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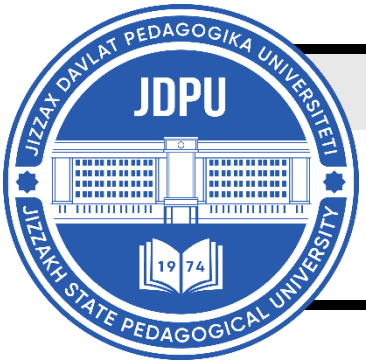
MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL



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METHODOLOGY OF TEACHING THE TOPIC OF MESOPOTAMIAN CIVILIZATIONS BASED ON GOOGLE EARTH

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ABOUT ARTICLE

Key words: Mesopotamia, Google Earth, global citizenship, digital citizenship, International Baccalaureate methodology, Cambridge standards, SDG4, ancient cities.

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Abstract: This methodological article was developed based on the experience of international schools in teaching the topic of “Mesopotamian civilizations” in history using modern digital technologies, in particular, the Google Earth platform, and the requirements of UNESCO, Cambridge, IB (International Baccalaureate). The article is aimed at forming students' competencies in global citizenship, digital citizenship, critical thinking, cartographic literacy, and analysis of historical landscapes in accordance with the principles of high-quality education (SDG4).

Introduction. Mesopotamian civilizations are one of the oldest and most important stages in world history, providing the basis for great achievements in areas such as the first states of humanity, the creation of writing, irrigation systems, urban culture, astronomy and law. The teaching process of this subject in international schools is enriched with more interactive, visual and research-based approaches, encouraging students to independently research, analyze and think in a global context.

Virtual display of Mesopotamian cities through Google Earth technology - analyzing centers such as Ur, Uruk, Babylon, Nineveh, Ashur in 3D - helps students "lively imagine" history.

Purpose of the article

Integrating Google Earth technology into the teaching process of Mesopotamian civilizations; Creating a lesson model based on the experiences of international schools (IB, Cambridge, CIS, UNESCO Associated Schools); SDG4 - developing student competencies in accordance with the principles of high-quality education; Forming global and digital citizenship.

I. Advantages of google earth technology in education

Google Earth is one of the most effective tools for visualizing lessons, viewing real areas, and studying the location of ancient cities on a map.

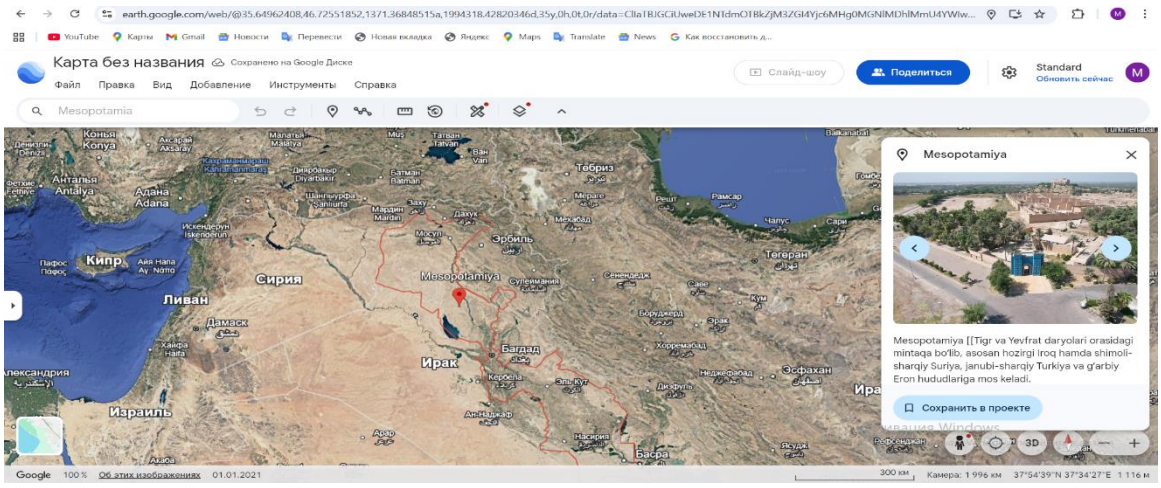
3D models available on the Internet: Reconstruction of the Babylonian Ziggurat; 3D model of the Ur Ziggurat; Location of ancient cities along the Tigris and Euphrates rivers; Reconstructive views of irrigation canals

International schools adhere to the following principles when using technology: 1) Inquiry-Based Learning; 2) Visual Learning; 3) Collaborative learning; 4) Digital Literacy; 5) Global Citizenship Skills

Ii. Methodological approaches to studying mesopotamia through google earth

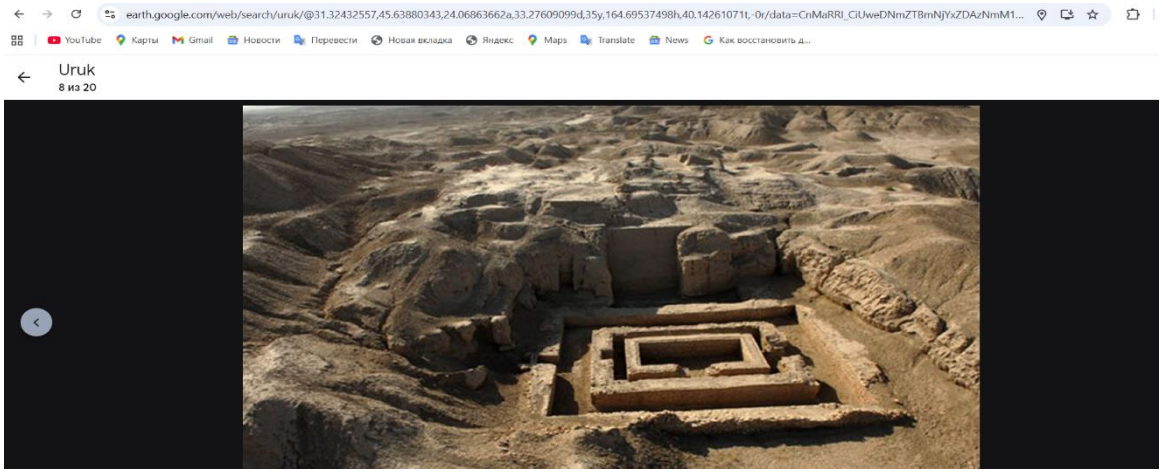
1. Finding and analyzing maps of Mesopotamia

Students will: View an overview of the Mesopotamian region using Google Earth.

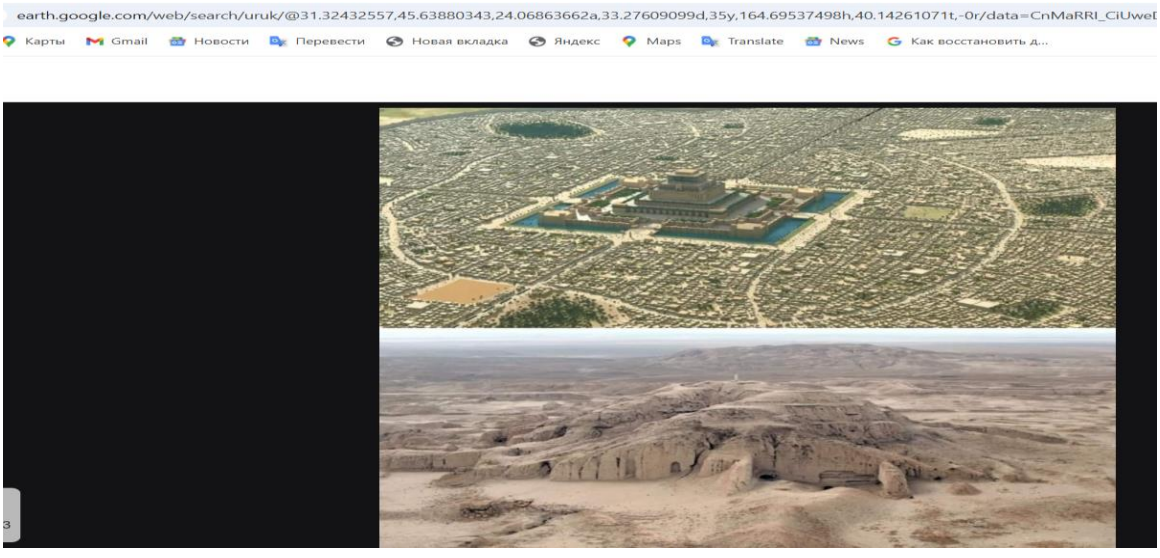


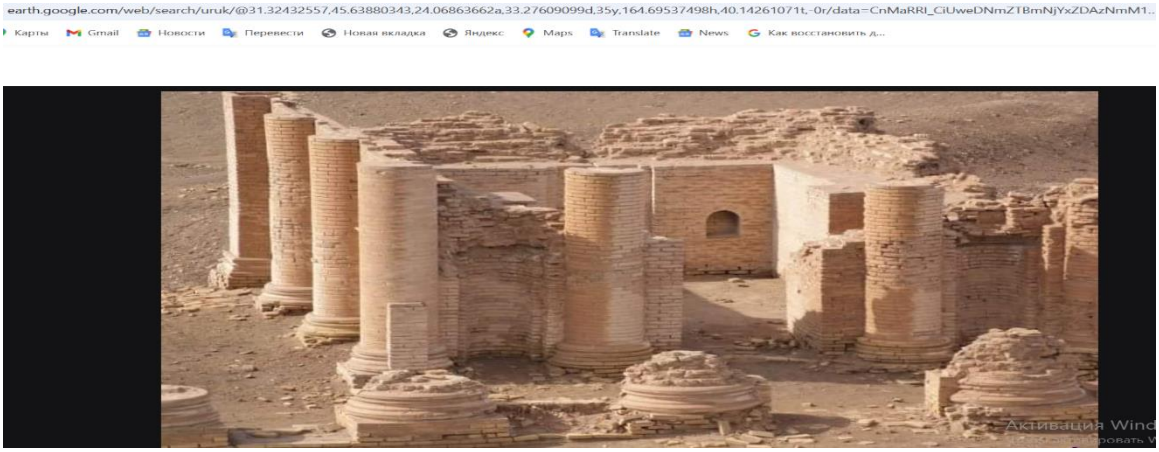
Tracks the flow of the Tigris and Euphrates rivers; Compares distances between cities with a measuring tool; Compares ancient locations with a modern geopolitical map; Explores the cities of Ur and Uruk in depth Analyzes archaeological sites

Through the Google Earth 3D layer: View the current state of the Ur ziggurat; See the differences in ancient and modern relief.



Architecture of Babylon. Students will study: • Reconstruction of the Ishtar Gate ; The perimeter of the ancient city walls; Theories about the possible location of the “Hanging Gardens of Babylon”; Palaces, temples, storage systems ; Ancient trade routes.





Iii. International school experience (ib, cambridge, unesco)

1. IB (International Baccalaureate) Method

The IB methodology requires the following skills in history lessons:

✓ Source Analysis

✓ Critical Thinking

✓ Global Contextualization

✓ Field-Based Exploration

Google Earth fully meets these requirements.

2. Cambridge IGCSE & A-level experience. Cartographic literacy is one of the main indicators in Cambridge programs: Map Skills; Spatial Thinking; Satellite Observation; Location Analysis;

The following competencies are considered important in UNESCO education :

✓ Peace Education

✓ Heritage protection

✓ Intercultural dialogue

✓ Education in line with SDG4 goals

Visualizing ancient heritage through Google Earth - fully consistent with UNESCO guidelines.

IV. LESSON PLAN (45 minutes)

Topic: Mesopotamian civilizations (based on Google Earth) Grade: 6

Lesson type: combined, interactive, research-based

1. Introduction (5 minutes)

• The teacher shows a short video about Mesopotamia.

• Questions and answers: “Why is Mesopotamia called the cradle of mankind?”

2. Main part (working with Google Earth) – 15 minutes Station method:

Station 1 – Geography of Mesopotamia

Station 2 – Location of ancient cities

Station 3 – Irrigation system

Station 4 – Architecture (Zigquards)

3. Group presentation – 15 minutes

Each group will make a 3-minute presentation based on the information received from Google Earth.

4. Conclusion – 5 minutes

• Reflection questions

• Online test (Google Forms), kahoot, bamboozle, blooket.

Adapting the topic of Mesopotamia to high-quality education.

Teaching the Mesopotamian civilization, from the point of view of today's modern educational requirements, allows students to not only provide historical knowledge, but also to develop critical thinking, analysis, digital literacy and intercultural communication skills. The introduction of innovative technologies into the teaching process of this topic increases student activity, helps to deeply understand historical processes, and significantly improves the quality of the educational process.

Aspects of Mesopotamian history such as the complex state system, the emergence of writing, the process of urbanization and legal systems encourage students to independently research, understand abstract concepts and analyze historical sources. A modern approach to the subject through digital simulations, virtual maps, 3D reconstructions, AR/VR technologies, platforms such as Google Earth, LearningApps, Kahoot, Quizizz, Nearpod increases students' interest in the lesson and increases their motivation for science.

Also, the history of Mesopotamia provides ample opportunities for interdisciplinary integration. For example:

History + geography: Tigris and Euphrates river basins, irrigation systems and agricultural processes.

History + literature: The Epic of Gilgamesh, mythology, working with ancient texts.

History + law: Comparison with today's legal systems based on the laws of Hammurabi.

History + technology: Cuneiform writing, early mathematical calculations, astronomical observations of the Sumerians.

This integrative approach allows students to see Mesopotamian history not just as a set of facts, but as a cultural-historical system that has had a huge impact on the development of

humanity. The fact that the teacher forms the student not as a "learner" but as an active researcher in the lesson process is fully consistent with the principles of modern education.

The use of modern technologies, interactive methods and a competency-based approach in teaching the Mesopotamian civilization: ensures the relevance of educational content; develops students' historical thinking; makes the lesson interesting, lively and practically effective; forms students' global and historical worldview.

As a result, the topic of Mesopotamia ensures students' deep knowledge in accordance with the priority areas of modern education - innovation, creativity, competence and digital literacy . 1. Accessible and Inclusive Education (accessible education for every student). 2. Competency-Based Learning (competence-centered education). 3. Technology-Enhanced Learning (technology-enhanced lesson). 4. 21st century skills: Critical thinking; Communication; Digital literacy; Collaboration; Creativity. 5. Sustainable development ideas: The history of water resources use - connecting with modern ecology; Ancient urbanism - integration with modern sustainable cities (SDG11). GLOBAL AND DIGITAL CITIZENSHIP SKILLS. History lessons based on Google Earth:

✓ Appreciating global cultural heritage; ✓ Analyzing digital information; ✓ Online space safety; ✓ Virtual research ethics; ✓ Academic integrity.

Results and discussion. A methodological analysis of the teaching of Mesopotamian civilizations based on Google Earth showed that the integration of digital technologies into history education leads to a significant development of students' interest in the subject, level of understanding and analytical competencies. In particular, this approach fully complies with the requirements proposed by international educational systems - IB, Cambridge, UNESCO Associated Schools.

First, the use of the Google Earth platform enhances students' ability to imagine historical space and time. The opportunity to take a virtual "trip" in 3D to ancient cities located around the Tigris and Euphrates rivers turns students from passive listeners into active researchers. This confirms that the principle of inquiry-based learning in the IB program is effective in practical experience. Second, students analyze the relationship between geographical location, irrigation systems, urban planning and political centers not only in text, but also in a real geographical context. The skills of cartographic literacy, spatial thinking and location analysis, which are important according to the Cambridge IGCSE requirements, are formed at a high level. Thirdly, working with virtual space deepens digital literacy. By working with Google Earth, interactive maps, 3D models, and geodata, students put into practice 21st century skills — critical thinking, collaboration, communication, and creativity. Competencies

such as appreciation of cultural heritage, understanding of multiculturalism, peacekeeping, and developing global awareness, as outlined in UNESCO's Global Citizenship Education concept, are naturally formed. Fourthly, when modern ICT (AR/VR, virtual tours, Geo-Inquiry methods, interactive tests) are used in the lesson process, it was observed that students' motivation increased sharply. In particular, by studying 3D views of the ziggurat of Ur, the Ishtar Gate, and the ruins of Babylon, historical knowledge becomes a "living process." This is fully consistent with the principles of constructivist pedagogy.

Conclusion. The use of modern technologies in teaching Mesopotamian civilizations serves to make the educational process more effective, interesting and learner-centered. Modern ICT tools, digital simulations, 3D reconstructions, interactive maps, multimedia applications, AR/VR technologies allow us to study ancient history not only in an understandable way, but also in a way close to real experience. This helps students develop motivation, interest, and practical understanding of the subject.

First, digital content based on electronic textbooks, video animations, and historical documents allows for a visual understanding of the political structure, culture, writing system, and economic life of the Mesopotamian states — Sumer, Akkad, Babylon, and Assyria. Not limited to traditional text, the student deeply understands the subject by seeing, hearing, and analyzing.

Second, through interactive maps and digital platforms such as Google Earth 3D, the geographical location of the cities along the Tigris and Euphrates rivers — Uruk, Ur, Nippur, Babylon — and the urbanization process are shown in real space. This helps the student draw conclusions through observation on the question “Why was Mesopotamia the cradle of civilization?”

Third, with the help of VR and AR technologies, for example, virtual museums or 3D models, students will have the opportunity to virtually “view” ancient Ziggurats, Hammurabi’s Code, cuneiform inscriptions, temples and city walls. This is an innovative approach that is close to the experience of direct acquaintance with historical objects in the learning process.

Fourth, online quizzes, educational games (Kahoot, Quizizz), WebQuest, project work, group research increase the activity of students, develop their independent research, work with sources, and analysis skills. In particular, analyzing the legal system, social structure or irrigation systems in Mesopotamia in a game form makes the lesson meaningful and memorable.

Fifth, modern technologies are convenient not only for teaching the history of Mesopotamia, but also for organizing the lesson in a competency-oriented manner. Students

will acquire universal skills such as logical thinking, problem-solving, comparison, and inference, along with understanding historical processes.

Teaching Mesopotamian civilizations based on modern technologies increases the content and quality of the lesson, instills in students respect for historical heritage, a full understanding of the importance of ancient civilizations, and strengthens interdisciplinary integration. This approach harmonizes the educational process with modern requirements and significantly expands the level of knowledge, imagination, and thinking of students by bringing the subject of history closer to real life.

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