Annotation
to the dissertation on the topic « Archaeology of the Turkic in the context of teaching the History of Kazakhstan at school» for the degree of Doctor of Philosophy (PhD) in the educational program 8D01601 – History
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Research topic: Archaeology of the Turkic in the context of teaching the History of Kazakhstan at school

The purpose of the study: to develop and scientifically substantiate a methodological model for the introduction of pedagogical archaeology into school history education using the example of studying the archaeological heritage of the ancient Turkic period – stone sculptures, sanctuaries – and to determine its effectiveness in developing students' historical and cultural literacy.

Research objectives:

– Analyze the scientific literature on the topic of "pedagogical archaeology" and determine the degree of its theoretical and practical development;
– Consider approaches to teaching archaeological material in comprehensive schools in Kazakhstan;
– Identify the pedagogical potential of archaeological sites of the Turkic period – stone sculptures, sanctuaries, and burial mounds – in the educational process;
– Develop teaching and methodological materials: elective course programs, a digital application;
– Experimentally test the effectiveness of the proposed methodology;
– Develop methodological recommendations aimed at effectively teaching stone sculptures of the Turkic and Kipchak periods, and supplement existing information in school textbooks to enrich the content with additional materials.values in students based on pedagogical archaeology.

Research methods:

Theoretical methods:

– analysis of scientific, archaeological, historical-pedagogical, and methodological literature on the research problem;
– comparative historical analysis of data on stone sculptures of the Turkic period;
– systematization and generalization of scientific approaches to the study of archaeological heritage in school education;
– modeling the content of elective courses and teaching materials on the archaeology of the Turks;
– content analysis of school history textbooks to determine the extent to which material on stone sculptures is presented.

Empirical methods:

– pedagogical observation of the educational process during the implementation of the developed materials;
– surveying teachers to determine their level of knowledge and interest in the topic;
– conducting a pedagogical experiment (testing the elective course and teaching materials);
– analysis of student learning outcomes (knowledge, interest, engagement);

– organizing and conducting educational archaeological practices (using Otrar and other sites as examples);
– discussions and interviews with educational participants.
Statistical methods:
– quantitative and qualitative analysis of survey results;
– processing of data from the pedagogical experiment (comparison before and after program implementation);
– percentage method for assessing the dynamics of academic achievement;
– graphical interpretation of results (diagrams, tables);
– comparative analysis of the obtained data.
The main provisions proposed for defense (proven scientific hypotheses and other conclusions that are new knowledge):
– Pedagogical archaeology is an effective means of developing historical and cultural knowledge and research compete-ncies in schoolchildren when based on real archaeological sitesmounds, sanctuaries, and stone sculptures from the Turkic period;
– The developed model for the multi-level implementation of pedagogical archaeology in the school process (theoretical, practical, and methodological blocks) ensures the systematic inclusion of archaeological heritage in history teaching;
– The original methodology for studying archaeological sites from the Turkic period promotes the development of cognitive interest, critical thinking, and cultural identity in students in grades 6-7;
– Archaeological modules, practical lessons, and mini-fieldwork, adapted for the school environment, enhance students' research activities and strengthen the practice-oriented nature of history education;
– A digital educational application on stone sculptures, developed as part of the study, is an innovative tool for visualizing archaeological material and expands the educational process;
– The results of the pedagogical experiment confirm the effectiveness of the developed methodology: increased learning motivation, improved source analysis skills, and increased historical knowledge are observed;
– The system of assessment criteria and indicators proposed in the study allows for the objective identification of student achievements and the impact of the archaeological component on the quality of education.
The main results of the study are: A comprehensive analysis of school history textbooks was conducted, revealing an insufficient coverage of stone sculptures and sanctuaries;
– Didactic opportunities for using archaeological material (in particular, stone sculptures) in school history teaching were identified;
– A unique curriculum for an elective course aimed at studying Turkic archaeology in the context of school education was developed and scientifically substantiated;
– A comprehensive pilot study of the unique curriculum and teaching materials was conducted for the first time in general education institutions, confirming their pedagogical effectiveness and enabling the implementation of the developed educational approach in school history education;

– A digital educational application was created to ensure effective learning of the topic;
– An increase in students' knowledge, their cognitive interest, and their motivation for learning about Turkic archaeology was demonstrated;
– The feasibility of including brief information about stone sculptures in school history textbooks was substantiated;
– Practical recommendations for textbook developers and teachers on integrating the archaeological component into the educational process were prepared;
– The research results were implemented in educational practice and received a positive evaluation from the teaching community.

Substantiation of the novelty and significance of the results obtained:

– *novelty of the first result*- an analysis of school textbooks revealed an insufficient presentation of information about stone sculptures. This is the first targeted content analysis of school history textbooks in the Republic of Kazakhstan, focusing on the archaeological material presented on stone sculptures from the Turkic period. The data obtained substantiate the need to adjust the textbooks' content and serve as an evidence base for modernizing history education;
– *the novelty of the second result*- the didactic potential of using stone sculptures in teaching is identified. The didactic functions of stone sculptures as a teaching tool (visual aids, interdisciplinary approach, and the development of historical thinking) are defined and systematized. It expands the theory of history teaching methods by incorporating a new substantive component;
– *novelty of the third result*- a proprietary elective course program has been developed. For the first time, a structured model for an elective course on Turkic archaeology has been proposed, targeting the school level and integrating archaeological knowledge into the educational process. It has been implemented in schools as a ready-made educational product;
– *the novelty of the fourth result is* - for the first time, a comprehensive testing of the original program and teaching and methodological materials was conducted in general education organizations, confirming their pedagogical effectiveness. This allows us to justify the implementation of the developed educational approach into school history education practices;
– *the fifth result is innovative* - digital application (visual guide) for studying stone sculptures from the Bronze, Turkic, and Kipchak periods has been developed and implemented. For the first time, a digital educational solution for studying archaeological objects (stone sculptures) has been proposed within the framework of school history education. It combines elements of visualization, interactivity, and systematized scientific content. The digital application expands the possibilities of history teaching through the use of modern technologies, improves the clarity and accessibility of the material, and promotes the development of students' digital and research competence. It can be used both in the classroom and in extracurricular activities;
– *the novelty of the sixth result* - for the first time, empirical data was obtained and scientifically substantiated, confirming the pedagogical effectiveness of the implementation of the original program and teaching and methodological materials

based on the use of an archaeological component (stone sculptures) in school history education. The approach of pedagogical archeology as an integrative direction combining archaeological knowledge and educational technologies was introduced into scientific circulation and tested, which confirms the necessity of the proposed methodology and its pedagogical value. An increase in the level of students' knowledge, their cognitive interest and academic motivation in studying the topic of Turkic archaeology was established. A comparative analysis of the results before and after history lessons using stone sculptures, implemented within the framework of the pedagogical archeology approach, was conducted, which for the first time made it possible to empirically confirm the effectiveness of integrating archaeological material into school education;

– *the novelty of the seventh result* - practical recommendations for improving the content of school history textbooks have been developed and scientifically substantiated, including a specific, level-by-level plan for introducing material on stone sculptures for grades 5, 6, and 10, taking into account the age characteristics of students, the principles of pedagogical archeology, and the requirements of modern historical education.

Compliance with the directions of science development and government programs. The main areas of research work are the Law of the Republic of Kazakhstan "On Education", state compulsory standards of higher education of the Republic of Kazakhstan, "professional standard of a teacher", the Law of the Republic of Kazakhstan "On the status of a teacher", the Address of the Head of State of the Republic of Kazakhstan Kassym-Jomart Tokayev to the people of Kazakhstan: 2025 "Kazakhstan in the era of artificial intelligence: new horizons", 2026 Year of digitalization and artificial intelligence (AI), as well as issues of pedagogical education in the Republic of Kazakhstan adopted by the state correspond to regulatory documents and state programs.

Description of the doctoral student's contribution to the preparation of each publication (author's contribution to the dissertation is indicated as a percentage of the total text)

Thirteen scientific papers based on the research content have been published, including:

1 article in a Scopus-listed journal (Q1, 80% percentile);

5 articles published in journals approved by the Committee for Quality Assurance in Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan;

5 articles published in the proceedings of an international scientific and practical conference organized in the Republic of Kazakhstan;

1 original elective course program for general education institutions published

a digital educational application developed

1 certificate for testing the digital educational application issued

copyright for the digital application registered

All publications were prepared as a result of the research.

Scientific papers published in scientific journals from the SCOPUS international database:

1.Stone sculptures of Jetisu and Saryarka spatial patterns iconography and the concept of gis-register// Materials on the archeology and history of the ancient and medieval Black Sea region, No 21, 2025 г, - P. 7-22 DOI: 10.53737/2713-2021.2025.83.51.001, Q1 by education, percentile-80, (Contribution of the doctoral student - conducting the research, processing the results, writing the text of the article, 60%; contribution of co-authors: Aliya Manapova - development of the research concept 10%; development of the research methodology Kalibek Assylbekov 10%; language and style editing Nurdaulet Turmakhan 10%; statistical analysis Aibobek Akkaliyeva, Assemgul Kassenova 10%);

Scientific articles published in journals from the list of the Committee for Quality Assurance in Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan:

*2.*Possibilities of transforming methods of teaching history in school curricula using archaeological finds // KazNPU named after Abai, series "History and Political and Social Sciences" series, No 3 (82), 2024. pp. 238-247 Doi:https://doi.org/10.51889/2959-6017.2024.82.3.023 (Doctoral student's contribution: conducting the research, processing the results, writing the article, analyzing the data and editing the article 80%; co-author's contribution: A.D. Kasenova, development of the research concept, coordination of the research methodology 20%);

3. A methodology for using digital technologies in teaching stone sculptures in history lessons at school // Abay atyndagy KAZPU, "History and Political and Social Sciences" series, No. 1(84), 2025, pp.292-304. Doi: https://doi.org/10.51889/2959-6017.2025.84.1.021 (Doctoral student contribution - collecting materials, conducting research, processing results, writing the text of the article, analyzing data and editing the article 80%; co-author contribution: Kasenova A.D. development of the research concept, coordination of the research methodology 20%);

4. Prospects for changing methods of studying history in the school curriculum using the example of archaeological materials // Vestnik ZKU, series "Pedagogy. Philology. History. Ecology. Geography", No.1(97), 2025, pp. 247-258 Doi: https://doi.org/10.37238/2960-1371.2960-138X.2025.97(1).22 (Contribution of the doctoral student - conducting research, processing results, writing the text of the article, analyzing data and editing the article 80%; contribution of co-authors: Tolegenov A. - development of the research concept, methodological coordination of the research 10%, Povolotskaya B.U. - participation in the structuring and editing of the text 10%);

5. Field archeological studies for schoolchildren// National history. Series "History, Ethnology. Archaeology" 2025. No. 4. pp. 1166-1177 Doi: https://doi.org/10.51943/2788-9718_2025_28_4_1166-1176 (Doctoral student's contribution - conducting the research, processing the results, writing the text of the article, analyzing the data and editing the article 80%; contribution of co-authors: Kasenova A.D. - development of the research concept, coordination of the research methodology 10%, Bogenbaeva A.K. - participation in structuring and editing the text 10%);

6. Study of the military-ideological aspect of stone sculptures of the Turkic period // Abay KazNPU, series "History and political science and social sciences", No. 1, 2026, (Contribution to doctoral research - collection of materials, conducting research, processing results, writing text articles, analyzing data and editing articles 80%; contribution of co-author: Kasenova A.D. - development of the research concept, coordination of methodological research 20%);

Publication of materials from the international scientific and practical conference organized in the Republic of Kazakhstan:

7.Reflection of ancient stone sculptures and deer stones of Central Kazakhstan in the school curriculum // III Esik readings. Collection of materials of the International scientific and practical online conference on the topic: "Written monuments of Central Asia (problems of translation and interpretation)" November 22, 2022, pp. 109-111. ISBN 978-601-08-2987-9 (Doctoral student's contribution - collecting materials, conducting research, processing results, writing the text of the article, analyzing data and editing the article 80%; co-author's contribution: Kasenova A.D. development of the research concept, research methods 20%);

8. Methodological recommendations for the study of the Sarayshik settlement using examples of archaeological excavations in the school curriculum// Sarayshik oqulary -2023: Republic of the Republic of Kazakhstan conference materialdary, 2023, pp. 72-80. ISBN 978-601-7090-46-3 (Doctoral student's contribution - collecting materials, conducting research, processing results, writing the text of the article, analyzing data and editing the article 100%);

9. Formation of students' functional literacy in the study of the archeology of the Turkic period using examples of stone sculptures // Collection of materials of the international scientific and practical conference "Ulus Jochi: history, heritage and lessons", 2024, pp. 146-150. ISBN 978-601-7026-42-4 (2) (Doctoral student's contribution - collecting materials, conducting research, processing results, writing the text of the article, analyzing data and editing the article 90%; co-author's contribution: Masimova Kh.T. development of the research concept 10%);

10. Methods of Teaching Archeology in the Context of Studying the Turkic Period Using Stone Sculptures as Examples // V Esik Readings. Proceedings of the International Scientific and Practical Conference "Eurasian Steppe Civilization: Current Problems of Studying, Preserving and Using Historical and Cultural Heritage Monuments" dedicated to the 100th Anniversary of K. Akishev, 2024, pp. 171-177. ISBN 978-9965-23-621-1 (Doctoral student's contribution - collecting materials, conducting research, processing results, writing the text of the article, analyzing data and editing the article 100%);

11. Field school archeology // Sarayshyk Readings-2025, Materials of the Republican Scientific and Practical Conference, 2025, pp. 148-156. ISBN 978-601-08-5111-5 (Doctoral student's contribution - collecting materials, conducting research, processing results, writing the text of the article, analyzing data and editing the article 90%, co-author's contribution: Abdulin A.A. development of the research concept 10%).

12. A certificate for the original elective course program was issued by the Almaty City Center for New Technologies, Department of Education, on the topic of "Archeological Monuments of the Turkic Period" on April 5, 2024, Protocol No. 2.
13. A certificate of approval and testing of a digital educational application was issued by the City Center for New Technologies of the Almaty City Education Department on the topic "Visual Year: Stone Sculptures in Kazakhstan" on October 3, 2025, protocol No. 4.

These publications and teaching aids are related to the content of the dissertation, and according to the results of the research obtained, they are independent works of a doctoral student.

The structure and scope of the work. The dissertation is written according to a standard model and includes: normative references, designations and abbreviations, an introduction, a literature review, an experimental part, experimental results and discussion, a list of references and an appendix.