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Mobile Technologies as a Digital Didactic Environment for Teaching French in Secondary Schools: a Regional Aspect

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Abstract

The relevance of the study is due to the need to choose a new strategy for the formation of the content of teaching a foreign language in the conditions of an information society. A special role in the new realities is played by educational and cognitive competence, which determines the modernized content of the methodological component of the content of teaching a foreign language.

The article is devoted to the consideration of the problem of using mobile technologies as a digital didactic environment in the process of teaching French in a secondary school. This formulation of the problem includes such aspects as the study of the format and context of the information society and the digitalization of the educational system as a modernized social order of society for education, the mobile technologies and its essential characteristics as a reflection of the modern content of the methodological component of the teaching, the optimization of the educational process of teaching a foreign language by introducing mobile technologies into the structure of the lesson.

The leading method in the study of this problem was a pedagogical experiment, which made it possible to test the effectiveness of the author's model of introducing digital mobile technologies into the structure of the lesson of a foreign language.

As a result of the analysis, it is concluded that the introduction of mobile technologies in the process of learning the French language according to the author's model, taking into account the determining factors in the optimization of educational and cognitive activities, positively affects both the level of skills and knowledge of implementing digital mobile technologies into the learning process as well as the language and communicative competence of the pupils.

The justification is the fact that such an approach correlates with the changed structure and methods of developing educational and cognitive activities in mastering the subject area of the educational process at the current stage of the development of the information society.

The author's model using digital technologies will contribute to the effective teaching of a foreign language (French) in a secondary school in the aspect of new paradigmatic settings in education.

Key words: information society, digitalization of education, digital technologies, mobile education, foreign language, optimization.

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Introduction

The relevance of the research problem. The rapid development of information and communication technologies served as the basis for the emergence of a new type of modern society of the late 20th century - the information society, in which information is the main instrument of producing economic value of modern societies.

Digitalization is included in the format of informatization as a methodological platform of developing knowledge system in general and in particular subject areas, which determines the transition to this platform of the entire socio-economic system of a society, including education, in particular the process of teaching a foreign language.

In these conditions, there is a change in educational paradigms which in the indicated format and context is defined as competency-based. The determining factor in the transition to a new platform was the change in the value orientations of society, forming a social order for education. If in an industrial society teaching was aimed primarily at social production, then in a post-industrial society the main focus was on self-realization of a person as his value orientations, his personal career (Grigoryan & Lomteva, 2018). It is digital technology in the context of the changing fabric of society in the postmodern stage that allows us to optimize the above process in the learning environment through a method such as mobile learning.

Mobile learning is part of electronic and distance education, as with the help of portable devices it is possible to carry out this activity out the learning format. And this means that mobile learning allows you to gain knowledge without restriction, both in terms of time and locus (Sigov et al., 2000). In addition, it individualizes cognitive activity, by way of individualizing educational needs of a student in terms of his personal orientations and effective ways of carrying out educational and cognitive activities to achieve it.

Mobile technologies from a didactic point of view give a new perspective to the learning potential of traditional technologies by means of flexible (spontaneous, interactive) information exchange, natural character of communication (dialog), hypertext organization of material in multimedia presentation, thus acting as an artificial cognitive system (Omarova, 2018).

Mobile learning allows to use the potential of digital technologies such as independence, analytical and predictive capabilities (Babichev, 2008), in the function of artificial intelligence, which is realized through web-tasks performed through OER (open educational resources - web resources), mobile apps, web platforms exploiting digital technologies (mobile phones) to solve certain tasks at different stages of the lesson. Next under consideration is each of these elements.

A web task is a task posted on a training website, which is accessed through a browser or a specialized mobile application.

A mobile app is software designed as one of a smartphone functions, tablets and other mobile devices.

OER (open educational resources) is a category of electronic educational resources (ESM), which is a training material in web format (training content), published as links to local or global web resources (texts, videos, audio files, tables, charts, maps etc.) (Titova, 2017).

The given versions of mobile educational environment are designed for a different level of knowledge: elementary, intermediate, and advanced.

By way of designating relevant age groups of students to work with the same, it must be mentioned that they are applicable for all ages, therefore, their use can be considered as a way of technological modernization of the learning process in a specific subject area, including a foreign language, where the communicative context is both a goal and a learning tool.

Purpose and objectives of the study

The aim of the research is to solve the problem of the use of digital technologies as an optimizing factor in the educational process in the field of teaching a foreign language on the basis of factors determining the effectiveness of mastering it in the requirements of modern objective settings.

Literature review

The existing pedagogical research in this area concerned the study of the components of the content of teaching a foreign language, in particular the study of the methodological component (Rogova, 1988; Bim, 1989; Chernyshov, 2014; Elovskaya, 2016; Koryakina, 2017; Sokolova, 2012), principles and criteria for the selection of material in the formation of the content of teaching a foreign language (Korsakova, 2014), digitalization of the educational environment and the use of digital technologies (Titova, 2017; Sysoev,

2015a; Sigov, 2000). Crucial for this paper are investigations done by Sysoev (2015b) who in one of his works explores the directions of informatization of linguistic education at the present stage. Works by Titova (2017) also belong here with a special focus on the theoretical foundations of a computer-information model of teaching foreign languages.

Methodology

The experimental work on the introduction of a mobile learning model in the process of teaching French in high school was carried out on the basis of lyceum №. 8 of Stavropol city named after N.G. Golodnikov. French classes were conducted in three groups of students, one control class and two experimental classes. 40 people took part in the experiment, while the number of students in each class and the age composition of the groups of pupils were approximately the same - 13-14 people aged 11-12 (grade 6).

Research methods.

The methods employed in the study are theoretical methods (analytical-synthesizing, comparative, modeling method), empirical methods (interrogation-diagnostic, expert assessment, testing, observation, pedagogical experiment), statistical method.

Experiment Stages.

The experiment included three main stages (stating, forming, controlling).

As part of the stating stage, a questionnaire was conducted with a follow-up conversation - an interrogation of teachers to analyze those situations that served as a context for integrating digital methods into the process of teaching a foreign language. In the format of this procedure, such positions as the effectiveness of the procedure, the reliability of the model, and the interest caused by it in teachers in the further use of such a technique. Analytical and statistical data processing became a feedback to identify the degree of awareness by teachers of the need for such procedures (integration of digital technologies in the structure of a lesson of a foreign language to optimize the learning process) and their effectiveness.

Within the framework of the stating stage, a questionnaire was conducted with a follow-up conversation - an interrogation, which testified to the effect that teachers rarely use technologies aimed at developing the level of knowledge, skills and abilities in the practice of teaching a foreign language.

The main objective of this stage was a general and special questionnaire to study the levels of formation of skills of pupils to use innovative methods (digital technologies in general and mobile technologies in particular).

Results

Modernization of the methodological component of the content of teaching a foreign language tunes into the expansion of the paradigm of rational teaching aids and methods, based on the requirements of the traditional educational paradigm, and therefore this paradigm takes on the following format and context: traditional methods (grammar-translation method, natural method, indirect methods, audio-lingual method, audio-visual method, consciously-comparative method, communicative method); innovative methods (on (Cooperative Learning), project method, portfolio and digital techniques that differ from the knowledge-based technologies in the following parameters, which indicates its current nature: 1) can act technically as a self-sufficient means of interaction; 2) functionally are fit for analytical and prognostic performance, like that of a person, that is, it functions as a kind of artificial intelligence, and this meets the requirements of the sociocultural situation of the modern information society (the ability to use ICT to search and analyze foreign language information, the ability to find, understand and transmit new information when working with reference materials in the language being studied; development of skills and abilities of independent distance work, the ability to select and use material for self-study based on your abilities, personal characteristics and available resources; development of skills and abilities to work together, the ability to organize your educational activities to achieve goals).

As a result of the study of the specifics of the implementation of the structural and substantive parameters of the methodological component in the conditions of teaching a foreign language at the stage of secondary school, it was revealed that, with all the varied approaches to teaching a foreign language, mainly teachers employ the main three: personality-oriented, sociocultural, and communicative approaches.

Analysis of school course books on foreign languages for the presence in the instrumental base of innovative elements of the didactic structure showed that there are no tasks with the use of the Internet resources or mobile apps, which does not correspond to the realities of informatization of both society and the educational process as a whole.

The specifics of the implementation of the principles of m-learning in the conditions of formal teaching a foreign language (French) at the middle stage of a comprehensive school is characterized by such factors as the type of lesson, the lesson stage, the components of the lesson stages, the optimizing potential of using digital technologies for a specific type of educational activity within a certain phase of a lesson, the psychophysiological restrictions for this age on the using of information and communication technologies (age, time, design of mobile apps and web tasks), psycho-pedagogical conditions of education on the basis of digital technologies (skills in working with information and communication technologies, motivation,

personal-activity mode of studying the material), the correspondence of the content of the web task to the current educational material, the relevance of the formed type of speech activity for the integration of m-learning in the educational process for mastering a foreign language in the context of increasing its effectiveness.

The result of the study is aimed to establish a pedagogical model for integrating digital technologies into the structure of a lesson of a foreign language as an optimizing factor in its organization, which biased on the following relevant factors: subject, purpose, principles, structural component, operational component (Table 1).

Table 1

The pedagogical model of integrating digital technologies into the structure of a foreign language lesson

Subject	Pupil (his individual characteristics), teacher, subject-subject interaction of the pupil and teacher in the process of teaching a foreign language
Purpose	Formation of a methodological component of the content of teaching a foreign language taking into account the optimization aspect in modern conditions of the introduction of (digital) infocommunication technologies in the educational process
Principles	<p>a) problems (introduction to the learning process problem-based tasks, requiring the use of digital technologies);</p> <p>b) optimality (ensuring maximum possible quality of training with minimum necessary and sufficient resources and time due to rational combination of tasks);</p> <p>c) systematic (making students realize systemic character of the material presented), individualization (taking into account the individual characteristics of pupils in the process of setting task to develop skills), objectivity (objective information), differentiation (dividing the class into several groups according to individual psychological and physiological characteristics of students)</p>
Structural component	The module for the formation of a methodological component of the content of teaching a foreign language in the modern information society for the realization of the optimizing potential of infocommunication (digital) technologies at the middle stage of schooling

Operational component	System of practical web-based tasks with the help of digital technologies as part of a French lesson
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The result of the stating stage showed that for most pupils the level of formation of common skills and abilities of using innovative methods (digital technologies, mobile technologies) was high (70% of 100% of pupils passed the test with high points), and special skills - low (80% of 100% of pupils passed the test with low points).

The formative stage of the experiment included the educational process with the use of various web-tasks involving the use of digital mobile technologies in the process of teaching a foreign language in experimental groups (E1, E2).

Pupils of the three groups chosen for the experimental work at the time of the start of the classes had approximately the same level of language training and the level of knowledge of information and communication technologies.

French language training in the control group was carried out on the basis of those methods and technologies that are stated in the practiced textbook, and this was a platform for determining the possible difference in educational potential with experimental groups. The experimental part of the study in the experimental groups was carried out using the developed model of the French language learning process, taking into account introduction of digital technologies (mobile technologies) into the structure of the lesson for middle school pupils to optimize it.

The control stage included a questionnaire to research the level of formation of special skills and abilities of being able to use digital mobile technologies for solving educational problems, as well as to determine the degree of formation of knowledge, skills and abilities of a foreign language by using the proposed model.

As a result of the control phase, including control testing, the following result was obtained: the level of formation of knowledge and skills of digital technologies for solving the learning tasks of the control group (K1) and experimental was different, namely, it increased in experimental groups (E1–61 % of 100% and E2–70% of 100% pupils showed a high level of special ICT skills, that is, they passed the test with high points). At K1, the level of formation of knowledge and skills of using digital technologies for solving educational problems turned out to be low for the majority of the group - 75% of 100% of pupils passed the test with low points.

The result obtained at the final stage of the experimental work allows us to assert that the tasks (web tasks) built on the basis of the developed model, integrating digital technologies, positively affect both the level of formation of knowledge and skills in digital mobile technologies and the degree of formation of knowledge, skills and abilities in French of pupils of the secondary school.

Discussions

In the 21st century, there is an operational transition to digitalization in the context of formal education at school, where the current generation of pupils is the digital generation (“digital natives”), who demonstrate a high level of knowledge of digital technologies in their daily lives and have an innate disposition to master digital technologies, perceive the digital world as everyday life, feel themselves in a stream of multitasking, are used to sudden changes in the speed of perception of information, to the interactivity of gadgets, to communication activity in social networks. Digital technologies in teaching a foreign language prove to be a new level, set by the changing conditions of existence in a post-industrial society, as a way to optimize it by strengthening the motivational component, establishing self-regulatory mechanisms of educational activity, and achieving a situation of success in mastering the cultural picture of the world. Under these conditions, the methodological component of the content of teaching a foreign language is being modernized, which is characterized by the advent of digital methods and techniques. One of the most important teaching methods in digitalization is m-learning, which reveals the potential of digital technologies in connection with the implementation of such functions as cognitive, diagnostic, adaptive, controlling, functions of orientation, educational management, prognostic, and propaedeutic functions.

Conclusion

These data confirm the effectiveness of the developed model for integrating digital technologies into the structure of lesson of a foreign language and give reasons to believe that teaching pupils through tasks (web tasks) based on the use of digital mobile technologies aimed at developing knowledge, skills and abilities as components of relevant competencies throughout the entire period of study at school, optimizes the results of teaching a foreign language in terms of formation of the communicative competence.

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