological studies graphic organizer and conceptual tables are formed in the combination of cognitive psychology, design and national pedagogical experience, are a thoroughly scientifically-theoretically grounded-gan



educational tool, providing a deep, systematic and conscious assimilation-resurrection of the acquired knowledge. Therefore, renowned educators and psychologists recognize these tools as important tools for effective learning. We have summarized the views of global and national scholars on graphic organizers and concept maps in the following table (see Table 1).

Table 1

Scientific and theoretical interpretation of graphic organizers and conceptual charts

Scientists	Scientific approach	The main idea	Educational importance
D. Ausubel	Meaningful learning	Pre-organization of knowledge	Systematic acquisition of new knowledge
J. Novak	Concept maps	Visual knowledge modeling	Developing metacognitive skills
J. Bruner	Discovery learning	Opening the knowledge structure	Deep and conscious mastery
L. Vygotsky	Social-constructivism	A psychological weapon	Expanding the zone of proximal development
N. Sayidahmedov	Interactive learning	Visual activity	Developing independent thinking
R. Jo'rayev	Educational content	Modeling	Improving educational efficiency
B. Xodjayev	Pedagogical psychology	Visual thinking	Developing higher cognitive functions

It can be said that the analysis of the table clearly shows the differences and commonalities in the views of scientists from our country and abroad on the use of graphic organizers and concept maps. The most commonly used types of concept maps and graphic organizers in mother tongue lessons, depending on the subject, are as follows:

1. Concept maps are visual representations of the logical connections, hierarchy, and relationships of knowledge and concepts, or they serve as a basis for students to present their knowledge.

2. Mind mapping – branching – is based on branching knowledge and concepts around a central idea related to a specific problem and is based on the goal of encouraging students to think creatively.

3. Venn diagrams are used to compare the similarities and differences between two or more objects within a scientific topic.



4. Clusters – within the subject, they are specialized in forming students' skills in grouping, classifying, and generalizing concepts, images, and ideas on a topic, or in assessing the level of the listed competencies.

5. Algorithm (step) diagrams – serve to illustrate the sequence of cognitive processes.

6. BBB schedule-planning the educational process and students are designed to autumn thinking.

7. Timeline organizers-perform tasks to display historical events or processes in chronological order.

Scientists and practicing teachers recognize the following advantages of graphic organizers:

1. It facilitates the learning process of students, and the visual presentation of educational materials facilitates the understanding process while strengthening their memory.

2. It develops students' critical and logical thinking, forms and improves their skills in finding connections, cause-and-effect relationships, and generalizations between different knowledge, concepts, and terms.

3. Graphic organizers activate students as the main component of interactive teaching, providing an opportunity to save learning time.

4. Provides students with the ability to bring large volumes of educational materials into a short, meaningful and orderly form, systematize and model their acquired knowledge.

5. Conceptual charts and graphic organizers act as a universal tool due to their use in all subjects.

6. Conceptual tables and organizers help to systematize knowledge, express large amounts of information in a concise and clear form, develop critical and analytical thinking in students, integrate subjects, and open the way to independent learning.

In addition, the following types of graphic organizers are distinguished for use in educational purposes:

1. Timelines that represent dates usually help students learn and memorize the sequence of events in chronological order, which is useful for studying historical facts and organizing the components of a topic in a specific order.

2. Two-or multi-column tables clearly show the differences between the topics of the native language subject. For example, distinguishing advantages and disadvantages, pros and cons, differences and similarities, among others, in particular the sections of native language science or the specific lexical and grammatical aspects of each section, serves to provide morphological analysis molds.

3. Hierarchical tables and diagrams are relatively effective in explaining or understanding complex topics. This type of graphic organizer and concept map allows students to consciously visualize and effectively apply the subject of English as a whole system or concept, from its smallest elements to its most complex structures. The graphic organizers being recognized are the direct result of the activities or thinking of educators, and can be used to plan and design



various types of lessons on all topics of linguistics. It is especially useful to use various hierarchical tables and diagrams in interactive methods, especially those used with small groups.

It is worth noting that there are also certain difficulties and problems that arise when using conceptual maps as graphic organizers. According to foreign and domestic experience, graphic organizers have the potential to improve learning outcomes, but their effectiveness depends on their methodological correctness, context-specificity, and teacher competence.

Although there is some practical experience in the conditions of Uzbekistan, comprehensive empirical research is still insufficient. Graphic organizers can be a "pledge of educational effectiveness" if applied purposefully, scientifically substantiated, and with resources. Otherwise, it is also likely that they will not pay off. These are:

1. Most problems arise from the teacher's insufficient methodological training in the use of conceptual tables and graphic organizers, resulting in an incorrectly selected organizer or its inconsistency with the content;
2. The process of preparing them in advance by the teacher is relatively time-consuming, which in turn requires students to spend more time preparing and completing some organizers;
3. Excessive visualization and detailing of educational materials can make it difficult for students to understand and lead to a decrease in motivation;
4. The majority of conceptual tables and graphic organizers are dependent on ICT - technical means, which is manifested in the lack or limited availability of resources when a computer or special programs are required.

Today, graphic organizers have become a powerful tool for integrating knowledge into the educational process in schools and universities. In classes, teachers skillfully use them on interactive whiteboards to demonstrate general ideas or distribute ready-made templates to students. This situation teaches students individual and group collaboration, stimulates their activity, increases the dynamics of assimilation, saves time, and ensures the exchange of ideas and opinions. Professor B. Tokhlyev, M. Shamsiyeva, T. Ziyadova argue that the profound changes in Uzbek teaching methodology have made the use of new teaching and learning technologies a priority that improves students' thinking skills. This solves complex problems, makes discoveries, and creates inventions, all through the power of student thinking. To solve this problem, it is suggested that various graphic organizers be actively used in language lessons [9].

Graphic organizers provide an opportunity to engage students in collaborative activities and develop critical thinking at every stage of the lesson. For example, "Cluster" is a graphic organization of educational materials that highlights linguistic units and graphically arranges them in a specific order based on clusters. Relying on the scientific research of the scientists mentioned above, we formulated our definition of private authorship in relation to the conceptual table and graphic organizers as follows: in native language lessons, a didactic tool



serving to compare and systematize important characters of sound, words, word categories, sentence fragments and various grammatical categories is said to be a conceptual table, it A concept map is an element of pedagogical technology used as an interactive method in the process of teaching a native language, which serves to develop students' analytical and critical thinking, as well as to systematize and consolidate knowledge.

Graphic organizer is a pedagogical tool in native language education aimed at expressing the relationship between grammatical phenomena, text structure and language units in a visual form, which manifests itself as an effective didactic technology in increasing cognitive activity of students, understanding and strengthening language materia. They are a pedagogical tool that serves to present information in the educational process of the mother tongue on the basis of visual modeling, which provides increased cognitive activity of students, identification of inter-conceptual relationships and effective assimilation of educational material, as well as a means of displaying information through a picture, table or diagram, helping students to organize thoughts and view dependencies.

In a lecture, homework presentation, or student presentation, the teacher or student categorizes and organizes the material. The main term of the topic or object is written in the center. We place related ideas in clusters in a certain order. There are typically two types of clusters used: initial and generalizing. A cluster is a method of graphically organizing text, which involves highlighting key information and graphically presenting it as a central image diagram. When working with clusters, students learn to identify semantic units in the text and find keywords, thereby highlighting the main information in the text. Clusters allow students to visualize the entire thinking process while also giving them the opportunity to express their individuality.

When it comes to the benefits of graphic organizers, Urs can be used throughout the curriculum for teaching, learning, and taking notes. They are easy to create and effective for simplifying information. Graphic organizers:

- help you visualize and understand information more easily by breaking down large or complex concepts or ideas into smaller, simpler parts;
- allows students to actively participate in the teaching and learning process;
- helps develop cognitive skills such as mental attack, critical and creative thinking, classification and prioritization, reasoning, etc.;
- helps to update science knowledge and quickly associate them with new information;- stimulates self-learning.

By using graphic organizers to take notes, analyze, conduct research, and more, students can more easily master subject matter.

Analyses of sources show that the use of concept maps and graphic organizers in the educational process expands the possibilities of systematizing educational material, identifying



logical connections, and visual perception of knowledge. These didactic tools increase students' cognitive activity and contribute to the deep and stable assimilation of knowledge.

In today's conditions of globalization and informatization, the need to improve the educational process, develop independent thinking competencies in students, and present educational materials in a visual, systematic, and understandable manner is growing. From this perspective, graphic organizers and concept maps are emerging as effective tools for organizing the educational process based on modern pedagogical approaches. These tools allow for the consistent and unique presentation of educational material, the identification of meaningful and logical connections between topics and sections, and the organization and systematization of acquired knowledge. As a result, the learning activities of students are activated, and a favorable pedagogical environment is created for the development of their independent, logical, and creative thinking skills.

The effectiveness of the application of conceptual tables and graphic organizers directly depends on the set of pedagogic and psychological factors, in which the individual-psychological characteristics of students, cognitive needs, methodological training of the teacher and the level of complexity of the educational content are important. Taking these factors into account ensures optimal results when using graphical tools.

Conclusion

In conclusion, it can be said that conceptual tables and graphic organizers are required by the era to effectively organize the learning process in modern education based on the visual presentation of educational information. The fact that the methodically correct application of these tools enhances the ability of students to master the basics of compulsory and competitive science, to think critically, analyze and evaluate, to draw conclusions has been proven by evidence in the experiment. From a psychological perspective, these tools activate students' perception, memory, attention, and thinking processes, ensuring long-term retention of the knowledge being learned and enhancing learning motivation. In addition, the introduction of conceptual tables and graphic organizers into the educational process requires a scientifically based approach as a pedagogical and psychological problem. The systematic, purposeful, and methodologically sound use of these tools leads to an increase in the quality and effectiveness of education, as well as the development of independent thinking and the competence of students to apply knowledge in practice.

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