

## WORKBOOK AS PART OF THE PHYSICS TEACHING COMPLEX

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New requirements are being developed on the content and organization of education, which should be aimed at developing a child's personality and initiative, as well as at organizing students' independent cognitive activity. Teachers and students organize the educational process on the basis of educational and methodical complex. Therefore, there is a need to create a didactic textbook for students focused on carrying out their cognitive activities. It is advisable to consider a workbook as such a tool. The content and structure of such a workbook should be developed.

**Material and methods.** The didactic basis for the organization of the educational process in an educational institution is an educational-methodical complex (EMC) based on modern achievements of pedagogical science (modern educational paradigm).

In accordance with the modern educational paradigm, the educational process is represented as the organization of students' independent cognitive activity. The subjects of interaction are a teacher and a student. In this case, the teacher acts as an organizer of educational environment, and the student recreates the content of subject knowledge using the methods of basic science [1].

On the one hand, a CBM is defined as a model description of the projected pedagogical system that underlies it. On the other hand, QMS is considered as a system of didactic teaching tools for a particular subject (with the leading role of a textbook), created for the fullest implementation of educational and training tasks, formulated by the educational standard and curriculum for this subject and serving the comprehensive development of students' personality.

**Findings and their discussion.** Educational complex is an open system of didactic tools (as opposed to a complex). Being components of a complex, learning tools are interconnected in terms of content and complement each other in terms of functionality.

The structure of the teaching and learning complex includes tools that allow the teacher to organize all the stages of students' independent cognitive activity (planning, perception, comprehension, memorization and application) effectively. It gives the complex integrity and determines the composition and filling of its components [2].

The composition of the workbook and the relationship between its components according to the stages of knowledge acquisition are shown in Figure 1.

The structure and content of a workbook are determined by a set of the following types of learning activities (learning actions) carried out by students while mastering subject knowledge and skills, ways of subject cognitive activity:

The workbook structure and content are determined by the combination of the following types of learning activities that students carry out when obtaining subject knowledge and skills and ways of subject-related cognitive activity:

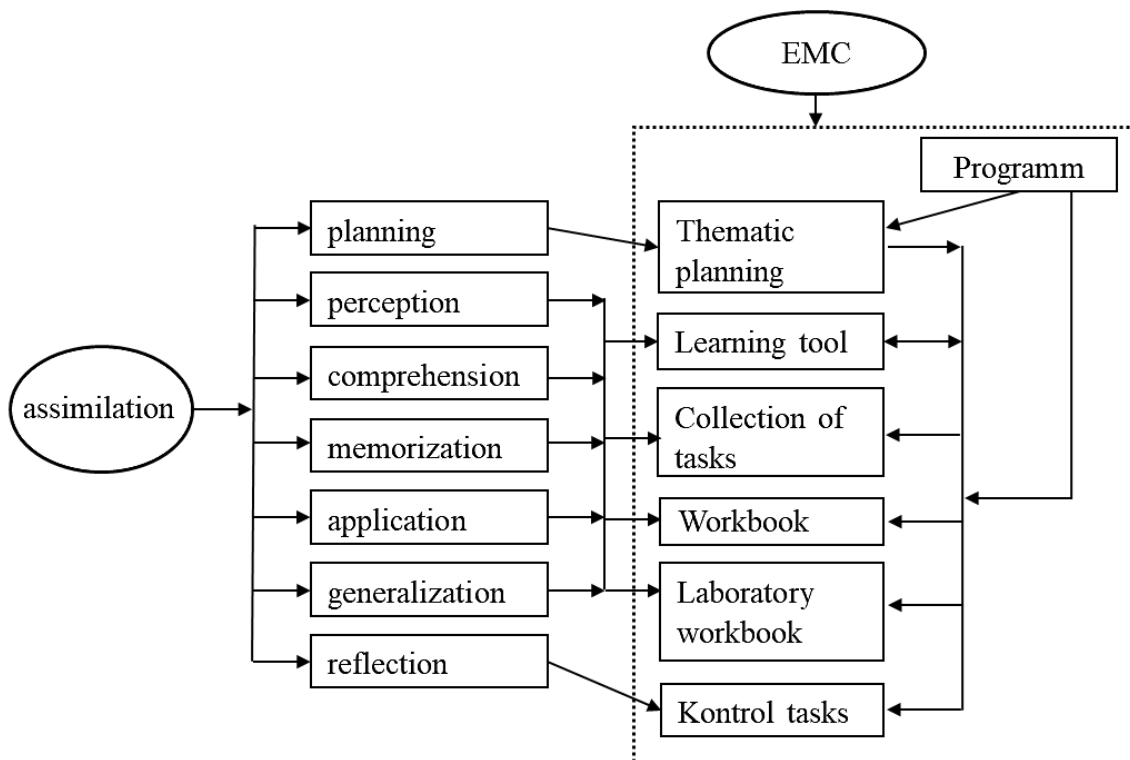


Fig. 1

- planning cognitive activities;
- selecting an orientation framework for acquiring knowledge and skills;
- selection of available sources of learning information;
- subjective creation of the structural elements content of physical knowledge;
- planning and carrying out educational research;
- solving physical tasks;
- self-control of cognitive activity.

The list of these cognitive activities of students allows us to define the structure of the workbook and to include the following:

- generalized schemes of describing the content of the structural elements of physical knowledge;
  - logical-structural schemes of learning content;
  - algorithms and samples of problem solving;
  - a brief description of the experimental tasks;
  - outlines;
  - descriptions of the results of learning experiments;
  - tasks for home experiments and observations;
  - self-monitoring quizzes.

The idea of a modular representation of learning content can be chosen as an organizational basis for defining the structure of a workbook. There are different approaches to interpret the concept of module and module technology both in terms of structuring learning content and developing forms and methods of teaching.

Each training module includes interconnected and interdependent structural elements of subject knowledge. This determines the place and role of each structural element of the module, and the educational module as a system formation.

The modular construction of physical knowledge allows to:

- organize students' planning of learning cognitive activities effectively;
- clearly define benchmarks for mastering physical knowledge;
- use class time in the economical way through focused carrying out of the main stages of students' cognitive activity;
- use modern educational technologies based on the idea of modular construction of the teaching content;
- consciously select and use various didactic teaching aids;
- conduct an objective assessment of knowledge and skills of students;
- organize reflection on the cognitive activity of students effectively [1, p. 54].

**Conclusion.** The use of a workbook when organizing the learning process provides conditions that allow you to focus students' attention on the main and essential issues.

1. Krotov, V.M. Theory and practice of organizing students' independent cognitive activity while studying physics: monograph / V.M. Krotov. – Mogilev: UE "MSU named after A.A. Kuleshov, 2011. – P. 286.

2. Educational and Methodical Complex: Module Development Technology, Educational and Methodical Manual / A.V. Makarov– Mn.: RIHS BSU, 2001.

## **COMPARATIVE ANALYSIS OF M. MONTESSORI, A.V. ZAPOROZHETS AND L.A. WENGER'S SENSORY EDUCATION SYSTEMS FOR PRE-SCHOOL CHILDREN**

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With the humanization of modern education, great attention is paid to the development of individual characteristics of the child, the formation of his or her personality. Preschool children should develop intellectual abilities and form cognitive interest. In the present conditions, this can be implemented by paying attention to sensory education from an early age. [3]

The aim of the work is to analyze and compare the features of the organization of sensory education in the system of M. Montessori, A.V. Zaporozhets, L.A. Wenger.

**Material and methods.** The teaching materials used in research include the pedagogical works of M. Montessori, A.V. Zaporozhets, L.A. Wenger as well as scientific articles on this topic. Analysis of the literature on the problem of research, logical research methods were used as research methods.

**Findings and their discussion.** Sensory education is the formation and development of children's sensory organs. The basis of sensory education are subject knowledge and skills regarding external properties. It is sensory education that allows