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REQUIREMENTS FOR THE STRUCTURE, CONTENT AND DESIGN OF MULTIMEDIA ELECTRONIC TEXTBOOKS

Abstract: The degree of opportunity and strategies for using electronic textbooks to improve the efficacy of the scholastic process are clearly mentioned in this article. In addition, certain criteria relating to the general rules of creation and content are also specified.

Key words: information technology, electronic textbooks, multimedia technologies, high education, educational process, video lecture.

Language: English

Introduction

As the role of modern information technology in education is growing increasingly in all areas of economics, science and technology, and social life, there is a need for a range of changes and improvements in the organization and management of the educational process and teaching methods to improve the effectiveness of the educational process.

It is natural that the use in the educational system of new literature and textbooks, particularly when they are in the national language, creates some difficulties not only for students, but also for teachers in special educational institutions at the high and secondary level. In this respect, it is considered important to reform and improve the educational process on the basis of modern technology, to research developed countries' innovations and achievements, and to introduce them in our country.

Since the second half of the last century, the use of technology in the education system has existed in different ways. M.I. was among the first ones in this area. Gelfand, M.L. Seitlin, L.N. Londi, A.A. Lyapunov, Y. N. Yakova, A.P. Yershovaand S.I. Shapiro, proposing modern teaching approaches, non-traditional teaching aids and teaching methods in the education system.

The implementation of advanced pedagogical technology is based on the three concepts that follow:

- Creation of textbooks by partitioning them into parts;
- Putting parts in such a way that, under some circumstances, block diagrams are available from one to another;
- Reviewing textbooks prior to their introduction.

A variety of opportunities have arisen today to address the issues of education positively. The adoption of information integration and pedagogical integration Technologies in the educational process include the achievement of the objectives of increasing the efficacy of this process, covering the computer-based teaching and control process, as well as the incremental introduction of this process in a transparent way. Creation of the teaching and control process by relying on information technology-based electronic textbooks and organizing their mechanisms using software resources such as hypermedia, multimedia, hypertext, audio, video for each subject. One of today's challenges is teaching in the school system.

E-learning books or electronic textbooks are intended to expand the horizons of students, improve and deepen their initial knowledge and provide additional information to them, and it is proposed that they should be developed more for in-depth subjects. The content of educational literature gives students the

opportunity to think freely and independently, to gradually enrich and strengthen the knowledge gained, to gain independent learning, to look for new knowledge in educational literature.

An Electronic Textbook (ET) is a multimedia-based program enriched with text, audio, video data, power, animation, and graphics. ET's quality relies on the level of personal knowledge of the instructor, the style of the author, the pedagogical, psychological and methodological approach to the subject.

In contrast to a conventional textbook, ET offers a number of ways to illustrate instructional materials. ET must satisfy all learning process criteria, and must also execute didactic functions designed to help students operate more independently. Since the human body needs unique features to obtain information in electronic form, the psychological, esthetic, ergonomic, hygienic and methodological-psychological dimensions of ET need to be taken into account as well? Yet psychological obstacles may be such that students will not be able to directly receive information on a computer screen.

Depending on the degree of preparation, the e-textbook should contain a range of didactic content, self-monitoring tests and queries, and activities of varying complexity. Practice illustrates that the need must be fulfilled by a lecture. The best size 2-3 screen information is electronic text details. The volume of applicable lectures covered in the course or e-textbook should be as above in this case. It is advisable to break it into suitable parts in some way in order to position a reasonably large volume of text.

The primary aim of the usage of ET:
- Enhancing the consistency and efficacy of the educational process through the introduction of new methods of information and education and the use of modern information and pedagogy, as well as information and computer technology;
- Using digital educational tools and e-textbooks extensively, arranging their collections, applying methods of distance learning in reality, and accessing the continuing education system to the global electronic system.

Creating an ET:Before you start creating an e-textbook, you need to fully design the relevant textbook. There are specific objects of ET creation:
♣ Teacher;
♣ Creator of ET - technical specialist, designer;
♣E-textbook.

Teacher. ET's quality depends on the teacher's level of personal knowledge, the style of the author, the pedagogical, psychological and methodological approach to the subject. Every ET undoubtedly has its own laws, definitions and arguments. The instructor decides the ET course structure, indicating which components it will consist of. It is possible to split each curriculum into its own sections and components. The initial concept of the next element could be one component, which is the product of teaching the element, and some of its elements may be related in some way to each other. In this situation, the production of one ET course can be the foundation for a particular one. The instructor analyzes in detail all the above-mentioned processes and gives the designer who developed the ET the resulting algorithm. The maker of this ET is the designer. In developing ET, he should pay attention to the pedagogic, psychological aspects. A simple, easy-to-use structure should be built for ET. In the course of designing an ET, the designer should take the following statements into consideration:
- The principle of uniformity - ensuring that all the relevant components of the ET are the same;
- Selecting a single size for text and objects;
- Selecting a suitable background;
- Convenient interface;
- Choosing the right colors;
- Software and hardware compatibility

E-textbook. In the process of creating an ET with the necessary software, it is necessary to pay attention to the following, in which the ET is built on the basis of the following objects:

1. Basic concepts: structure of topics; theoretical part; practical training; laboratory developments.

2. Auxiliary information: pictures, graphic elements; audio; video; animations.

3. Oriented issues: a demonstrative view of the course of this or that process.

4. Control: elements that control the learning process; test appearance; directional questions.

5. Additional elements: objects that increase the quality of ET; different colors; frames; menus; auxiliary buttons.

Moreover, through video lectures and video materials, ETs can also be coordinated. The entire course or sections of it that are difficult to access are protected by video lectures. It is possible to plan and coordinate meaningful learning experiences for students with the use of these technical resources.

You can completely understand the subject of science with simple images, graphs, different symbolic details. As the simplest effective way, various objects, diagrams and moving demonstrations in the video lecture enter the mind of the student through the primary signals. The probability of information being received would be high.

Possibilities of video lectures to increase the efficiency of the educational process:
- Virtual access of students to the field of future specialization, scientific laboratories, openness;
- Observation of processes, events, appearances and their various models that are difficult to understand (rarely performed, continuous);
- To feel and understand the progress of a problematic process by managing its live demonstration; • Demonstrations are based on

attention-grabbing, affective-emotional, appropriate logical methods of influence.

It is important to construct the video lecture in such a way that it gives the consumer a natural impression. It is very successful to illustrate the aim of the study by displaying images and videos. When observing the process of conducting different graphic representations, mathematical processes, chemical reactions, logical formulas and calculations, have "own spoken language".

Conclusion

A variety of electronic textbooks such as "Informatics, information technologies", "Web page creation technologies", "NamoWebEditor", "Computer networks", "Adobe Flash", "Adobe Dreamweaver", "Computer graphics", "Video data processing software", "JavaScript course " for information technology specialties of higher education institutions have been developed based on the above criteria.

The use of these ETs creates a number of advantages:

- Teacher and student save time in use;
- Brings the student closer to modern technologies;
- Has comprehensive savings;
- The scope of the student's study is not limited;
- Convenient, easy and simple for student learning;
- There is an opportunity to quickly and constantly change the curriculum in accordance with modern requirements.

Sound Forge, iSpring, AutoPlay, CoursLab, Adobe Photoshop, Adobe Dreamweaver, JavaScript, Adobe Flash, Camtasia studio, Pinnacle studio and other software tools were used to create ETs. ET has a user-friendly interface and is enriched with video data. Also it possesses control of test according to the course. ETs are used by university students and teachers, as well as volunteer users. They are also included in the university's distance education system platform.

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