DEVELOPMENT OF TEXTBOOKS AND EDUCATIONAL MATERIALS FOR SPECIALIZED SUBJECTS TAUGHT BY HIGHER EDUCATION INSTITUTIONS

Khudaiberdieva Sitora

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Аннотация

Ушбу мақолада олий таълим муассасалари ўқитиладиган ихтисослик фанларидан яратиладиган дарсликлар тузилмаси, ўқув матнлари мазмуни ва уларни ишлаб чиқишда қўйиладиган талаблар баён этилган.

Аннотация

В данной статье описывается структура учебника по специальным дисциплинам, содержания учебных текстов и предьявляемие требования к их разработки

Abstract

This article describes the structure of textbooks, the content of educational texts, and the requirements for their development.

The creation of a new generation of educational literature from the specialized subjects taught in higher education institutions and its introduction into the educational process plays a major role in the acquisition of knowledge, skills and abilities of future specialists, as well as in the development of their independent work skills and abilities. Today, an expert is formed not by means of explanations and demonstrations, but in the process of independent activity and practical effects.

The analysis of the conducted literature and scientific works made it possible to study the structure of the textbook, its model and elements, as well as to study the issues related to the development of educational materials of the textbook.

Q.T. Olimov According to Olimov, the new generation of textbooks should be aimed at students' independent assimilation of knowledge, formation of skills and qualifications, independent search and finding of the necessary material, teaching of application in practical activities and development of creative abilities [1].

In our opinion, the structure of the textbook means the division of the content of the educational material into sections, chapters (modules), topics in a logical sequence and interdependence based on the didactic requirements, which fully cover the topics of the curriculum.

According to I. Ya. Lerner, the quality of the textbook is the scientific level of the educational material, its comprehensible and reliable interpretation according to the levels of teaching, as well as depending on the age characteristics of the students; qualitative selection of real material for the topic, its accuracy and quantitative adequacy; compliance with didactic requirements; correlation of the textbook with other textbooks on a specific subject; should be analyzed according to indicators such as the structure of methodological apparatus [2].

Scientific research works aimed at modeling textbooks, including textbook model recommended by A.Kusainov [3], Q.T. Olimov The models developed by [1] were studied and we developed the "textbook structure of the specialty"

(Fig. 1).

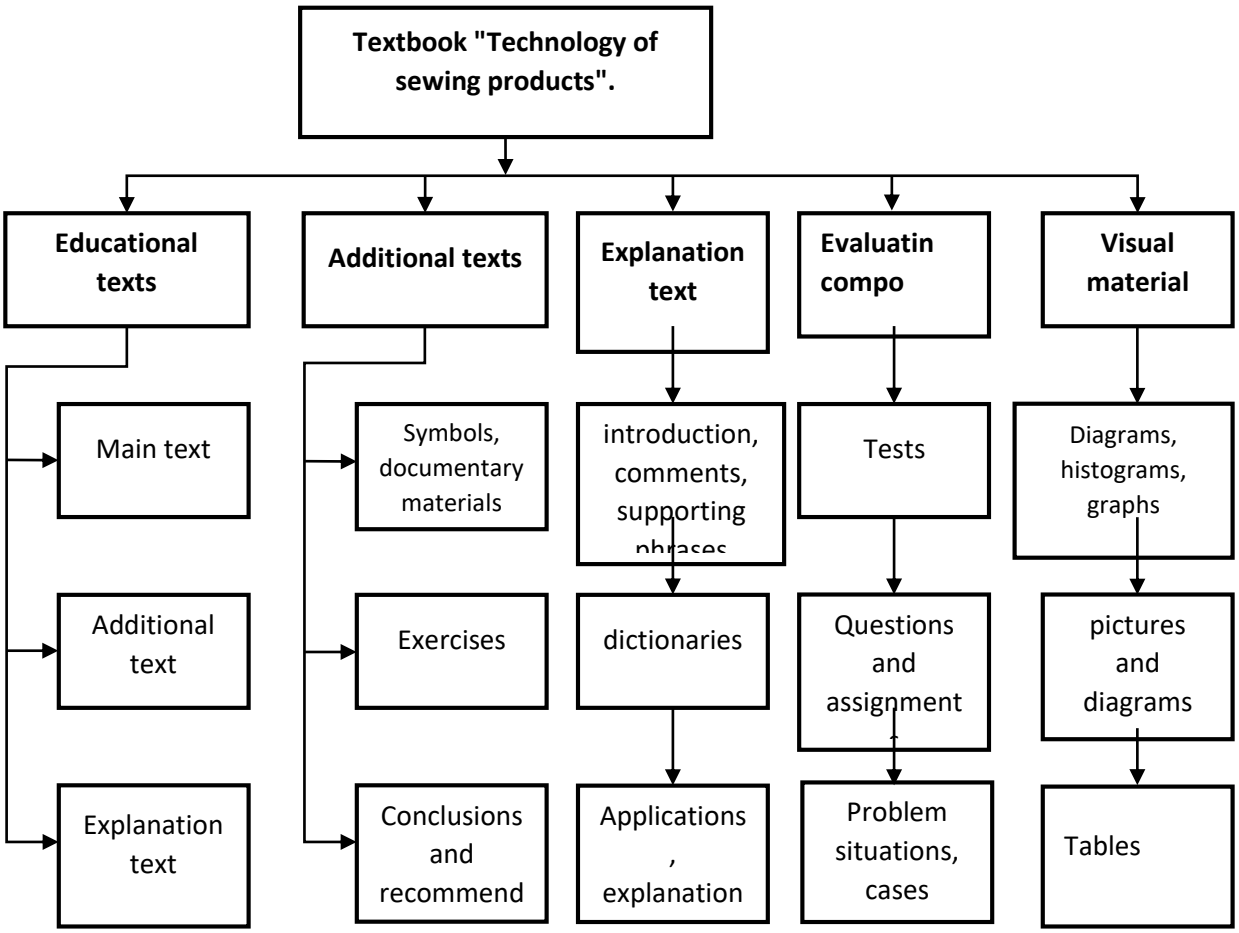

Figure 1. The structure of the textbook "Technology of sewing materials".

In this structure, the interdependence of the components is visible. Successful mastering of specialized subjects by a student depends on the presentation of textbook content.

Educational material - determines the content of the textbook or training manual. It should show a dynamic model of organization of activities in acquiring knowledge, skills, and qualifications.

Textbooks of specialized subjects consist of a system of textual and non-textual components, and texts form the basis of this system.

The text is the main written system that explains the content of the educational material in the textbook in a sequential and maximally complete manner in accordance with the curriculum [4].

The text is the main information carrier that determines the nature and extent of the educational content to be mastered by the student [5].

The content and process aspects of teaching are introduced together in the text.

The textbook consists of the following educational texts.

1. Main text.
2. Additional text.
3. Explanatory text.

The main text serves as the main source of educational information that must be studied and mastered by the student. The foundation of the main text is information about basic concepts, rules, theories and methods of operation.

The main text of the specialty can be divided into two groups:

1. Theoretical - basic terms and language of science, basic events, objects, technological processes, inventions and discoveries, experimental experiments in scientific texts; basic laws and theories; leading ideas are described.

In the texts of this group, the principle of operation of any device, the execution of technological processes, the structure of structural elements should be theoretically fully covered. The sequence of execution of equipment, devices, tools and technological processes, etc. must be clearly and comprehensibly explained, concepts and theoretical thinking must be generalized. In addition, conclusions and generalizations should be given from the material covered by major sections, chapters and clauses.

2. ***In experimental-practical matins*** - the methods of practical activity performed by the student in mastering the educational material of the specialty and acquiring knowledge independently, the principles and rules of applying theoretical knowledge to obtain accurate information, the description of the main research methods; problems, exercises, experiments and experimental methods should be described. Also, the methods of interaction with real objects must be given in detail for the formation of practical skills and abilities. For example, the text should describe in detail the rules for observing the technical safety of a technical object, the procedure for use, and the practical methods of performing repairs and adjustments.

An additional text is a written structure containing educational material that serves to strengthen and deepen the situations described in the main text, to develop independent work and creative abilities.

Supplementary texts play an important role in students' mastery of learning material. Additional texts include designations, documentary (chronological) materials, summaries focused on the formation of skills, exercises, conclusions, recommendations, informative materials. Marked texts consist of texts that are more well-prepared and have a higher level of complexity for the student. This type of text strengthens the learned material, helps to systematize it.

Oral and written exercises are designed to teach students practical activities. By performing exercises independently, students acquire certain skills and abilities, learn to apply their knowledge to practice.

Additional texts are directed to perform creative and educational functions, while helping to master the training. Therefore, great importance should be given to selecting the content, language, style, and literary quality of additional texts.

An explanatory text is a special written structure designed to understand and deepen the learning material. These texts are important in organizing students' independent learning activities. Such texts include an introduction, comments, appendices, supporting phrases, explanations, glossaries. These texts should be clear, concise and clearly form a certain concept. Notes facilitate the study of the studied material, provide additional information about the latest news related to the content of the subject.

They are formalized in the form of data, where necessary, information about the origin of the word is given. Several types of vocabulary can be used in textbooks. Terminology, translation

and orthographic dictionaries are often referred to. Terminology dictionaries explain the importance of terms used in one or more fields of knowledge, and thus in several science textbooks and practice. Attention should be paid to the correct spelling of words in orthographic dictionaries. However, these dictionaries should be used interchangeably.

Evaluation component.

In recent years, great attention has been paid to directing the content of educational materials to the organization and development of independent activities of students.

The assessment component is a leading and rapidly developing indicator of modern textbooks. The assessment component is gaining importance in connection with the emergence of digital tools in education, the development of electronic educational resources, as well as the widespread introduction of credit module technologies of education. The evaluation component in the currently used specialty science textbooks is 10% by volume. The functions of organizing mental and work activities of students are poorly implemented. Therefore, such textbooks cannot serve as a model of the teaching process. They are mainly used by teachers as a source of science information. With the help of such textbooks, it is necessary for all teachers, regardless of their experience and qualifications, to receive methodological instructions in the form of practicums, projects, assignments, etc., so that they can effectively organize the educational process.

It is important to give questions, tests and practical exercises in the textbook of specialized subjects. These ensure the students' activation and solid acquisition of knowledge, develop their professional interests, and form the skills of independent work in production conditions. Questions and tasks may require speaking or performing more complex thinking activities, practical work (control, calculation work, conducting experiments, performing technical or technological operations, calculating economic indicators, finding evidence of new evidence).

It requires pedagogical and professional skills from the author in the development of questions, tests and practical exercises. In order to master the subject, tasks (tests and questions) must be directly related to the studied material, must be used in production conditions, and the capabilities of students and the time allotted for completing the task must be taken into account.

Usually, at the end of a section or chapter, students are given conclusions that systematize the material and strengthen it. When conclusions are not given, questions, tests, tasks are given, and by means of them, the learned text can be summarized. Their mutual ratio is determined by the description of the material**.** **Visual materials.** Special attention should be paid to visual materials, which are important in the preparation of textbooks and training manuals for specialized subjects, assimilation of educational information and mastery of the subject. The use of diagrams, graphs, tables, structures, pictures and maps in educational literature is especially effective. They show quantitative relationships between events or between different stages of events (diagrams, graphs), spatial (maps, maps - structures, plans), temporal (chronological tables and graphs) and cause-and-effect (structures, tables) connections, execution of objects and processes (pictures). and schemes) reveal the description of events. Structures, tables, diagrams should be clearly visible.

Visual materials in educational literature serve to supplement, enrich, reveal and explain the content of written information in the textbook; - the images are understandable and suitable for analysis by students of different levels; materials in the form of structures, drawings, plans, maps should not contain excessive information that prevents the student

from understanding the content of the subject; images of the same category in the same technical execution - picture, structure, photograph, drawing, etc. should be given in the form

Conducted practical research has shown that the visual material of the textbook of specialized sciences reveals the contents of the textbook in a unique way, visually describes the studied object and facilitates the understanding of some technological process.

Referral device. It is necessary to have a reference device in the textbook. It should be considered as distinguishing the textbook from other types of literature, indicating its important methodological and technical features. The reference apparatus helps both students and the teacher to freely understand the structure of the textbook, draws their attention to the main, main, and basic concepts and symbols, helps them to remember, and to find the necessary information in the textbook easily and quickly.

The reference apparatus includes the beginning of the word, the content, various symbols, indicators. In order to master the learning material and strengthen it, it is necessary to have reference points in the text. These reference points include the terms, names of persons, designations, precisions, rules, and methodological apparatus elements that are highlighted in the text in addition to the textbook topics. Subject indicators and data tables (dimensions, sizes, standardized symbols, etc.) may be described as appendices in textbooks of specialized subjects. In such cases, recommendations for the use of such applications are given in the text itself. Indexes with subject or name help to find the necessary information in the textbook, help to systematize and organize the educational material. Symbols and signals are conventional signs of various assignments, rules, etc. given in the textbook.

The above-mentioned materials served as a basis for writing modern textbooks and training manuals on specialized subjects in higher education.

We have developed the following general recommendations for authors who create textbooks on specialized subjects in higher education:

- to ensure full coverage of all topics in the science curriculum;
- to determine the nature and extent of knowledge, skills and qualifications that should be mastered by the student in studying the chapter or module;
- to determine the logical and didactic sequence of educational information transfer for acquiring knowledge, creating skills and qualifications;
- directing educational material to the development of students' independent and creative abilities;
- ensuring interrelationship between specialty chapters, sections, or modules;
- the presence of aspects in the educational material that encourage students to be active and think critically and attract their interests;
- availability of assessment component for students to check their knowledge and skills;
- provision of practical assignments, exercises, projects of a professional nature and for students to work independently:
- must be compatible with the teaching methodology of the subject.

So, when the mentioned requirements are met, we will have the opportunity to create a new generation of specialized science textbooks.

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