

Summary

of the thesis titled

“Technology of creating foreign language multimedia educational tutorials based on authentic audio- and video materials (on the example of pre-service foreign language teachers training)”

by Smagulova Gulnur Zhumartovna

submitted for the degree of Doctor of Philosophy (Ph. D.),

in specialty 6D011900 - Foreign language: two foreign languages

The Topicality of the Research. The current level of digitalization of Kazakhstan's education has determined a new stage of its development connected with the widespread application of modern Digital and Multimedia Technologies in the educational process. The impact of technological progress and the expansion of digital space functionality determine one of the prior areas for updating the system of education in the aspect of changing the format, instrumental base, technologies, and the content quality of the entire educational environment of modern Kazakh society, opening new opportunities for social progress.

In the methodical aspect, the digitalization of the Kazakhstani system of education is based on new educational standards based on a competency-based approach. The need for a new technology for creating educational materials, a tool for the effective delivery of content for effective learning becomes one of the priorities under the conditions of digital transformation. In the Strategic Development Plan of the Republic of Kazakhstan until 2025 it is noted that “The rapid development of technology and the growth of the economy dictate the need for new methods of teaching and learning. Educational programs should be aimed at training personnel with specialized industry skills, as well as the skills of creative and innovative solutions of complex problems, the desire for continuous self-improvement and the ability to work in a team”.

The digitalization of education, first, implies the automation of the management of the educational process along with an increase of its subjects' level of digital literacy, the improvement of e-learning and digital educational content. In the context of digitalization, it is important for a modern teacher to be able to effectively use new Information Technologies, while it should be noted that at present, teachers are no longer focused only on using existing software and hardware products, but also on developing their own multimedia materials to solve specific educational and methodical problems and tasks.

The beginning of the system development of digital educational content in the form of electronic textbooks in Kazakhstan was laid in the mid-1990s by the scientific school of Academician of Kazakhstan National Academy of Natural Sciences, Doctor of Pedagogical Sciences, Professor G.K. Nurgalieva. She developed the author's pedagogical modular technology of designing electronic textbooks, having no analogues abroad. Scientific school of Professor G.K. Nurgalieva substantiates the idea that the pedagogical design of electronic textbooks should create an information - educational environment that covers the main

components of the learning process: motivational-targeted; meaningful; operational - activity; achievements assessment and control. This approach ensures the effectiveness of an electronic textbook usage. Electronic textbooks created using this technology implement an autonomous organized information - educational environment that embodies the educational process from its goal to the result.

Since 1995, this technology has been used to develop 489 electronic textbooks confirmed by authors' certificates for all levels of education, including almost every school subject. G.K. Nurgalieva created an authoritative scientific school in the field of informatization of education, uniting about ideas 10 Doctors and 30 Candidates of Pedagogical Sciences whose research were carried out under her scientific supervision. Within the framework of the scientific school, fundamental and aspect scientific - pedagogical research in the field of creating digital educational content and electronic educational resources were developed by Tazhigulova A.I., 2000, Chaklikova A.T., 2002, Bekturganova R.Ch., 2004, Ferho S.I., 2004, Kurmanalina Sh .Kh., 2002, Baktybaev Zh.Sh., 2006, Artykbaeva E.V., 2010, Atabaeva F.K., 2010, etc.

The intensive introduction and use of Information - Communication Technologies in education leads to perspective development of the potential of foreign language education. The processes of informatization of foreign language education provide more effective formation of intercultural communicative competence due to the intensification of the educational process and the integration of the subject area of foreign language education and Information - Communication Technologies.

The vectors of modernization of foreign language education in the Republic of Kazakhstan were also significantly influenced and determined by the works of Doctor of Philological Sciences, Professor S.S. Kunanbayeva, the head of the scientific school of the modernization of foreign language education based on the updated cognitive-lingual-cultural methodology, reflected in her monograph "Modern foreign language education: methodology and theories". Being the Rector of Abylai Khan Kazakh University of International Relations and World Languages, she founded the laboratory of informatization of education, the Institute of informatization of professional education, opened a dissertation council for the defense of dissertations in the field of informatization of education, set the direction for the development of electronic textbooks on the basis of the English Faculty. The development and implementation of electronic textbooks was accompanied by aspect research conducted under her supervision concerning the issues of e-learning organization and evaluation, methods of using electronic educational resources, specifics of vocational training and competencies formation in of education informatization: Sagimbaeva D.E., 1999, Tuselbaeva Zh.A., 2000, Nurmanalieva U.T., 2004, Nurova A.B., 2007 and others.

The specifics of a foreign language as a subject directly determines the nature of the information-subject environment for Foreign Language Teaching process, which is reflected in the fact that its components are focused on imitating an authentic situation of communication and are designed to form learners' idea of a target language culture and to reflect a living spoken foreign language. The

effectiveness of Foreign Language Teaching is significantly increased when implementing the information-subject environment with the help of modern information technologies allowing to design the authenticity of the language environment and ensure the interaction of learners with native speakers. A significant contribution to the design of a foreign language learning environment which is as close to the authentic one as possible, is currently being made by multimedia technologies. At the same time, the subject environment can act as a source of significant foreign language authentic text, audio- and video materials by providing access to electronic resources.

Considering that real communication in foreign language lessons takes place in isolation from the natural language environment, teachers themselves design the information-subject environment for Foreign Language Teaching in compliance with the authenticity principle. In this regard, the problem of the development of multimedia educational tutorials based on authentic audio and video materials as a means of broadcasting the real language and cultural environment of the target country and dynamically representing the realities of a foreign language culture when designing an information-subject learning environment becomes especially relevant.

Until recently, the developers of multimedia educational products engaged in the process have been represented mostly by professional developers - programmers, with the main attention being paid to the technical component of the activity. A number of researchers - Gu X., Wu, B. Pepin, B., Choppin, J., Lantolf, J. P., Thorne, S. note that in this case, when developing e-content technical aspects of creating educational products are becoming predominant, while there is an insufficient number of studies devoted to pedagogical design, that is issues of structure, content, methods of presenting educational materials in an electronic multimedia resource environment, which conditions the leading participation on the part of the teacher in the process of its creation.

The main problem of creating effective multimedia educational tutorials based on authentic audio- and videomaterials is related to the teachers' insufficient readiness for perspective changes in their professional activity in the context of the digital transformation of education. Creating effective multimedia educational tutorials based on authentic audio- and videomaterials is impossible without knowledge of the methodological foundations and principles of their development, considering didactic, methodical, psychological - pedagogical, and technical - technological requirements, as well as mastering the relevant instrumental software tools. In this regard, the search for the ways to increase pre-service foreign language teachers' digital competencies in the field of creating multimedia educational tutorials which ensure the author's position when creating a multimedia educational product in compliance with the requirements of the pedagogical and technological scenarios for its development has currently become relevant.

The review and analysis of scientific literature on the research topic revealed the **following contradictions** between:

- *the need to create relevant digital content for Foreign Language Teaching* in the form of multimedia educational tutorials based on authentic audio- and

videomaterials as a means of transmitting the real language and cultural environment of the target country, which dynamically represent the realities of a foreign language culture when designing an information-subject learning environment, and *a real level of theoretical and practical developments* in the field of Information Technologies providing teachers with the opportunity to independently use software tools to develop foreign language multimedia educational tutorials that implement the didactic capabilities of authentic audio- and videomaterials;

- between *the current practice of pre-service foreign language training* which does not adequately ensure the formation of their relevant skills of creating foreign language multimedia educational tutorials based on authentic audio- and videomaterials, and *the capabilities of modern Information Technologies* that allow them to independently implement the technical support of the process of developing and designing digital multimedia educational resources.

The need to resolve the mentioned above contradictions and search for scientifically justified ways of their solution determined the **problem** of our research, which consists in substantiation of the theoretical foundations of the technology of creating multimedia educational tutorials based on authentic audio- and videomaterials, the application of which will allow pre-service teachers to implement a systemic approach to the creation of author's multimedia educational product from the point of view of Pedagogy, Methods of Teaching, Psychology, Ergonomics to obtain a didactically effective new learning tool.

The insufficient consideration of the mentioned above problem in the pedagogical theory and practice led to the choice of the dissertation topic in the following wording: "Technology of creating foreign language multimedia educational tutorials based on authentic audio- and videomaterials (on the example of pre-service foreign language teachers training)".

The aim of the research is to provide scientific justification and practical elaboration of the technology of creating foreign language multimedia educational tutorials based on authentic audio- and videomaterials.

The object of the research is the process of foreign language pre-service teachers' training based on digital technologies.

The subject of the research is the technology of creating foreign language multimedia educational tutorials based on authentic audio- and videomaterials.

Research hypothesis:

The process of creating foreign language multimedia educational tutorials based on authentic audio- and videomaterials by pre-service teachers to obtain a didactically effective learning tool will be successful, *If*

- the technology of foreign language creating multimedia educational tutorials based on authentic audio- and videomaterials which reflects the interrelated complex of didactic, methodical, psychological-pedagogical, and technical-technological aspects of their development is elaborated,

- and the corresponding methodical system and educational - methodical support of pre-service teachers training in the field of creating given tutorials is designed and implemented,

since

axiological, personality-oriented, competence-based, system-activity, interdisciplinary and interactive approaches to the creation of these tutorials will be implemented, and pre-service foreign language teachers' readiness for their creation will increase to the sufficient (heuristic) and high (professional) levels.

To achieve the aim and confirm the formulated hypothesis, it is necessary to solve the **following tasks**:

1. To analyze and clarify the notion of "multimedia educational tutorial", and determine its essential characteristics;

2. To consider and justify the direction of methodical processing of authentic audio- and videomaterials as the basis of digital educational content of foreign language multimedia educational tutorials;

3. To substantiate the technology of creating multimedia educational tutorials based on authentic audio- and videomaterials;

4. To develop methodical system and educational - methodical support of pre-service foreign language teachers training in the field of creating multimedia educational tutorials based on authentic audio- and videomaterials using the proposed technology;

5. To conduct a pedagogical experiment on implementing the technology of creating multimedia educational tutorials based on authentic audio- and videomaterials into the process of pre-service foreign language teachers training.

To implement the tasks and provide evidence for the research hypothesis, the following **research methods** were applied:

- *theoretical methods*: study and systematic analysis of psychological - pedagogical, scientific, scientific - methodological literature and normative and educational documents; methods of comparison and modelling;

- *empirical methods*: pedagogical observation; interview; conversations; survey; self-assessment method; pedagogical experiment;

- *methods of mathematical statistics*: Student's t-test, Pearson R statistical test (also known as Pearson correlation coefficient or PCC)

Experimental research base. Karaganda University named after E.A. Buketov, Foreign Languages faculty.

The main stages of the research.

The first stage (2017-2018): the analysis of the scientific literature by foreign and domestic authors on the problem of the research was carried out, the current state of scientific - pedagogical studies and technological developments in the field of creating multimedia educational tutorials based on authentic audio- and videomaterials was analyzed, the methodological apparatus of the scientific research was defined.

The second stage (2018-2019): the fundamental principles and didactic, methodological, psychological - pedagogical and technical - technological requirements for creating multimedia educational tutorials based on authentic audio- and videomaterials were identified; the technology of creating multimedia educational tutorials based on authentic audio- and videomaterials was scientifically substantiated; the methodical system and educational - methodical support of pre-service foreign language teachers training in the field of creating multimedia

educational tutorials based on authentic audio- and videomaterials using proposed technology was developed.

The third stage (2019-2020): a pedagogical experiment was conducted to implement the technology of creating multimedia educational tutorials based on authentic audio- and videomaterials into the pre-service foreign language teachers training, the experimental data were processed, theoretical generalization and interpretation of the results of the thesis research were formulated, main conclusions were drawn.

The scientific novelty and theoretical significance of the research consist of:

- determination of the set of principles of creating multimedia educational tutorials based on authentic audio- and videomaterials: general didactic; methodical, conditioned by the specifics of a foreign language as an academic subject; special, related to the specifics of ICT usage, including multimedia technologies;

- identification of didactic, methodological, psychological - pedagogical, and technical - technological requirements for the process of creating multimedia educational tutorials based on authentic audio- and videomaterials at the stages of their design and layout;

- the scientific substantiation of the technology of creating foreign language multimedia educational tutorials based on authentic audio- and videomaterials;

The practical significance of the research consists in developing and implementing of the educational - methodical support of pre-service foreign language teachers training in the field of creating multimedia educational tutorials based on authentic audio- and videomaterials presented by a MOOC on creating foreign language multimedia educational tutorials on the platform of Karaganda University named after E.A. Buketov <https://mook.buketov.edu.kz>. and a corresponding electronic educational tutorial.

The main scientific provisions submitted for the dissertation defense are:

1. "Multimedia educational tutorial" is defined as an electronic educational tool created on the basis of multimedia computer technology, which transmits video, sound, color, graphics, etc. in any combination. This definition does not contradict the term "electronic educational tutorial", which may not be multimedia and use only text processing technology. The former definition complements the term of electronic educational tutorial since a multimedia tutorial is electronic by its nature.

2. The following algorithm of methodical processing of authentic audio- and videomaterials for their further implementation in a multimedia educational tutorial environment is suggested: selection of authentic audio- and videomaterials according to the defined principles and criteria; application of the constructive montage as a way of technical adaptation of authentic audio- and videomaterials; development of a set of exercises accompanying the selected audio- and video episodes.

3. The technology of creating foreign language multimedia educational tutorials based on the authentic audio- and videomaterials is defined in the present research as a system of notions, actions, and procedures, built in accordance with the principles and requirements for the process of their development to obtain

multimedia educational products with specified methodical characteristics. The technology of creating foreign language multimedia educational tutorials includes several backbone components: the purpose of creating a multimedia educational tutorial; planning the structure of a multimedia educational tutorial; development of the structural blocks of a multimedia educational tutorial; layout of a multimedia educational tutorial; approbation and evaluation of a multimedia educational tutorial.

4. The methodical system of pre-service foreign language teachers training in the field of creating multimedia educational tutorials based on authentic audio- and videomaterials consists of interrelated components that ensure, in their unity, the pre-service foreign language teachers' achievement of the sufficient (heuristic) and high (professional) level of readiness for this activity. The proposed methodical system includes normative-target, methodological, substantive, procedural-activity, and resultative-evaluative components. The educational - methodical support of pre-service foreign language teachers training in the field of creating multimedia educational tutorials based on authentic audio- and videomaterials presented by a MOOC on creating foreign language multimedia educational tutorials on the platform of Karaganda University named after E.A. Buketov <https://mook.buketov.edu.kz>. and a corresponding electronic educational tutorial.

5. The implementation of the methodical system based on the proposed technology allowed the majority of pre-service teachers' (more than 60%) to achieve sufficient (heuristic) level of readiness for the creation of foreign language multimedia educational tutorials based on the authentic audio- and videomaterials, to implement axiological, personality-oriented, competence-based, system-activity, interdisciplinary and interactive approaches to developing these tutorials and supply them with a sufficient stock of knowledge, skills and abilities necessary for self-education in this area.

Approbation and implementation of the research results. The results of the research within the framework of the present thesis were reflected in authors' 9 publications: 1 article was published in the edition included in the Scopus database, 4 papers were edited in the scientific journals recommended by the Committee for Quality Assurance in the field of Science and Higher Education in the Ministry of Science and Higher Education of the Republic of Kazakhstan, and 4 ones were published in the materials of international scientific conferences. In addition, an electronic educational tutorial "Fundamentals of developing multimedia educational tutorials based on authentic audio- and videomaterials" (copyright certificate No. 19138 dated 07/01/2021) was published within the scope of the research. The developed electronic educational tutorial was tested during the experimental - pedagogical process on the basis of Foreign Languages Faculty of Karaganda University named after E.A. Buketov. As the part of the dissertation research, a MOOC aimed at developing pre-service and service teachers' skills of creating foreign language multimedia educational tutorials (contract No. 016 of 07.09.2022) was also designed.

The structure and scope of the dissertation. The dissertation consists of an introduction, two chapters, a conclusion, a list of references.

In the introduction the scope, topicality and the methodological apparatus of the scientific research are described.

In Chapter One “Theoretical foundations of creating foreign language multimedia educational tutorials based on authentic audio and videomaterials” the current state of scientific - pedagogical studies and technological approaches referring to the creation of foreign language multimedia educational tutorials are analyzed, the directions of methodological processing and principles of selection of the authentic audio- and videomaterials as the basis of digital media content of the named tutorials are considered; the technology of creating foreign language multimedia educational tutorials based on the authentic audio- and videomaterials is substantiated.

Chapter Two “Experimental process of implementing the technology of creating foreign language multimedia educational tutorials based on authentic audio- and videomaterials into pre-service foreign language teachers training” presents data of the experimental work on training pre-service foreign language teachers for the creation of foreign language multimedia educational tutorials based on authentic audio- and videomaterials using the proposed technology.

The conclusion of the research provides main results and findings of the research.

There are 5 appendices, 11 tables and 22 figures in the research. The list of references includes 316 sources used.