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ORGANIZATION OF COMPUTER SCIENCE BASED ON MODULE TECHNOLOGY

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ABSTRACT

The article provides clear and complete information about the organization of computer science based on module technology.

Keywords: Module, module technology, module teaching, module system.

Recently, one of the effective directions of educational development, which is widely used, is the teaching of subjects based on module technology. It is known that in traditional education, the goals are mainly aimed at imparting knowledge, and in teaching based on module technology, they are directed at the activities of learners.

A module is a unit of educational materials focused on the study of interrelated fundamental concepts of a science and created on the basis of a didactic principle. As a result, step-by-step training is possible.

According to pedagogues, if teaching is properly organized on the basis of module technology, students at any stage of education will learn new educational materials, improve their skills and qualifications. The module is developed on the basis of an algorithm and includes the following components: a specific goal, theoretical knowledge, practical training, methodological guidance, supervision, mastered knowledge, testing and evaluation of skills, etc.

Training based on module technology is carried out in the following sequence:

- Analysis of initial conditions in modular training;
- Defining the educational goals and content of the module;
- Preparation of educational and didactic materials and teaching tools;
- Conducting theoretical and practical training;
- Assessment of theoretical knowledge and practical skills of students.

All of the above is aimed at expanding the level of thinking of students, understanding the cause of events, and teaching research.

The essence of the module system is that learners learn the modules of individual units of education in a consistent sequence.

The use of a modular system in computer science makes it possible to quickly develop and implement a new modular unit instead of an old one.

The advantage of teaching on the basis of a module system in computer science is that more attention is paid to the learner, his independent work on himself, and self-control.

The duration of training based on the module system depends on the training of the learner and the level of his desire to acquire professional qualifications.

Training can be stopped after the desired model of training.

1. Analysis of the initial conditions for the organization of training based on module technology. In order to prepare for the teaching of computer science based on module technology, that is, to organize theoretical and practical training, work will be carried out in three directions.

First, the state of preparation of students is analyzed, and their knowledge, level and ability to master educational materials is determined. Because their self-confidence, ability, personal status, and age have a certain influence on their education. Based on the classification of students according to their abilities, they are recommended to learn the subject independently.

Second, the existing conditions are analyzed. It includes the following: legal conditions. In this, the curriculum and programs related to the educational process are studied. Conditions related to the organization of the educational process. In this case, the place and other conditions of the theoretical and practical training included in the module are studied. Technical conditions. In this, the availability and condition of technical equipment and devices, educational and auxiliary audio-visual tools are studied.

Thirdly, the topics to be covered are analyzed and various resources, such as study materials, etc., necessary for determining the content of the modules are studied. For example:

* Textbook, manual and other literature in the field of information technologies;

* Scientific literature (electronic textbooks, Internet information) is studied.

2. Determining the educational purpose and content of the module in computer science. In teaching on the basis of module technology, the purpose and content of computer science education, the purpose and content of modules are determined. At the end of the educational goals, the knowledge, skills and personal skills that the student should achieve as the result of education are determined. Learning objectives are developed based on the requirements of the network learning standard. The clearer the learning objective of the module, the easier it is to assess the level of achievement.

3. Preparation of educational and didactic materials and educational tools according to the module. Educational didactic materials and educational tools mean sources of information that serve to form knowledge and skills. In the teaching of computer science based on modular technology, textual visual tools, such as educational literature, electronic textbooks and lecture texts, handouts, methodical instructions are used as educational didactic materials in theoretical and practical lessons.

4. Conducting theoretical and practical training. It is recommended to conduct the theoretical training included in the module in the following sequence.

Interest (motivation). In teaching informatics and information technologies based on module technology, lessons can be started with interesting, even information that is not directly related to the lesson. For example, the lesson starts with an interesting discovery related to the topic, internet information, news or service explanation. This has a positive effect on the mood of the learners and helps them to be interested in this field or the topic to be studied in the next lessons.

Giving information (knowledge). The teacher explains the new material to the students, gives short lectures, organizes discussions and educational conversations. Before studying a new module unit, the previous module units are repeated with a brief summary. Appropriate handouts are provided for the module unit. This makes the learning process easier. Sufficient time will be allocated to distribute and review them as per module unit.

Giving tasks to strengthen acquired knowledge.

Pupils and students are given tasks that create an opportunity to think and process information.

After each task or exercise, the work is evaluated. An open and honest discussion of the results in groups is also highly effective. At the end of the module study, time should be allocated for a final interview. This gives the teacher and the student a good opportunity to reflect on the results of the student's activities, what they did and did not improve.

5. Assessment of theoretical knowledge, practical skills and qualifications of students. In the teaching of computer science based on module technology, the knowledge and skills of students should be regularly evaluated in accordance with the educational goals. Assessment is based on pedagogical principles and State Education Standards. Through evaluation, the whole learning process of the module and all its components are checked for acceptability. This will determine whether the modular training is giving the expected result or not.

To conclude, by organizing computer science on the basis of module technology, great opportunities are created for deep and perfect study of educational material. With this, each learner and teacher can strengthen their knowledge based on their ability and potential.

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