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METHODOLOGY FOR THE DEVELOPMENT AND USE OF PEDAGOGICAL SOFTWARE PRODUCTS

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The development of active, effective means of education can be created from the creative competence of each teacher and through a convenient and easy description of information quality and scientific data used in it. E-learning resources can be used not only as information, but also to acquire new knowledge.

Today's one of the increasing factors in the effectiveness of education of our country is the use of electronic textbooks. Many authors have tried to formulate a general definition for an e-textbook.

L.H Zaynutdinova "e-textbooks" - a comprehensive educational software system that ensures the continuity and completeness of the didactic cycle of the educational process: provides theoretical materials, monitors the level of training and knowledge, as well as information retrieval, mathematical and simulation modeling, a software-methodological complex that provides interactive feedback with computer visualization and service functions.

Based on these definitions, if we compare the features of e-textbooks with traditional textbooks, we will have more detailed information based on the following image:
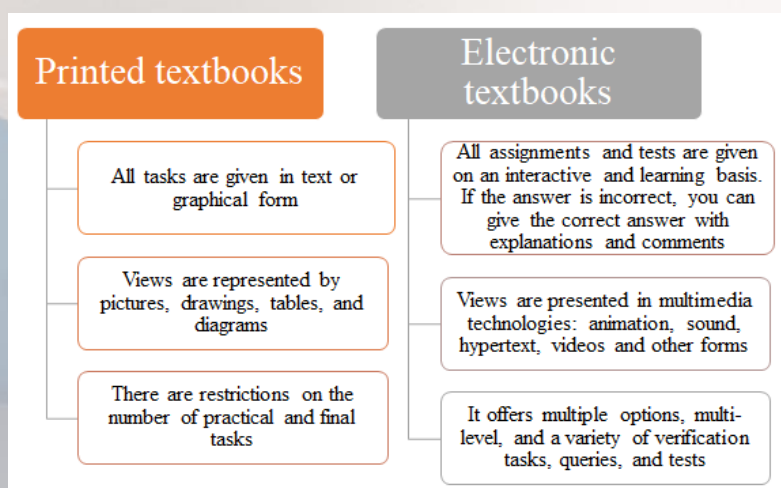
Electronic textbooks can be prepared by experts or by the teachers themselves. Besides to the concept of e-textbooks, there is another concept in modern education - the concept of pedagogical software.

Pedagogical software is a didactic tool designed to partially or completely automate the learning process using computer technology. They are one of the promising forms of increasing the efficiency of the educational process and are used as a teaching tool of modern technologies. The structure of pedagogical software includes: software product (set of programs), technical and methodological support, additional aids aimed at achieving specific didactic goals in the subject.

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Nowadays, e-textbooks, pedagogical software and online courses are becoming an increasingly popular format - it is more convenient for schoolchildren, students and adults to learn at any time and anywhere and use teaching materials on any device.

Based on the ideas presented, we will look at technologies for creating e-textbooks, pedagogical software, and online courses.

We can call programs that are convenient for creating pedagogical software tools Adobe Flash, iSpring Suite, CourseLab, eBook Maestro, NVU, Document Suite, Smart Builder, Easygenerators. These programs are the most modern programs that can be used in the creation of pedagogical software tools.

Adobe Flash is a multimedia platform designed by Adobe Systems to create web applications or multimedia presentations. Flash is used for animation, game creation and listening to video and audio on web pages. Adobe Flash uses the ECMAScript-based ActionScript language.

The process is similar to Java, but a special Action Script language is included which is easier to learn. Software modules written in this language are imported as applications and included in the animation frame where the image needs to be changed dynamically.

The proliferation of Adobe Flash technology and their great potential are related to the development of pedagogical software tools. Adobe Flash technology is a powerful, easy-to-use tool for creating animated projects based on vector graphics that support internal interactivity. It is an ideal work tool for artists and designers, allowing you to fill web projects created by Adobe Flash with animation and sound.

In **iSpring Suite** you can create electronic tests, interactive simulators, dialogue simulators, slide recordings, screen recordings, video editing or educational games.

CourseLab is a powerful and easy-to-use software tool for preparing interactive learning materials (electronic textbooks) for use in systems, CDs, or any other storage device. Main features of CourseLab: Create and edit training materials that can be viewed and results obtained in the WYSIWYG system. It does not require the programmer to know HTML or other programming languages. You can also use eBook Maestro, NVU, Document Suite, Smart Builder, Easygenerator.

Here are the best examples of creating pedagogical software based on the use of **Adobe Flash** technology.

Our e-learning manual is exported to the **.exe** file type as software modules created in Adobe Flash on the example of 7th grade computer science and information technology science of secondary schools.

The program we created consists of "Topics", "Conditional marks", "Evaluation of knowledge" and "Creators" sections. After launching the program, the main page will appear - on this page, users will enter their first and last name and go to the next page by clicking the start button. The next page is a sequence of topics. Students select topics based on the given content and receive information on the selected topic. The information provided is presented

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in text, audio, image and other formats. Once students have information on a given topic, they perform a variety of didactic exercises to reinforce them using a variety of methods. Exercises are given in several ways - it helps not only to master the subject but also to learn effectively. For example, topic 1 is given in the contents of our e-textbook. When it comes to the concept of information and knowledge, students use a variety of playful technologies to reinforce them once they have all the concepts on the topic. Students will need to play several didactic exercise performance to reinforce a given topic.

In the knowledge assessment section, it can perform the exercise "Finding compatibility".

In this exercise, you are told to find a logical match that matches the vocabulary in the table. Users match the given words and complete the game. The game will not end if no matches are found.

If every match in the scene is placed correctly, the exercise will stop and our scene with the correct answers will open. If students fail to complete this stage, they will be able to try again, and this will be a very effective way of mastering the topic. This type of learning content can also be created using a constructor program, but these programs use standard homogeneous templates. In the Flash program, we will be able to create forms that match the content of the exercise and the form of execution. This will be the basis for using the methods we like and creating an exercise model.

In summary, the use of **iSpring Suite, CourseLab, as well as Adobe Flash technology** in the creation of pedagogical software allows for the creation of interactive exercise tools, and the use of such pedagogical software makes learning more interesting and meaningful. Therefore, this technology is one of the leading companies in the field of creating learning resources in the e-learning system.

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