

THE SPECIFIC REQUIREMENTS OF THE ELECTRONIC TEXTBOOK – AN IMPORTANT INNOVATIVE TECHNOLOGY IN THE EDUCATIONAL PROCESS

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ABSTRACT

This article is dedicated to the integration of the latest innovative technologies, more precisely electronic textbooks, into the process of language learning. Creating high-quality electronic textbooks, like traditional textbooks, needs to know and follow the requirements that will make them more effective in use.

Keywords: innovative technologies, educational process, an electronic textbook, didactic requirements, methodological requirements, psychological requirements

АННОТАЦИЯ

Данная статья посвящена интеграции новейших инновационных технологий, точнее электронных учебников, в процесс изучения языка. Создавая качественные электронные учебники, как и традиционные учебники, необходимо знать и соблюдать требования, которые сделают их более эффективными в использовании.

Ключевые слова: инновационные технологии, учебный процесс, электронный учебник, дидактические требования, методические требования, психологические требования.

ANNOTATSIYA

Mazkur maqola til o'qitish jarayonida zamonaviy innovatsion texnologiyalardan biri bo'lgan elektron darsliklarga bag'ishlangan. Elektron darsliklarni yaratish jarayonining o'ziga hos talablari mavjud bo'lib, ularga rioya qilish darslikning talim jarayonidagi samaradorligini oshiradi.

Kalit so'zlar: innovatsion texnologiyalar, ta'lim jarayoni, elektron darslik, didaktik talablar, metodik talablar, psixologik talablar.

INTRODUCTION

As a result of development, various innovative technologies have entered our daily lives and they are improving year by year. There is no denying that these have become the meaning of human life, and that there are those who cannot imagine a day without them. Of course, we are already convinced of enriching the educational

process with innovative technologies, improving the quality of teaching, making it interesting, colorful, and now every teacher uses them. In this regard, it should be noted that there are specific requirements for the creation of electronic textbooks.

RESULTS AND DISCUSSIONS

In the process of creating an electronic textbook, there are some requirements such as: psychological-pedagogical, technical-technological, aesthetic and ergonomic. An e-textbook should also meet the didactic requirements of traditional textbooks, such as printed textbooks.

Didactic requirements must comply with the specific laws of teaching and the didactic principles of teaching. The following are the traditional didactic requirements for an electronic textbook:

1. Taking into account the latest achievements of science, engineering and technology in teaching ensures a sufficient depth and reliability of the content of educational material. The process of mastering the learning material using an electronic textbook should be built in accordance with modern teaching methods. For example, experiment, comparison, observation, abstraction, generalization, rounding, similarity, analysis and synthesis, modeling method, method of systematic analysis.

2. Requirements for the achievement of teaching are implemented in the form of electronic textbooks and indicate the need to determine the level of complexity and depth of study of educational material specific to the age and individual characteristics of students. There is no need to over-complicate and overload the study material, in which case the learner may be unable to master this material.

3. The requirement to ensure the difficulty of teaching. If the learner tries to complete problem-solving tasks and exercises, his or her thinking activity will increase. The level of fulfillment of this didactic requirement using electronic textbooks will be significantly higher than traditional textbooks and manuals.

4. The requirements for the demonstration of teaching imply the need to take into account the sensitive perception and personal observation of the objects studied by learners, their models.

5. Requirements for ensuring the awareness, independence and activism of students - provide electronic textbooks and tools for students to work independently to involve educational information in achieving the ultimate goals and objectives of educational activities. In this case, the learning activity for the learner means a goal-oriented and content. E-textbooks in special subjects should be developed on the basis of a systematic approach.

6. Requirements for the structure and sequence of teaching in the use of electronic textbooks - means to ensure the consistency of the acquisition by students of a certain system of knowledge and skills in the field of study. Knowledge, skills and abilities must be formed in a logical order in the education system and find their place in life. To do this, it is necessary to:

- recommend the structured study material;
- take into account the development of knowledge and skills formed in each section of the training material;
- ensure interdisciplinary relevance of the studied educational material;
- thinking the sequence of transmission of educational material and educational influences;
- build the educational process in a sequence determined by the logic of teaching;
- The information recommended by the e-textbook, the content and method of teaching should be chosen depending on the individual abilities of the learner, for example, to create meaningful play situations, provide links to practical activities by recommending practical tasks and experiments, models of real processes and objects.

7. The requirements for the robustness of knowledge acquisition in the use of electronic textbooks are of great importance in the development of students' skills such as deep thinking, memory, so that they can master the learning material.

8. Requirements for the implementation of developmental and educational functions of teaching in the electronic textbook.

In addition to the didactic requirements for traditional educational publications, the e-textbook also has the following specific didactic requirements, such as the use of the advantages of modern information and telecommunication technologies in its creation and implementation:

1. Flexibility requirements - the e-textbook should be adapted to the individual capabilities of the learner, ie the knowledge, skills and psychological characteristics of the learner in the learning process. In doing so, three levels of e-textbook flexibility are distinguished. The first level is the opportunity for students to study the learning material at an individual pace that is convenient to them. The second level is a diagnostic analysis of the student's condition, based on the results of which the content and method of teaching are proposed. The third level is based on an open approach, which does not involve the grouping of users, and the authors are advised to develop as many options as possible for as many contingents of learners as possible.

2. The requirements for interactive teaching include ensuring the interaction of the electronic textbook with the learner in the learning process. Electronic textbook tools should provide interactive communication and feedback. An important part of the organization of communication is the reaction of the electronic textbook to the user's actions. That is, the feedback carries out control, makes recommendations on further work, provides constant access to reference and explanatory information.

3. Requirements for the introduction of computer visualization in the presentation of educational information in the electronic textbook. It involves the analysis of the capabilities of modern electronic media and the quality of the presentation of educational information in the electronic textbook.

4. Requirements for the development of intellectual abilities of students in working with electronic textbooks. Thinking involves the ability to make independent decisions in complex situations, the formation of information processing skills.

5. Electronic textbook - must meet the requirements of structural and functional connection of the presentation of educational material.

6. Electronic textbook - should ensure the completeness and continuity of teaching.

Methodological requirements are inextricably linked with didactic requirements for e-textbooks. Methodological requirements include taking into account the specifics and features of the subject for e-textbooks, methods of researching its laws, the possibility of introducing modern methods of information processing. In our opinion, the electronic textbook created from special disciplines should meet the following methodological requirements:

1. Electronic textbook - should be built on the interdependence of the conceptual, figurative and moving components of the presentation of educational material.

2. The electronic textbook should present the educational material in the form of a high-order structure, taking into account the interdisciplinary logical interdependence.

3. In the electronic textbook the student should be able to gradually master the educational material and to carry out various controls.

In addition to taking into account the didactic requirements for the development and use of the electronic textbook, there are a number of psychological requirements that affect the success and quality of its creation. The following are the psychological requirements for an electronic textbook:

1. Demonstration of educational material in an electronic textbook should correspond not only to the verbal, but also to the sensory and demonstrative states of the cognitive process. The e-textbook should be developed taking into account the characteristics of psychological processes such as reception, attention, thinking, imagination, memory storage.

2. The educational material in the electronic textbook should be designed taking into account the age of the learners, basic knowledge.

3. The electronic textbook should be focused on the development of figurative and logical thinking.

The electronic textbook used in lectures should be equipped with the ability to videotape, audio observation, illustration with animated videos, demonstration of complex processes, graphical and audio visualization of texts.

The electronic textbook used in the experimental training should have automation tools to prepare the student for work, start work, perform experimental work (experiment), process experimental results, prepare the results of experimental work, defend the work. Such e-textbooks should have modeling components that create virtual experiences, allowing the study of various processes on an accelerated and slowed time scale. In experimental work, there should be automated programs designed to control the knowledge and skills of learners.

The e-textbook used in the practical training provides the student with information about the topic, purpose and procedure of the training; provide information on the correctness or incorrectness of the answer; monitor the knowledge of each learner; show the necessary theoretical material and methods of solving tasks; Should provide feedback in the order "teacher - textbook - student".

The structure and content of the e-textbook should be in line with the curriculum of the studied subject, as well as focus on in-depth study of the study material.

An e-textbook created for the education system must meet the following general requirements:

- The content and structure of the electronic textbook must meet the requirements of the educational standard,

- electronic textbook should have an intellectual teaching system of problem and research tasks,

- automation of such aspects of search, collection, storage, analysis, processing of electronic textbook educational activities; should include automation of calculations, design and construction, experimentation, processing of experimental results, control tasks, information processing,

- The electronic textbook should contain the imitation of the work of complex objects (machines, equipment, hardware, devices, etc.), the means of transition of various processes in real, accelerated or decelerated time,
- e-textbook training tools - it is necessary to train the student in a virtual environment, depending on his future career,
- All electronic calculations in the electronic textbook should have an open system of visualization, demonstrate the interdependence of variable objects or processes.

CONCLUSION

In conclusion, in recent years, the country has been working hard to develop information technology tools for the use of electronic textbooks, as well as the organization of distance learning. The scientific and methodological aspects of creating electronic literature are being studied by many scientists. Therefore, the use of e-textbooks in the education system will soon become a daily necessity like ordinary textbooks.

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