

**ICEST 2021****II International Conference on Economic and Social Trends for Sustainability of Modern Society****MULTIMEDIA TECHNOLOGIES IN RUSSIAN AS A FOREIGN  
LANGUAGE LESSONS (MEDICAL TEXT)**

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**Abstract**

Multimedia systems and technologies have brought education and development of its prospects to a new level. The requirements which are presented to a modern education - development of creative abilities, upbringing of a person who is ready to assimilate new knowledge and the formation of a worldview - can be implemented in lessons by improving and creating new teaching methods which use multimedia technologies. The purpose of the article is to analyze the use of multimedia tools in the work on medical texts in Russian as a foreign language lessons at a higher educational institution. The authors used theoretical and empirical research methods to achieve this goal, which made it possible to prove a statistically more successful implementation of didactic tasks while multimedia technologies using. A questionnaire that proved the effectiveness of the above means was conducted. There are also guidelines for using multimedia in study of medical scientific text in a foreign language audience. Carried out research proves that immersion into multimedia environment gives an opportunity not only for full realization of didactic goals of the lesson, but also for developing of student's intellect, teaches him to freely navigate in the flow of information, isolating the necessary, apply gained knowledge, aiming at the future in the course of further education.

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## **1. Introduction**

Muhina and Soloviova (2017) consider, that communication and information technologies are currently developing rapidly, and it is not possible to teach a new generation without using of multimedia tools that require adequate use in the educational process, they play the main role at different stages of classes, use as a practical task, additional training materials (drawings, photographs, sound and video files). Classes when the teacher only reported the information, and the students only recorded it, are long gone, and now lectures and seminars contribute to the development and activation of intelligence, preservation and replenishment of the picture of the world of the linguistic personality, awakening of their creative abilities. In this regard, the role of the teacher in the educational process increases, since he is the one who determines the choice of the way to implement the educational task while solving educational goals. With the use of new technologies, the introduction of interactive learning, the teacher has become rather an adviser, as a student consultant teaching students to think independently, to simulate situations, to see the perspective in obtaining knowledge.

Verbitcky (2016) is sure that there is no doubt that multimedia technologies create new opportunities for creative problem solving, motivate for a deeper studying of the subject, set new goals and suggest ways to implement them, help the comprehensive studying of new material, stimulate the cognitive abilities of students in research activity, also are an effective method of organizing independent work of students.

Dole (1991) points out that the introduction of modern information technologies in education gives an opportunity to improve the management mechanisms of the education system based on the using of communication networks, to progress methods, forms and content in accordance with the tasks of the student's personality development in modern conditions of informatization of society. This contributes to the formation of such skills as: independent acquiring knowledge and conduction of research activity, using computer systems for diagnostics, testing and control of knowledge.

### **1.1. Towards the notion of multimedia technologies**

Multimedia technologies in the education process are a collection of various images, video, audio in an interactive model. In modern teaching, it is impossible to imagine a lesson without using the Internet, teaching computer programs, and audio-visual series. Belyaev (2020), D'yakova and Sechkareva (2019), Ershova and Nazarov (2019), Skurihina (2017), Ustyuzhanina and Evsyukov (2018) are sure that the use of such forms of work on the text as mastering new vocabulary, teaching monologue and dialogical speech, listening, writing, learning grammar allow you to solve many didactic tasks - to replenish vocabulary, develop coherent monologue and dialogical speech, create a stable motive for learning Russian as a foreign language, increase activity in obtaining knowledge.

Golodok (2016) underlines that while using of multimedia, an attention of students is increased throughout the whole lesson, which undoubtedly increases the quality of studying and raises the role of the independent work while lesson, stimulate to a more complete comprehension of the material through a change of impressions and consolidation of the studied material through the introduction of direct information along with associative information into the educational process by using the capabilities of multimedia technologies, virtual reality, hypertext systems.

Yakimanskaya (2019) informs that while using of multimedia technologies, student, despite the increasing flow of information, has the ability to control the speed of obtaining information and its processing, to make it more comfortable for him. Therefore, student becomes an active participant in the learning process, not just a passive listener and recipient of information. There is a task of developing a student's personality among the main tasks of modern education which implies the formation of his ability for self-education, self-study, self-education, reflection on his own activity.

### **1.2. Learning strategies that are used while working with multimedia**

One of the most effective teaching strategies is setting objectives in front of an audience. Since by strategies we mean complex cognitive processes aimed at achieving certain goals, then goal setting and realizing it contributes to better perception and memorization of information. The next strategy is an information management strategy, which includes the ability to find, select and adapt the obtained material into the context, commensurate it with the designated task; embed it into existing semantic relationships; be aware of prospects; using in the living space, evaluate obtained result. In addition to goal setting and managing information strategies, there are assimilating and memorizing information strategies. But the using of these strategies is possible only if there is a competent teacher who is able to direct and lead the learning process, help with the choice of strategies that are relevant at this stage of work.

### **1.3. Disadvantages of using multimedia technologies**

Despite all the possibilities that multimedia provides us with, there are some disadvantages of the use of them. Especially we want to highlight the following:

- Scattering of attention while receiving large amounts of information and, as a consequence, superficial study of the text, inability to grasp more important aspects of studying. In case of self-study, students are not always able to consciously designate the information field and delimit the flows of information.
- The difficulty of an interactive response receiving during long-term use of a multimedia tool, lack of feedback from the teacher.
- Lack of an individual approach in studying.
- Lack of sufficient skill while working with programs, both the student and the teacher.
- Difficulty while changing the material: it is not always possible to use exactly the material provided by the Internet.
- Mandatory availability of software license.
- Technical difficulties while using the Internet. As practice shows, not all students while computer assisted studying have a sufficient level of Internet access speed, hence the difficulties with downloading materials, obtaining a high-quality image, solving certain problems online.

#### **1.4. Didactic requirements for multimedia tools**

Based on the modern methods data of teaching Russian as a foreign language, also on the results which were obtained while generalization course and analysis of existing experience, we have identified a number of didactic requirements that multimedia teaching tools must correspond with:

- Scientific character. Undoubtedly, all used materials should be supervised by the teacher and, instead of entertaining character they must have depth, reliability and be used in conjunction with the methods of systems analysis.
- Availability. All material provided to students must be accessible and appropriate to their age and individual characteristics.
- Visibility. The visibility provided to students requires a better and fundamentally new character.
- Studying consciousness. Students need to be aware of the learning goals, and learning should be based on an activity-based approach. The use of multimedia teaching tools stimulates students to set new goals and objectives, aiming at the future.
- Systematic and consistent teaching. All material necessarily has both a perspective in further educational activities and a place in the studying retrospective. In a medical university, studying Russian language based on the reading of medical texts is impossible without interdisciplinary connections. And each educational step must be correlated with a logical presentation and practical meaning.
- Strength. It seems to us that the knowledge gained with the help of multimedia tools has a more solid foundation and is easier to actualize in the future of studies.
- Individual approach. Each student has the right to ensure that the material presented for studying is correspond to his age and individual characteristics within the curriculum.
- Interactivity. The student must constantly receive feedback from the teacher - at the beginning of the use of multimedia tools, when he is offered recommendations while setting goals and objectives, while correcting incorrect answers, clarifying errors, in the teacher's conclusion about the effectiveness of the done work.
- Completeness, integrity and continuity of learning and the interaction of all didactic principles and methodological tasks.

#### **1.5. Technical requirements**

There are following technical requirements for multimedia tools:

- The ability to use various information carries.
- Ability to use both multimedia teaching tools and paper carries.
- Ability to work both in a local network mode and in the presence of an Internet connection.
- The teacher has the ability to control access, register students, has access to students' statistics and the general information base.

- Organized collective work, feedback from the teacher.
- Availability of licensed programs and software.

## **2. Problem Statement**

During the research the question of the extent to which the use of multimedia tools affects the perception of scientific information, the awareness of its perception and its integration into the existing linguistic-communicative model of the student's linguistic picture of the world was considered.

### **2.1. The practical significance of the research**

The purpose of our research is using of multimedia tools at the Russian as a foreign language lessons. With the transition to a computer assisted studying, there was an urgent need to modernize the tools and assignments used by teachers in the classroom. The materials developed and described in this research were used during the semester with senior foreign students. Based on the results of the first half of the year in computer assisted form, a control group was selected to conduct a survey in order to identify students' opinions about the changes that have occurred in the framework of Russian as a foreign language classes.

## **3. Research Questions**

In course of the study the following questions were raised:

- How does the use of multimedia technologies change the level of awareness and activity of mental process in the structural perception of a scientific medical text?
- At what levels of perception and implementation of the didactic task this is possible?

## **4. Purpose of the Study**

To establish the degree of multimedia tools influence on the perception of students while working with a medical text in Russian as a foreign language lessons.

## **5. Research Methods**

The authors used the descriptive method which is used for all areas of a medical text research, with the involvement of such techniques as: observation, interpretation, systematization, classification, generalization of the material; the method of contextual analysis was used in the analysis of terms and speech units; the comparative method was used in the analysis of the greatest efficiency of the use of multimedia; the mathematical and statistical method was used for calculating students' answers in survey.

## **6. Findings**

We have tested the use of interactive multimedia tools while studying of the text "Scarlet fever" (section "Children's Infectious Diseases") in the Russian as a foreign language class with senior students of a medical university.

The study of this topic starts simultaneously with the cycle "Children's Infectious Diseases" (5th year) and is relies on the already learned material of the cycle "Infectious Diseases" (4th year). It is assumed that students already have the necessary terminological base on the topic of infectious diseases, which was received and mastered in the classroom in the Russian language. Thus, this material fits into the general curriculum and structure of classes, as well as relies on interdisciplinary connections and it is quite understandable.

### **6.1. The features of studying scientific medical text**

It is important to use the latest multimedia tools widely at all stages of the study of medical topics. Medical scientific text consists a great amount of terminology, so the introduction of terms should be given priority attention. Maximum clarity will be mostly appropriate when presenting the terminological base (illustrative material on symptoms, audio and visual demonstration of certain manifestations of the disease - coughing, wheezing, changes in heart sounds, etc.). Accordingly, the most convenient option seems to be the creation of an online dictionary-reference, organized by thematic sections, where a student can apply at any time in search of the necessary term. However, visibility should always be accompanied by a dictionary explanation in the target language, since the main task of teaching remains the stable ability of a student not only to understand the meaning of a term, but also to be able to give it an exact definition, as well as to use it correctly in scientific discussion. This triad (term - definition - application) can be fully assimilated, as we believe, by affecting on the visual (outline of the word and visualization) and audial (sounding and repetition of the word) centers of perception, and then through the recognition of the term in the text and independent using. Interactive filling of text with cross-references provides just such an opportunity. In this case, the most important terms from those encountered in the text immediately acquire a dictionary definition and a visual demonstration, and, contrariwise, any term from the base can be correlated with various uses thanks to references to existing texts.

For example, when studying the text "Scarlet fever", students work with terms from several terminological systems: general concepts of therapeutic medicine, microbiology, infectious and skin diseases, ENT diseases, etc. A similar situation arises when working with other medical texts. If there is a common terminological base with internal sections, there will be no difficulties in finding the required term.

### **6.2. Studying of grammar constructions**

A similar method can be applied when getting acquainted with grammatical constructions and practicing them in professional dialogues. Again, it should be noted that the consistency and consistency of all the tasks performed by the student should lead him to a clear understanding of the purpose of this work, which is to master the ability to freely perceive and reproduce a monologue text, as well as to create a voluntary scientific text / dialogue in his specialty.

Therefore, at this level of awareness all grammatical constructions are already being studied in a practical aspect. The student can determine the most important and useful grammatical models for expressing a given topic and build synonymous links with those previously studied by himself. An interactive text base with options for different constructions on the material of medical literature of the necessary topic will be useful here. In addition, for greater accessibility and within the framework of an individual approach, all grammatical models can be presented in various forms - both in standard text form, and in the form of diagrams and tables (a visual option for presenting linguistic information), and can also be supplemented with tasks for self-compilation similar schemes / mental maps to consolidate the material. Such amount of material requires detailed work, however, in the future, the current grammatical patterns will no longer require repetition together with the teacher, allowing the student to receive all the necessary studying material freely and work out with the already developed skills of independent study and training. At this stage of training, the teacher needs to carefully monitor the assimilation of the studied by the students.

Since the study of scientific terminology in the classroom of Russian as a foreign language is a rather laborious process, students can be offered several tasks to consolidate the material in a gaming form. To check the correct reading and memorization of the terminological minimum, we can use crosswords, such exercises as "put the letters in the correct order and read the word", tasks for creating an audio sequence "say as a carrier" - it is possible to check the level of assimilation and memorization of the correct spelling in this task, as well as pronunciation of difficult medical terms as part of the study of a specific topic. It is possible to increase the engagement level by using multimedia to accomplish the tasks above.

### **6.3. Interactivity in structuring of a scientific medical text**

So, starting to read a scientific text, the student is already adequately prepared for its perception. He has studied and worked through all the vocabulary and grammatical material (here we should recall the individual characteristics of different students), and now perceives the text as a message filled with valuable information necessary for further educational and cognitive activity.

The peculiarity of the structure of a scientific medical text itself, among other things, is that it is as logical and consistent as possible, framed according to clear modes due to practical significance. Its structural and semantic division into paragraphs and microthemes lends itself to be redesigned in a multimedia space, to be analyzed, divided onto parts and put together again into a whole thing. Remaining an integral unit, the scientific text describing the disease can be relatively freely divided into the basic structural and semantic parts and presented in the form of main descriptive models, such as: definition of the disease - etiology and pathogenesis - symptoms and course - possible complications - diagnosis - treatment - prognosis - prevention. And each of these microtexts has its own basic grammatical structures and terminological systems. Such a structural perception of a scientific text is advantageous for a student working with text in a multimedia format, since it is a comprehensive consideration of information, which can provide interactivity of teaching, that more effectively allows developing a systematic approach to problems and comparing the information received with the information already available. So, the text "Scarlet fever" we are considering suggests its options for detecting semantic connections, such as:

- In the aspect of etiology and pathogenesis - with general information on childhood infectious diseases, microbiology.
- In the aspect of symptomatology - with the topics "Angina", "Measles", cardiovascular diseases and toxic lesions.
- In the aspect of prevention - with the material of the cycles "Public health and health care", "Infectious diseases", etc.

In this case working with the text means highlighting individual structural and semantic units (their boundaries), conveying the meaning of each of them by different grammatical constructions, comparing their content with other texts of similar topics, answering questions about the content of the text. Students need to determine which of the sections of the text are the basis for further work with the aim of the practical application of the information received - first of all, this is the solution of situational problems, the construction of a scientific dialogue between the doctor and the patient and filling out a medical card.

#### **6.4. Approbation and control of material's assimilation**

As a situational task, a case history of a child who contracted scarlet fever in an organized children's group can be proposed. It can be realized not only in text form, but also visually: through photographic material, video (questioning the child's parents, telling about what happened). Students should find information in the text that will allow them to answer questions about the alleged source of the disease, treatment and preventive measures in this situation. In the future, this current situation will become the basis for compiling a list of doctor's questions to the patient's parents and a for a role-playing game that can be carried out in real time or recorded on video in online training. Based on the interests of the students and their capabilities, they are offered individual tasks: using the material of the text, to create training videos with an analysis of a specific situation from the point of view of an infectious disease doctor, to demonstrate the sequence of questioning the patient, examination, preventive measures, etc. Another form of checking the passed material can be considered the independent preparation of presentations or mini-videos with the studied constructions. Students can offer their own options: electronic tests, the use of synonymous scientific constructs, quick questions-answers according to the situation, etc. Further, all the prepared material is reviewed and discussed in class and / or individually with students; you can choose the best job by arranging a vote - anonymous or accompanied by a reasoned explanation of your choice.

Thus, all work with a scientific text appears to be consistent, logical, systematic and meets the local and global goals of students. The level of awareness is maintained thanks to constant control by the teacher and the support of other students, a varied and complex presentation of the material, constant reference to it in solving educational problems directly related to the practical application of the acquired knowledge. Anisimov (2018) suggests that multimedia technologies not only make the process of learning a language more diverse, freer and easier for individual students, but also develop a systematic approach to the analysis of linguistic units, facilitate work with vocabulary and grammatical material, bring theoretical educational materials closer to practical, real tasks, provide a comprehensive perception of the text as an alive, holistic and important information unit, there arises "...a necessary didactic situation, objectively aimed at finding



new (previously unknown to them) means and methods for solving the problem posed to them and formulating new generalizations".

### **6.5. The results of the survey**

In order to determine the effectiveness of the use of multimedia in Russian as a foreign language lessons, a survey in January 2021 at the Volgograd State Medical University (VSMU) was carried out. The total number of participants in the experiment was 75 people. The informants filled out a questionnaire which consisted of 10 questions. Replies were received from representatives of the following countries: India, Malaysia, Jordan, Kenya, Palestine, Syria, Yemen, Iraq, Ghana, Azerbaijan, Uzbekistan, Egypt, Nigeria. First of all, we learned that for 63.5% of the respondents, computer assisted form is a new way of getting an education, while 36.5% had such experience. According to students' opinion, the assimilation of material using multimedia tools differs from the traditional provision of information - 95% of the respondents confirm this.

The next question showed an overall positive impression of a new working forms with medical texts which were proposed to foreign students. Thus, 86% of the respondents noted that the assimilation of information has become more simple and understandable. Several questions suggested writing your own answers, for example, "What, in your opinion, is the difference between classes with using of multimedia tools?" Among the answers, the following options deserve special attention: "classes have become more interesting, now you can show your creativity, passion for photos and videos, temporarily become a competent doctor that patients need, etc."

Based on the results of the survey, it can be argued that the use of multimedia tools in teaching is an effective process that motivates students to study. Students receive valuable knowledge at a high level, develop personal (activity, responsiveness, sociability, etc.) and professional qualities (drawing up the right questions and building a logical dialogue with patients, the ability to listen and hear, make a diagnosis, etc.).

## **7. Conclusion**

The analysis of the obtained during this study material made it possible to conclude that the use of multimedia in the classroom in Russian as a foreign language contributes to the improvement of the personality: the formation of a modern, competitive specialist who can confidently navigate in the corpus of scientific texts in the target language, find in a large flow of information the most important, structure and present it to the audience, discuss with future colleagues, as well as with teachers, in order to collect symptoms, discuss the disease, etc. The creation and introduction of new tasks with the use of multimedia equipment, as it seems to us, is one of the promising areas, since the implementation of didactic tasks using multimedia technologies increases the quality of education and upbringing of students and their very motivation to receive education.

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