Управление образования Администрации муниципального района

Туймазинский район Республики Башкортостан

Конкурс исследовательских работ и образовательных проектов

 «От знаний к опыту, от опыта - к мастерству»

Секция: филология

**Исследовательская работа**

**«**Multimedia technology in teaching foreign language**»**

**Автор работы:** Хабибуллина Гульнара Мударисовна

Учитель английского языка

МБОУ СОШ № 4

Стаж работы:  10лет

Туймазы, 2019

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**Introduction**

     The construction of the learning process is specifically focused on the development of imagination and thinking, the position of the student fundamentally changes - he acts as a researcher, creator, organizer of his activities. According to UNESCO, when a person listens, he memorizes 15% of the speech information, when he looks - 25% of the visible information, when he sees and listens - 65% of the information received. The need for the use of technical or multimedia teaching technologies that, as audiovisual means, can affect various sensory organs, is not suspicious. The use of technical means for selecting, transmitting, pre-forming and displaying information allows the mechanization and automation of such intellectual processes that have always been the prerogatives of man — management, design, research, and the like.

     The relevance of this work consists in a more in-depth study of this topic, since this has not yet been observed in the modern methodology.

     **The subject of work** are multimedia learning tools in the process of learning foreign languages.

     **The object of the work** is the process of learning a foreign language as a whole.

     **The aim of the work** is to consider multimedia teaching aids in their application in foreign language lessons.

    **Tasks:**

- consideration of the concept of multimedia teaching aids, their types;

- consideration of the theoretical aspects of the use of IES in the process of learning a foreign language;

- consideration of the classification of the ESM used in the teaching of Ia;

- a comparative analysis of the use of multimedia tools in a foreign language lesson by conducting a research experiment.

      **The novelty of this work** is the independent use of the selected material.

     **The theoretical significance of the work** is to consider multimedia tools and their types, conducting their analysis.

    **The practical significance** lies in the fact that the results of the analysis can be used in various methodological courses and circles.

**The structure of the scientific work**: the work consists of an introduction, two chapters, conclusion and bibliography.

**Chapter I. Multimedia Technologies in Teaching a Foreign Language**

    The use of modern multimedia technologies is effective at all levels of learning a foreign language and when working with students from different groups. This approach in training allows not only to increase the motivation of students, but also provides an individual approach with each student. However, to achieve an optimal result, a modern teacher should be able to correctly assess the advantages and disadvantages of multimedia teaching products in general, based on the analysis of the main components of multimedia (traditional algorithmic languages, general-purpose tools, multimedia, hypertext and hypermedia tools).

       The modern education system is increasingly using information technology and computer telecommunications. The system of distance education is especially dynamically developing, which is promoted by a number of factors, and above all - the equipment of educational institutions with powerful computers and the development of the Internet community.

       The development of information technology has provided a new, unique opportunity to conduct classes - the introduction of distance learning. Firstly, it allows the learner to choose the time and place for training, secondly, it provides an opportunity for people who are deprived of traditional education to receive education for various reasons, thirdly, to use new information technologies in training, fourthly, to a certain extent reduces the cost of training. On the other hand, distance education enhances the possibility of individualizing learning.

       As a rule, electronic textbooks are used in distance learning. The advantages of these textbooks are: firstly, their mobility, secondly, the availability of communication with the development of computer networks, thirdly, the adequacy of the level of development of modern scientific knowledge. On the other hand, the creation of electronic textbooks also contributes to the solution of such a problem as the constant updating of information material. They may also contain a large number of exercises and examples, in detail be illustrated in the dynamics of various types of information. In addition, with the help of electronic textbooks knowledge control is carried out - computer testing.

       A multimedia computer is not only a new integrated storage medium, it is the device that most fully and adequately displays the “face à face” model. In addition, only reference and information systems based on hypermedia links can be implemented only in computers, which is also one of the most important components of the individualization of learning.

      Typically, a multimedia textbook is a set of training, monitoring, modeling and other programs hosted on magnetic media, which reflect the main scientific content of the academic discipline. A multimedia textbook often complements the usual, and is especially effective in cases where it:

• provides almost instant feedback;

• helps to quickly find the necessary information (including contextual search), which is difficult to find in a regular textbook;

• significantly saves time with repeated references to hypertext explanations;

• along with a brief text - shows, tells, models, etc. (this is where the capabilities and advantages of multimedia technologies are manifested) allows you to quickly, but at a pace most suitable for a particular individual, to test knowledge of a specific section.

Hypertext and hypermedia tools.

       Hypertext is a method of non-linear presentation of textual material, in which the text contains in any way selected words that are linked to specific text fragments. Thus, the user does not just thumb through the page order of the text, he may deviate from the linear description by some link, i.e. manages the process of issuing information. In a hypermedia system, images can be used as fragments, and information can contain text, graphics, video clips, sound.

      The use of hypertext technology satisfies the requirements for textbooks such as structuredness, ease of handling. If necessary, such a textbook can be “laid out” on any server and can be easily corrected. But, as a rule, they are characterized by unsuccessful design, layout, structure, etc.

      Currently, there are many different hypertext formats (HTML, DHTML, PHP, etc.)

Electronic dictionaries.

     An electronic dictionary is in a certain way systematized lexical information (dictionary database) stored in computer memory, as well as a set of programs for processing this information and presenting it on the screen.

      The electronic dictionary combines the functions of searching for information of interest, demonstrating linguistic patterns and makes it possible to master the training material using a special system of exercises. All modern electronic dictionaries use multimedia personal computer audio to play pronunciation.

     Currently, the use of modern multimedia technologies is effective at all levels of learning a foreign language and when working with students from different groups. Moreover, the variety of technologies in training allows you to make the lessons more saturated and interesting. This approach motivates students to work, facilitates the understanding of a foreign language. For example, when working with hypertext, students do not just thumb through the page order of the text, it may deviate from the linear description by any link, i.e. manages the process of issuing information.

Interactive whiteboard.

     According to the author, the use of projection technology in combination with audio tools makes it possible to involve in the classrooms when explaining new material theses, tables, videos and reference materials, while analyzing texts - diagrams and data from electronic dictionaries. This allows you to implement the principles of clarity, accessibility and systematic presentation of the material.

      However, such opportunities in the presence of a computer-projector-screen bundle are realized only in the viewing mode. For checking written assignments and analyzing text, one has to re-turn to ordinary chalk or marker boards. Here, the teacher often faces objective difficulties: often the audience with a multimedia projector can only be equipped with a screen or a whiteboard over which the screen is installed. Thus, the simultaneous use of both the board and the screen is hampered.

     In the context of the above, a truly revolutionary invention is the SMART Board interactive whiteboard. Using such a board, the teacher can combine proven methods and techniques for working with a conventional board with a set of interactive and multimedia features.

     SMART electronic board allows you to:

1. Active commenting material: selection, clarification, adding additional information through electronic markers with the ability to change the color and thickness of the line;

2. Full-fledged work on the translation of the text and individual sentences, indicating the links and relationships between words;

3. Recruitment via the virtual keyboard of any text of the task in any application and its demonstration in real time;

4. Not only acquaintance with test tasks in viewing mode, but also indicative testing of an individual student or group of students for the entire audience if the school does not have a computer class or it cannot be provided to the teacher at the moment;

5. Saving the results in a separate file in the form of pictures or in HTML and PDF-format.

      Thus, using an interactive whiteboard, we can organize the student's permanent work in electronic form. This saves time, stimulates the development of mental and creative activity, includes all students in the classroom. In addition, the SMART software allows not only, as already mentioned, to save screen slides, but also to build them in the right sequence, including in the form of albums.

       It is also necessary to take into account an important psychological point: modern schoolchildren, who usually have computers at home with numerous games and TVs with an aggressive video sequence, get used to perceive the surrounding reality in a similar way. The possibilities of the interactive whiteboard allow students to switch to understanding that video and game programs are successfully used for learning, contributing to the development of creative activity, fascination with the subject, creating the best conditions for mastering listening and speaking skills, which ultimately ensures the efficiency of learning foreign language.

**1.1. Pedagogical design of a multimedia lesson**

  A multimedia lesson can achieve the maximum learning effect if it presents a meaningful one-piece product, rather than a random set of slides. A certain list of oral, visual, textual information turns the slide into a training episode. The developer should strive to turn each of the episodes into an independent didactic unit.

       Pedagogical reference books define a didactic unit as a logically independent part of educational material, in its scope and structure corresponding to such content components as a concept, theory, law, phenomenon, fact, object, and the like.

      Thus, preparing a training episode and viewing it as a didactic unit, the developer must clearly understand what training tasks he is pursuing with this episode, by what means he will achieve their realization.

     One of the obvious advantages of a multimedia lesson is to increase visibility.

     The use of clarity is all the more relevant because schools, as a rule, lack the necessary set of tables, charts, reproductions, illustrations. In this case, the projector can provide invaluable assistance. However, the expected effect can be achieved if certain requirements for the presentation of visibility are met.

      1. Visibility visibility, which must comply with the written or oral information.

     2. Dynamics of presentation visibility. Demonstration time should be optimal, and correspond to the educational information currently being studied. It is very important not to overdo the effects.

     3. Sophisticated image footage algorithm. Multimedia tools provide the teacher with the opportunity to present the necessary image up to a moment. The teacher should thoroughly think about the sequence of images on the screen so that the training effect is as large as possible.

     4. The optimal size of visibility. Moreover, this applies not only to the minimum, but also to the maximum size, which can also have a negative impact on the educational process and contribute to a more rapid fatigue of students. The teacher should remember that the optimal image size on the monitor screen in no way corresponds to the optimal image size of the large screen of the projector.

5. The optimal number of displayed images on the screen. You should not get involved in the number of slides, photos, etc., which distract students, do not allow to focus on the main thing.

     When preparing a training episode for a teacher, there will definitely be the problem of presenting a printed text. It is necessary to draw on the following requirements for the text:

• structure;

• volume;

• format.

      Text from the screen should act as a unit of communication. It is either of a subordinate nature that helps the teacher to increase the semantic load, or is an independent unit of information that the teacher does not deliberately voice. It is quite natural when terms appear on the screen, key phrases. Often on the screen we see a kind of abstract lesson plan. In this case, most importantly, do not overdo it, do not clutter up the screen with text. Obviously, a large amount of writing is poorly perceived from the screen. The teacher should strive, if possible, to replace the printed text with clarity. In essence, this is also a text, but presented in a different language. Recall the definition of text in encyclopedic reference books as a sequence of graphic or audio language signs, limited to a single purpose.

      It is also important how the printed text from the screen will be presented. As well as clarity, the text should appear at a time thought up by the teacher beforehand. The teacher either comments on the presented text, or strengthens the oral information presented to them. It is very important that the teacher in no case duplicates text from the screen. Then the students will not have the illusion of an unnecessary link of incoming information.

     Although there may be cases where duplication of printed text by a teacher or student is didactically justified. This technique is used in elementary school when the teacher achieves an integrated approach to learning, connecting various channels of perception. Improved reading skills, oral counting, and so on.

      Duplication of printed text is also mandatory at any age when conducting multimedia educational games. Thereby, the teacher achieves equal conditions for all students: both those who perceive oral information more easily and those who master the information of the printed text more easily.

      Being engaged in the preparation of a multimedia lesson, the developer must have at least elementary ideas about color, color gamut, which can successfully affect the design of the color scenario of the training episode. We should not ignore the recommendations of psychologists, designers about the effect of color on the cognitive activity of students, on the combination of colors, the optimal number of colors on the screen. You should pay attention to the fact that the color perception on the monitor screen and on the big screen are significantly different, and the multimedia lesson should be prepared first of all with the expectation of the projector screen.

       Equally important is the use of sound in the classroom. Sound may play a role:

• sound effect;

• sound illustration;

• sound accompaniment.

      As a sound effect, sound can be used to attract the attention of students, to switch to another type of educational activity. The presence of a multimedia collection of Microsoft Office sound effects does not necessarily imply their use. The noise effect must be didactically justified. For example, in the case of a multimedia learning game, a jerky sound effect can be a signal to start a discussion of a question or, conversely, a signal to end a discussion and the need for a response. It is very important that students are accustomed to this, so that the sound does not cause them too much excitement.

**Chapter II**

**Practical application of multimedia in foreign language lessons means of enhancing students' cognitive activity**

      To test the effectiveness of the use of various multimedia teaching tools in English classes in seventh grades, we conducted an experiment-study. From the existing multimedia teaching aids, we selected the three most accessible in the school where our research work was conducted. These three tools were described in more detail earlier (see Chapter I), namely: an interactive whiteboard (with partial use of a projector), an electronic textbook on a PC, and an audio player. The learning process of the new material was divided into two stages using each of the means we chose. The study was conducted in parallel to the seventh grade, secondary school, where each class had its own multimedia tool (7 "A" - interactive board, 7 "B" - audio player, 7 "C" - electronic textbook). application of the selected multimedia teaching tool, passed by introducing students to fifteen not yet studied words of one topic, with the subsequent control of mastering. Checking the mastery of the new material was carried out by us after each completed stage of training in each class of the chosen parallel. All students of the classes of this parallel had a single level of proficiency in English, which was an ideal option for conducting our research. each class was held at the same time, which excluded the possibility of communication between representatives of different classes among themselves. On average, each stage took 15 minutes, not counting the time for checking. In our study, comparing the use of multimedia teaching tools, the topic Disasters was chosen for students to study the new vocabulary.

List of words presented:

.Flood [fl? D] flood

.Hurricane [? H? R? K? N] hurricane

.Tornado [t?:? Ne? D | ?? tornado tornado

.Tsunami [ts ?? n?: M? tsunami

.Eruption [i'r? P ?? n] volcanic eruption

.Earthquake [??:? Kwe? K] earthquake

.Drought [dra? T] flood

.Blizzard [? Bl? Z? D] blizzard, blizzard

.Typhoon [ta ?? fu: n] typhoon

.Fire [? Fa ?? ] fire

.Avalanche [? Æv? L?: N? avalanche collapse

.Landslide ['lændslaid] landslide, landslide

.Explosion [iks'pl? U ?? n] explosion

14.Famine ['fæmin] hunger

.Desease [di'zi: z] disease

     Stages of training:

      7 "A" 7 "B" 7 "B" Stage 1. "A1". Words are displayed on the whiteboard. Pictures. "B1". The words are reproduced on the audio carrier. “B1”. The words are given in the electronic textbook.2 stage. "A2". Words displayed on the board. Pictures. Video with subtitles. "B2". The words are reproduced on the audio carrier. Written in chalk on a blackboard. "B2". Words are given in the electronic textbook. There are sentences with words. Video with subtitles.

**2.2 Conducting a study comparing the use of MCOs in the seventh grade parallel**

     A1. Fifteen words on the Disasters theme were presented to the class on a whiteboard as a presentation using associative pictures to each of the words presented. The projector was also used to bring information to the board. Words were given with translation and transcription.

       At this stage, a method of visual perception of information was involved. The form of class work is group, since the entire learning process was conducted in the presence of the entire class. A2. At the second stage of our research experiment in this class, the same words were given in the dialogue of the characters shown in the video. The video was shown on an interactive whiteboard, using a projector, but without the use of audio output devices, and therefore it was shown without sound, but with subtitles. At this stage, the method of visual perception of information was involved. The form of the class work is group, since the entire learning process was conducted in the presence of the entire class. B1. Fifteen words on the subject of Disasters were presented to the class using an audio player. The students listened to the pronunciation of a new vocabulary by a speaker recorded on an audio carrier. Then the students listened to a dialogic speech, also recorded on an audio carrier. All the words studied in this study were included in the dialogue between the two characters. At this stage of the study, a method of auditory perception of information was involved. The form of the work of the class is a group, since the whole learning process was conducted in the presence of the whole class. B2. During the re-run of stage "B1", the teacher manually, with transcription and translation, the written words were written, pronounced by the speaker on the audio carrier. At this stage of the study, a method of auditory perception of information was involved. The form of class work is group, since the entire learning process was conducted in the presence of the entire class. B1. Fifteen words on the topic of Disasters were presented to the class in the paragraph (unit) of an electronic textbook running on a personal computer. Each student in the class works on a separate PC. In the textbook, students pass through the first part of a unit: the words are given with transcription, translation, description, explanation, and associative pictures. At this stage of the study, a method of auditory, visual, associative perception of information was involved. The form of the class is individual, since the entire learning process takes place with each student of the class separately. B2. Students pass the second part of the electronic textbook unit. After each new word given sentences using this vocabulary. At this stage, after the students have studied all the vocabulary and sentences, a video is given using all the words passed (the same that was given to the “A” class). Also, if desired, each of the words could be heard, both at the first and at the second stage of category “B”. At this stage of the research, a method of auditory, visual, associative perception of information was involved. The form of work of the class is individual, since the entire learning process takes place with each student of the class separately. Upon completion of the study by the students of the new material, we carried out verification work, after each stage, for the students to master the new vocabulary (both verbally and in writing), using it in sentences and translations. The audit showed that after passing through the first stage, the material that was most successfully learned was 7 "B" class (electronic textbook), then 7 "A" (interactive whiteboard + projector), and finally, 7 "B" (audio player). After the second Stage the best results of learning new vocabulary were in 7 "A" (interactive board + projector). With a slight difference in the quality of the results, the material was mastered by class 7 "B" (electronic textbook). The worst results of knowledge of new words, as well as after the first stage, showed 7 "B" class (audio player).

**2.3 The results of the study compared the use of IVS in parallel to the seventh grade**

 Consider this situation in more detail. Students who have studied the new vocabulary with the use of an interactive whiteboard used visual and associative memory, which is a plus, if we take into account the psycho-physiological characteristics of adolescents, which we considered in more detail in paragraph 1.3. (p. 14-16). If an audio track were used in addition to the video series, the final result of the 7 “A” class would be much better. But in this study we tried to show the most isolated use of each of the means we chose, only minimally helping students (as in stage “B2”), since learning new words is only by ear, for children not yet having a stable base of knowledge of a foreign language, a completely unproductive way of learning (see table 2 in the appendix). In the class where the audio player was used, the listening method was used, as well as the recognition of lexical units and their isolation from the flow of speech. Critically inconvenient, without a clear example, he gave the worst results, in connection with which the words were given at the second stage in the same way on the blackboard in writing. But still, it was not an easy task to hear new, unprocessed words in the stream of speech (dialogue) heard by the students on the audio carrier. The electronic textbook turned out to be the most effective tool at the first stage, but slightly yielded to the interactive whiteboard after the second stage in its effectiveness. It was involved as auditory, and visual and associative memory. A possible advantage could be the fact that the children were sitting separately, working individually. It was also the presence of video with subtitles (the same as “A” class was given). Perhaps, if the projector was used with audio, the result would be slightly different, since the group work for mastering new material is more effective for teens than working "alone with the machine." In my opinion, this is a controversial issue, since in private we can concentrate more easily, especially considering the adolescence's restlessness, their absent-mindedness and inconsistency of attention. Although, on the other hand, teamwork and some imitation of other students, a developed sense of rivalry, can also be an incentive for more successful learning of the material using the board + projector with the whole class than individually on the computer. Of course, using separate MCOs separately, and using several MCOs in a row in one lesson is hardly the right learning strategy. As well as the lack of help from the teacher, and the IES in general, since the learning process should include all possible and diverse aspects of the training, and can in no way be carried out, for example, without the help of a teacher. But in this study, our task was to consider the productivity of isolated use of MCOs, which was done.

        By conducting a study and summarizing the survey on the development of the material, we can only conclude which MCO should be distinguished from others when there is no opportunity, for example, for the school due to a budget deficit in purchasing various MCOs, and choosing the most effective one, and not which one is the best. According to the results of our experiment, we choose the projector, although the electronic textbook is also not inferior in its effectiveness (especially in terms of the convenience of the PC in the ability to conduct different types of work). The main thing to remember is that in no case you can always use only one MCO, they need to be combined and alternated, and then the learning process will capture students, show them something new, interesting and useful. At the end of our research work, we have proved the previously put forward (in the Conclusions after the first chapter, see p. 17) hypotheses. The work we have done has allowed us to take a fresh look at the problem of teaching English in seventh grades, and to identify some of the shortcomings of the application of IES in modern school. Also, we were able to highlight a number of advantages that would not be superfluous to bear in mind when teaching adolescents of this age group. Namely: Focused on collective work, can give better results in the study of linguistic material than the individual;

Be sure to have visibility;

Auditory visibility must be accompanied by visual;

Work should not take too long. A change of activities is desirable;

There should not be too many different MCOs in a row in a class. But in different lessons, MCOs should not be repeated as well;

**Conclusion**

      In this paper, the scientific concepts and principles of the use of multimedia in teaching a foreign language were considered as a way to acquire a large amount of knowledge, which implies a quantitative approach to learning (ie, collecting information); at the same time the computer becomes the means for achieving this goal.

       Multimedia technology helps students develop a deeper approach to learning and tools. All requirements applicable to the selection of multimedia materials for teaching a foreign language were systematized into two main groups: requirements invariant with respect to the level of education, relevant to all, without exception, multimedia teaching aids (MLS) and specific requirements for MES for the general secondary , higher professional, additional education, as well as training for people with disabilities.

       In this paper, an experiment was conducted to identify the most effective training module. Students and teachers can take great advantage of the use of a module in training.

      Also, this system of modules enables students to use the familiar Internet environment for educational purposes.

     Thus, the logical conclusion of the experimental part was the determination of its positive aspects and priority areas with a view to their use in foreign language lessons.

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