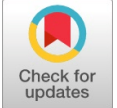


Educational Multimedia-Resources in Education

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Abstract: Educational multimedia resources are included in the learning process as a "support" means. In this case, information resources serve as a means of intensifying the training process, individualization of learning and partial automation of routine work of the teacher related to the integration, monitoring and evaluation of students' knowledge. **Relevance** The article discusses the fundamental changes occurring in all spheres of society in connection with the introduction of information and communication technologies (ICT), not only open up broad opportunities for the development and information support of the individual, but also pose new challenges for the education system [1]. In the most general form, these tasks are aimed at the formation of the individual's readiness for life and professional activity in the information society. Thus, the modern social order requires the improvement of professional training of specialists owning information and communication technologies, including multimedia technologies. **Methods** The use of multimedia tools to control knowledge. Such tools can be used both for intermediate knowledge testing (within the study of one topic of the course of database fundamentals), and for the final knowledge test (after studying a section or course). As a rule, students have a positive attitude towards tests submitted using a computer, and in determining the results there are no problems with biased (formal) grading. Such tests depending on the level of complexity, the number of questions and other parameters can be used at any stage of the study of the discipline. **Results** Students may encounter some difficulties caused by lack of experience with the test form of control. Testing requires students not only knowledge of a certain educational material, but also the ability to work with it, i.e. understand the specifics of the test tasks. To do this, apply in the classroom interactive tests. The Internet is also used to solve tests in on-line mode. **Organized in the classroom and after school hours, working with interactive tests forms the students' core information competencies, and for many they are the ones that are most relevant today and will be needed in the future.** **Discussion** The authors of the article describe the introduction of multimedia resources, their presentation as a complex process leading to changes in the content of education, revision of the methods and forms of organization of the educational process, the construction of holistic courses based on the use of meaningful content of information sources in individual disciplines.

Conclusion It is important to note that in most universities of the Republic of Kazakhstan teachers and students are not developers of multimedia resources used in education. Most often, teachers and trainees act as users of such tools. However, practice shows that every year an increasing number of teachers can not stay away from the development of simple, but electronic means of teaching. In this regard, it is advisable for a modern teacher to have an idea of how to develop high-quality multimedia resources, and about hardware and software — tools for creating computer-based learning tools.

Index Terms: multimedia, multimedia resources, database management systems (DBMS).

I. INTRODUCTION

In a broad sense, "multimedia" means a range of information technologies that use various software and hardware to most effectively impact the user (who has become both a reader, a listener, and a viewer).

Educational multimedia resources are included in the educational process as "supporting" means. In this case, information resources act as a means of intensifying the educational process, individualizing learning, and partially automating the teacher's routine work related to accounting, control, and assessment of students' knowledge.

II. THEORETICAL FOUNDATIONS OF RESEARCH

Of greater interest may be specialized multimedia tools, the main purpose of which is to increase learning efficiency. The number of such modern tools, first of all, should include interactive multimedia boards.

Interactive whiteboards are a multimedia tool that, having all the qualities of a traditional school blackboard, has more ample opportunities for graphic commenting on screen images. This multimedia tool allows you to monitor and monitor the work of all students at the same time, naturally (by increasing the flow of information presented) to increase the student's workload, ensure ergonomic learning, create new motivational prerequisites for learning, and conduct learning based on dialogue.

Consider the use of multimedia resources in the classroom in mathematics. For this discipline, the most valuable is the possibility of using the graphic component of an interactive whiteboard. This greatly simplifies the construction of typical shapes - squares, circles, various types of triangles, geometric bodies. In this case, you can use ready nested objects: cubes, balls, cones, etc.

Any object is moving - you can move it in the right direction and change the linear dimensions. In addition, by pressing the "Select" key, using the pop-up menu, you can order, fill the shape with different colors, use the page that is lined in a cell.

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Studying the new topic, you can use the "curtain" function, which allows you to close part of the screen, both from top to bottom and from right to left. For example, solving a problem, and the answer is closed with a "curtain". After a collective discussion, the correctness of the decision is checked: the "curtain" is removed, behind which there is a correct answer.

Using an interactive whiteboard in class allows you to efficiently distribute working time and makes learning an interesting creative process. An interactive whiteboard allows you to design different types of tasks, the use of which includes even weak students in their active work.

A great help in class is provided by a document camera, with which you can project any image on the screen. Using the document camera is very convenient to work with the textbook. Any drawing or text can be increased to such a size that it will be clearly visible to everyone. On the picture shown, you can select a separate fragment and stop the attention of students on it.

Multimedia learning tools contribute to the perception, assimilation and systematization of educational material, but their effectiveness largely depends on the method of inclusion in the educational process. In assessing the place and role of ICT in the system of math learning tools, it is necessary to take into account the didactic capabilities of various electronic resources in the learning process.

Each multimedia tool used in mathematics classes has its own characteristics that must be considered when preparing for a lesson.

The most popular and accessible form of presentation of educational material is the presentation created in the program Microsoft Office PowerPoint, which is actively used in the classroom. Electronic presentations can serve as screen didactic material when interviewing students, when studying a new topic, to consolidate new material, to summarize and systematize knowledge on the topic. Presentations are not only a source of information, but also determine one or another organization of the activity in accordance with its type and goals.

Multimedia technologies provide ample opportunities for various aspects of learning. One of the main advantages are:

- simultaneous use of several channels of perception of students in the learning process, due to which integration of information delivered by several different senses is achieved;
- the ability to simulate complex real-life experiments related to the need to store, present and systematize data of various types;
- visualization of abstract information due to the dynamic presentation of processes;
- an opportunity to develop cognitive structures and students' interpretations, framing the material under study in a wide learning context and linking the learning material with the students' interpretation;
- demonstration to students of the possibilities of building databases, including visual, text, audio and video materials [2].

Thanks to the simultaneous use of graphic, audio (audio) and visual information in multimedia products and services, these funds have a large emotional charge and are actively involved, both in the entertainment industry, in the practice of information institutions, and in home entertainment.

Modern computer tools attract the majority of students with a wealth of colors, multimedia capabilities, and a quick search for information of interest to them. The range of search is very large. The use of multimedia resources contributes to the development of students' desire to try new and new possibilities of the DBMS, provided that the teacher provides adequate support.

The use of multimedia resources of various problem situations that require interaction with structured information helps to increase students' activity in the process of learning databases and more efficient process of mastering new knowledge and technological methods of operating with DBMS. The presence and need for solving problem situations is also one of the motives for students working with multimedia resources. The problem of the situation lies in the fact that students are interested in obtaining the necessary multimedia information for the shortest possible period of time. To do this, the teacher needs to teach students to plan work time, teach different ways to solve the same task, methods of working with search engines and catalogs, the ability to critically evaluate the multimedia information received, part of which can be the content of the database being studied.

I would like to express confidence that the use of multimedia technologies and specially designed educational multimedia resources in teaching students will allow them to become familiar with the functionality of the DBMS and the general methodology for using such software in professional work related to the organization of data storage and processing.

A few words should be said about multimedia equipment, the use of which contributes to the effectiveness of training in database systems. As a rule, the majority of teachers and students familiar with computer equipment. Among the hardware multimedia tools accurately include speakers (speakers), a sound card (board) of a computer, a microphone, a special computer video camera and, possibly, a joystick. All these devices, indeed, are common components of multimedia equipment, are quite simple to use and have a fairly clear purpose. The use of multimedia training tools could raise the quality of student learning databases to a fundamentally higher level.

III. ANALYSIS AND DISCUSSION

Considering the above, it is possible to confirm the assumption that such technologies could play a positive role in increasing the efficiency of database training.

The use of multimedia technologies in teaching students is usually considered in four main areas:

- computer and multimedia technologies as objects of study;
- computer and multimedia technologies as a means of presenting, storing and processing educational information;
- computer as a means of organizing student learning interaction;
- computer as a means of managing student learning activities.

Consider the possibility of using multimedia technologies in teaching students database systems in more detail.

The use of multimedia in teaching the basics of databases should take into account that the purpose of such an educational process is to study the purpose and main components of the database system, an overview of modern database management systems (DBMS) and the levels of database representation. As part of the courses offered to students, the hierarchical, network and relational data models are studied.

The substantive requirements should also be met by substantial educational resources used in the framework of the use of multimedia technologies in teaching students databases. The creation and use of such multimedia resources should ensure:

- presentation of database descriptions and design rules in a systematic and structured manner;
- taking into account both the retrospectives and the prospects of the formed knowledge and skills in the formation and presentation of each operation related to the creation and maintenance of databases;
- consideration of interdisciplinary connections of the course of database bases with other subjects of student preparation;
- a didactically valid sequence of teaching materials and teaching influences;
- organization of the process of obtaining knowledge in a sequence determined by the logic of learning databases;
- ensuring the communication of information presented by a multimedia resource with the practice of designing and using databases through the selection of examples, the presentation of practical tasks, experiments, models of real processes and phenomena that require students to interact with the DBMS.

Thus, multimedia teaching tools allow you to more deeply reveal the content of educational topics, organize students' active activities, diversify teaching methods, switch students from one type of educational activity to another, thereby contributing to the development of attention and interest in the subject being studied, and willingness to expend efforts to overcome arising difficulties. .

There are quite a few positive aspects of the use of information and telecommunication technologies in education (among which, of course, multimedia). The main aspects include:

- improvement of methods and technologies of selection and formation educational content
- the introduction and development of new specialized academic disciplines and areas of study related to computer science and information technology,
- introduction of changes in the training system for the majority of traditional disciplines not related to computer science,
- improving the effectiveness of training due to its individualization and differentiation, the use of additional motivational levers,
- organization of new forms of interaction in the learning process,
- changing the content and nature of the activities of the teacher and student,

- improvement of the mechanisms for managing the system of training specialists in higher education institutions.

On the basis of network technologies, a completely new kind of teaching material has emerged: the Internet - textbook. The scope of Internet-textbooks is great: regular and distance learning, independent work. Equipped with a single interface, such an Internet tutorial can become not just a manual for one training course, but a constantly evolving learning and reference environment.

Internet:

- the textbook has the same qualities as a computer textbook, plus the possibility of replication with little to no media - there is one version of educational material on the Internet and the student-user gets access to it in the usual way for him through his browser. This brings significant advantages compared with the electronic textbook, namely:
 - shortens the path from the author of the textbook to the student;
 - the opportunity to quickly update the contents of the textbook;
 - decreases the cost of making a textbook;
 - the problem of identity is solved, that is, on almost all hardware platforms the material will look almost the same (the differences, of course, will be, but their influence on the student's work with the textbook can be minimized);
 - the possibility of including in the textbook any additional material that already exists on the Internet [3].

Negative aspects include the reduction of social contacts, reduction of social interaction and communication, individualism, the difficulty of moving from the sign form of knowledge representation on the textbook pages or the display screen to the system of practical actions that have a different logic from the organization of the system of signs. In the case of the ubiquitous use of multimedia technologies, teachers and students are no longer able to use the large amount of information provided by modern multimedia and telecommunications. Difficult ways of presenting information distract future specialists from the material under study. It should be remembered that if students simultaneously demonstrate information of different types, they are distracted from some types of information in order to keep track of others, missing important information, and the use of informatization tools often deprives the trainees of the possibility of conducting real experiments with their own hands. Individualization limits live communication between teachers and students, students among themselves, offering them communication in the form of a "dialogue with a computer". The student does not receive sufficient practice of dialogic communication, the formation and formulation of thoughts in a professional language. Unjustified use of computer technology has a negative impact on the health of all participants in the educational process. The above problems and contradictions suggest that the use of multimedia tools in teaching "the more the better" cannot lead to a real increase in the effectiveness of the system for training specialists in higher education institutions.

IV. CONCLUSION

The result of the systematic use of multimedia teaching aids is to improve the skills of the teacher, increase students' interest in the subject, involve more students in active activities, increase the effectiveness of classes. All this serves as a guarantee of deep and durable knowledge of the subject and predetermines the development of the student's personality.

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