



WORKING WITH VISUAL DATA IN HISTORY LESSONS: DEVELOPING CREATIVE THINKING THROUGH THE CREATION OF INFOGRAPHICS AND CLUSTERS

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ABSTRACT

This article examines the importance of developing skills for working with visual data in the process of teaching history to students in the initial stage of general secondary education (grades 7-8). It analyzes the psychological characteristics of students at this age, who are transitioning from concrete-imagistic thinking to abstract reasoning. The article provides practical and methodological recommendations on using infographics and cluster methods as tools for systematizing and creatively mastering large volumes of historical information (dates, events, personalities, cause-and-effect relationships). It substantiates with evidence that these technologies not only increase students' interest in the subject but also play a crucial role in developing their critical and creative thinking skills.

KEYWORDS: History, creative thinking, visualization, infographics, cluster, pedagogical technology, concrete-imagistic thinking, systematic thinking, cause-and-effect relationships.

INTRODUCTION

The global information society sets a task for the education system to arm students not only with a body of knowledge but also with 21st-century skills—critical thinking, creativity, communication, and collaboration. In this regard, the subject of history, which studies complex socio-political processes, interstate relations, and the history of civilizations, has great potential. As the President of the Republic of Uzbekistan Sh.M. Mirziyoyev noted, "...we must create all conditions for our youth to know history well and to have deep and thorough knowledge in this area. It is impossible to build a future without knowing history" [1]. In this process, abandoning traditional memorization methods and introducing innovative approaches that turn the student into an active participant in the lesson is the key to improving the quality of education.

The 7th-8th grades (ages 13-15) correspond to the most active phase of adolescence. At this age, a qualitative change occurs in students' thinking: they now strive to understand not just the description of events, but their causes, consequences, and internal logical connections [2]. However, the large volumes of text, numerous dates, and figures in history textbooks can complicate this process. From this perspective, visually modeling historical information—that is, presenting it through technologies like infographics and clusters—serves as an effective tool for students' deep assimilation of educational material and the development of their creative thinking.

ADABIYOTLAR TAHLILI VA METODLAR The theoretical foundations for using visual methods in history lessons have a deep history. Ideas in this area were first put forward in the "Great Didactic" by the great Czech pedagogue Jan Amos Comenius, who defined the principle of visual

aids as the "golden rule" of education [3]. This means that ensuring the perception of educational material through the sensory organs, especially the eyes, rather than just explaining it with words, is the main condition for educational effectiveness. Therefore, modern methods like infographics and clusters are a manifestation of applying Comenius's classic ideas to our technological age. In modern pedagogy, the "mind mapping" technology, popularized by Tony Buzan, forms the basis of the cluster method and is based on reflecting the thinking process in a natural, associative way [4]. This theory is very important for history lessons because historical events never happen in isolation; they are a chain of interconnected events. The cluster method allows a student to see the causes (technical inventions), conditions (accumulation of capital), and consequences (emergence of new social classes) of a central event (e.g., "the industrial revolution") in the form of a branched diagram, thereby corresponding to the natural working principle of the brain. The role of infographics in education is highlighted in research on information design, particularly in the works of Edward Tufte, who states that it simplifies perception by expressing complex data in a simple and understandable graphic form [5]. Tufte's approach helps to solve one of the main problems encountered in history lessons. For example, studying the course of a war that lasted several decades, its main battles, and the losses of the parties through text is boring and difficult. Infographics can present all of this compactly and engagingly in a single visual image using a timeline, map, and diagrams. Uzbek pedagogical scholars B. Ziyomammedov and M. Tojiyev have developed the theoretical and practical aspects of using interactive methods, including cluster technology, in their works [6]. This shows that clusters and similar visual methods are not just blindly borrowed from abroad, but are effective technologies tested in the educational environment of Uzbekistan and adapted to national textbooks and the psychology of students. Thus, there is a sufficient local scientific-methodological base for teachers to use these methods in their lessons. In conducting this research, while relying on the theories mentioned above, practical methods such as a systematic approach, pedagogical observation, experimentation, and analysis of students' creative works (infographics and clusters) were widely used.

DISCUSSION. In history lessons, visually modeling information, i.e., expressing it in the form of charts and diagrams, yields great results for developing students' creative and analytical thinking. For example, using the cluster method, one can easily construct the cause-and-effect chain of a historical phenomenon. Whereas in a traditional lesson, a student memorizes events as separate facts, a cluster teaches them to see them as an interconnected, holistic system. When studying the "Timurid Renaissance" in the 8th grade, the main concept can be written in the center, with branches extending from it. These branches can be filled with information such as the causes of the rise (centralized state, control of the Silk Road, patronage of Amir Timur), scientific figures (Ulugbek, Ali Qushchi), architectural masterpieces (Gur-i Amir, Registan), stars of literature and art (Navoi, Behzod), and its historical significance (contribution to world civilization). In this process, the student begins to understand how political stability in the empire laid the groundwork for the flourishing of science, which is the basis of historical thinking.

The infographic method is convenient for presenting complex processes in a more dynamic and interesting way. When studying the "Great Geographical Discoveries" in the 7th grade, students can prepare a creative project titled "A Century that Changed the World." In this infographic, the expeditions of explorers like Columbus and Magellan are shown on a chronological timeline.



On the map, the old and new worlds are marked in different colors, and the sailors' routes are indicated with lines. Special pictograms (compass, ship, gold images) are used to reflect the causes of the discoveries (search for new routes, desire for wealth). Most importantly, a "scales" shaped diagram compares the positive (new products, broadening of worldview) and negative (colonialism, decline of local civilizations) consequences of the discoveries [7]. The advantage of this method is that it requires the student to avoid a one-sided assessment of the event. Showing the positive consequences for Europe and the negative ones for the colonized peoples simultaneously through the "scales" diagram forms a critical and objective approach in the student. They learn to understand the complex, contradictory nature of historical events. This is not just conveying information, but an analytical processing of it.

Completing such a task requires the student to synthesize several pages of information from the textbook, select the most important parts, and express them through creative design. This leads to the highest level of information assimilation—the "creation" stage [8]. This approach is based on one of the most important principles of modern pedagogy, Bloom's Taxonomy. According to this taxonomy, knowledge is not just about remembering or understanding. The highest level is to "create" a new intellectual product (infographic, cluster, project) based on the learned information. Thus, the task of creating an infographic transforms the student from a passive consumer of knowledge into an active creator of knowledge and ensures that the learned material is retained much more firmly in their memory.

CONCLUSION. In conclusion, the regular use of visual modeling technologies such as infographics and clusters in 7th-8th grade history lessons has several important advantages for students. These methods help develop the abstract-logical thinking skills characteristic of adolescence. As a result, students learn to perceive historical reality not as a collection of dry facts, but as a system of complex, interconnected processes.

Most importantly, these technologies encourage students to move beyond simply memorizing information to independently analyzing, selecting, systematizing, and, on that basis, creating their own new intellectual product. This unlocks their creative potential, enlivens the lesson process, and significantly strengthens their interest and internal motivation for the subject. Thus, the widespread introduction of these methods into educational practice not only improves the quality of history teaching but also serves to educate a generation that deeply understands its past and possesses independent and critical thinking.

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