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**ABOUT METHODOLOGICAL COMPONENTS OF THE TEXTBOOK
"BIOLOGY" FOR STUDENTS OF 11TH GRADE OF SECONDARY
EDUCATIONAL INSTITUTIONS AND SECONDARY SPECIAL,
VOCATIONAL EDUCATIONAL INSTITUTIONS**

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ABSTRACT

The article highlights the methodological components of the 11th-grade biology textbook in secondary schools, the importance of developing students' independence in the study of topics. In particular, the textbook shows that the methodological components of the textbook are in demand, such as "Apply your knowledge", "Write down the meaning of terms", "Express your opinion", instructions for 5 laboratory classes, 74 color pictures to make the content easier to understand.

KEYWORDS: *A New Generation Of Textbooks, Information System, And Model, "Ecology And Life", The Phylogeny Of The Organic Universe, Hierarchical Structure, Biogeocenosis, Ecosystem, Artificial Ecosystem, Autotroph, Heterotroph.*

INTRODUCTION

Great work is being done in our country to create a new generation of textbooks based on the requirements of state educational standards. According to the theory of modern education, the textbook is a multifaceted information system and a tool for organizing the learning process. Now textbooks are required not only to educate students but also to perform tasks such as educating, informing, developing, consolidating knowledge, testing, and evaluating their own

knowledge. In addition, there is a growing emphasis on the fact that the textbook should be a tool for students to learn the basics of science independently, which will serve to develop their practical work skills on the textbook.

MATERIAL AND METHODS

There are different views in the literature on textbooks and their structure and functions. Including, D.Zuev [7] describes it as "a textbook that describes the knowledge of various fields of science, its achievements in modern science and production in a certain volume and logical sequence." V.P. Bepalko [6] shows that independence means that people do one task without the help of another, including the teacher's assignments aimed at doing a series of practical tasks so that students can master the newly learned topic more thoroughly.

S. G.Antonova and L.G. Tyurina [4] emphasizes the need to use the positive methodological components of the textbooks published in previous years in the development of methodological components of textbooks. O.Akhmedova and K.Zokirov [5] comment on the successes and some shortcomings of the methodological components given in the 10th-grade biology textbook. Z.A. Mendubaeva [9] shows that the logical connection of topics in the development of methodological components of textbooks, the correct choice of their means of study, taking into account the types and content of lessons are important tasks. E.S. While Tsikalo [10] shows that the content of textbooks consists of main, supplementary, and explanatory texts and non-textual components, T.N. Glubsheva and S.D. The Chernyaevskys [6] comment on the role of textbooks in the educational process.

Most of the textbooks published in previous years did not pay enough attention to the methodological components that serve to improve the content of the lesson, such as independent study, thinking, creative research, with the aim of providing students with ready-made knowledge and narration of their topics. Therefore, the students of the time called for the creation of a new generation of textbooks. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. PQ-4805 of August 12, 2020 [1] and the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated April 5, 2019, № Resolution No. 281 [2] made it one of the urgent tasks to create new generations of textbooks that fully meet the modern requirements.

In education, "A bad teacher explains a topic. A good teacher directs the student to search for the content of the topic on his or her own." One can see the importance of students' independent work in education. One of the protagonists of the novel by the French writer Anatole Franz: - The idea that "to digest knowledge, you need to eat it with appetite" is another example of the importance of independence in education. For this reason, there is a growing focus on improving the methodological components of textbooks that allow students to use them independently and effectively.

The results obtained.

In the literature, the textbook is described as an information system and model of the educational process. According to the theory of modern education, the textbook is a multifaceted information system and a tool for organizing the learning process. Therefore, textbooks should serve not only the task of educating students in accordance with modern requirements but also to educate,

inform, develop, strengthen the knowledge base, the student to check their knowledge, assessment and so on.

In biology education, as in other disciplines, textbooks are the most important teaching tool from which students learn scientific knowledge in certain disciplines. From this point of view, the biology textbook is an example of a systematic reflection of knowledge about the distribution, structure, life processes, diversity, the importance of different representatives of living organisms. The textbook describes the system, content, scope of knowledge, and skills in the field of biology, some plants, animals, humans, cytology, and genetics, which should be mastered in the study of biological sciences. The textbook is intended for students of a certain age and training and consists of information obtained by modern science on specific groups of living organisms selected materials from innovations in production.

It is known that the content of textbooks consists of text, non-textual components. The text is also divided into main and additional texts, respectively. While the main text of the textbook consists of groups of basic concepts relevant to the age characteristics of students, covering the modern achievements of various disciplines in accordance with the requirements of state educational standards and curricula, the additional text is given for students interested in biology. Examples of additional materials include the history of the discovery of some discoveries in science, some scientists, their lives, and work.

The non-textual-methodical components of textbooks play an important role in the development of students' independence in the study of topics in education. The methodological components of the textbooks consist of methodological guidelines such as rules of work with the textbook, symbols, pictures, tables, table of contents, laboratory work, independent work, instructions for homework. Extracurricular components allow students to independently and practically study the topics covered in the textbook, to develop skills in working with the textbook. Therefore, in creating new generations of textbooks, the authors are trying to radically improve the methodological components that will help students to easily master the theoretical material.

As evidence of the above, we present a textbook of biology for students of 11th grades of secondary schools, academic lyceums, and vocational colleges (Biology: Textbook for 11th grade of general secondary schools: 1st edition / Authors: A. G 'afurov, A. Abdukarimov, J. Tolipova, O. Ishankulov, M. Umaraliyeva, I. Abdurahmanova. - T.: «Sharq», 2018. - 240p.).

The textbook consists of four chapters and 42 paragraphs on 240 pages: "Ecology and Life", "General biological laws of the ecosystem level of life", "General biological laws of the biosphere level of life", "Phylogeny of the organic world".

Due to the systematic selection of topics, the whole chapter, the training materials given in the paragraphs formed a logical whole with each other.

The authors paid serious attention to the issue of methodological elements of the textbook. First of all, at the beginning of each chapter of the textbook, they show the students what scientific knowledge they will have when studying the materials of this chapter. For example, at the beginning of the first chapter, students are told: "After reading the content of Chapter 1, you should:

- be able to describe the structural structure, basic features and importance of living organisms;

- be able to explain the hierarchical structure and general properties of biological systems;
- be able to analyze the tasks of ecology;

It is said that you need to be able to compare the peculiarities of the structural levels of living organisms. This encourages students to master this system of knowledge as they begin to study the chapter material, knowing what the most important scientific material in it consists of.

Another methodological component of the textbook is the "Apply Your Knowledge" guide to students at the beginning of each topic. For example, the second paragraph of the textbook is entitled "Development, sections and methods of ecology." In it to the students: Why do you think man needs knowledge about the way of life of the surrounding organisms?

Where is this knowledge used?

- *What environmental issues do you know?*
- *Instructions are given as to why every member of society should have environmental knowledge.*

Each subject consists of a common set of concepts arranged in a certain order. These concepts are slowly evolving, repeating and evolving from topic to topic, from chapter to chapter, from subject to subject, and acquiring a certain amount of knowledge. For example, topics such as the distribution and habitat of different animals in 7th grade zoology, "About biological systems" in 10th grade biology, and "General biological laws of life at the organism level" require use in 11th grade "Components of Ecosystems". Therefore, remembering the knowledge acquired by students from other disciplines in the study of a new topic, and linking this knowledge with the new subject, serves to implement such important requirements as the implementation of the systematic principle of didactics in the acquisition of knowledge, developing biological concepts in education. ! We consider the instruction "Apply your basic knowledge" to be one of the achievements of the authors and the textbook.

The textbook "Record the meaning of terms" is also reflected in the fact that the authors have developed questions aimed at further improving the quality of the methodological components of the textbook and the development of students' knowledge and skills on the studied topic. For example, after studying the topic "Components of Ecosystems" to students

1. Compare the concepts of "biogeocenosis" and "ecosystem". Identify the similarities and differences between them.
2. Explain the importance of producers in the ecosystem? Give examples of phototrophic and chemotrophic organisms.
3. Explain the role of reductants in the ecosystem based on examples.
4. Explain the nature of indicators such as self-recovery and sustainability of biogeocenoses.
5. What do you mean by self-regulation of biogeocenoses?

In finding answers to such tasks as

We believe that the task in the textbook, "Express your opinion", which allows students to explore the topic in more depth and fill in the tables for personal feedback, will also allow students to master the same topics independently and thoroughly.

It is well known that a person's cognitive ability is initially realized through his senses. Therefore, as important as the texts are in explaining the topics in the textbooks, the attached pictures, diagrams, tables are equally valuable in terms of their functions and meanings, they can visually prove the content of the textbook, easily master the basic concepts of the subject, it is a fact that learning serves to perform important educational tasks such as understanding the morphological, anatomical, structural features of plants and animals in the subject under study. Since texts play an important role in the role of the source of knowledge in textbooks, the pictures attached to them will have the same value in terms of their function. For this reason, we will focus on some comments on the pictures attached to the study of the main text in this textbook

The textbook provides 74 color illustrations to explain and interpret the main text. The authors have worked hard to decorate the textbook with pictures, and it seems that the selected pictures correspond to the content of the topics studied. The authors have selected images that serve as a visual explanation of the topic materials and the most basic concepts in it. The color pictures in the textbook are intended to give students an initial idea of the topic being studied (table).

TABLE THE NUMBER OF PICTURES ATTACHED TO THE PARAGRAPHS IN THE TEXTBOOK

№	Chapters in the 11th grade textbook	Number of paragraphs in chapters	The number of images in the paragraphs	
			colored	colorless
1	I CHAPTER. Ecology and life	2	1	-
2	CHAPTER II. General biological laws of life at the ecosystem level	21	33	1
3	III. CHAPTER. General biological laws of the biosphere level of life	11	22	
4	VI. CHAPTER. Phylogeny of the organic world	10	17	

As can be seen from the table, four chapters in the textbook, 74 colors, one colorless picture were added to enrich the content of 34 paragraphs. All the pictures will undoubtedly serve to make it easier for the students to understand the content of the topic being studied. In particular, for the 21 paragraphs in the chapter on the general biological laws of life at the ecosystem level, Figure 3 allows students to clearly distinguish between autotrophic and heterotrophic organisms, Figure 5 allows students to visualize materials on aquatic animals, Figure 6 shows students living on land and air. allows them to master the material on the example of various animals distributed in this environment. In addition, we believe that Figures 44, 45, 49, and 63-67, selected for the study of the structure of the skin of animals, attached to the topic "Metabolism and Energy in the Biosphere" will serve to further improve the essence of the topics.

The textbook contains 5 topics of laboratory classes. Carrying out of these laboratory classes allows students to solidly study the subject materials through practical work, to further develop intellectual, qualification, potential.

A glossary of key terms is provided at the end of the textbook. The fact that the 4 chapters included in the topic are given in blue makes it easier for students to find the chapter they need.

However, we have seen that there are some more vague assignments in the methodological elements of the textbook. In particular, the sixth paragraph is given in the independent work on "Land, air, soil, living organisms as habitats." It is tasked to identify and tabulate the habitats of animals such as manta, redstart, golden ergazar, rishta, lobster, aurelia nereida. However, the text on this topic does not provide materials on the above-mentioned animals and does not specify how to perform an independent work assignment. We wanted the authors to indicate whether the animals given in this assignment could indicate which literature was given.

Similar vague assignments were encountered in the textbook's instructions for laboratory work 1. The guideline states, "Observe the growth and development of plants. Record the results of the observations in a weekly chart." However, there are no instructions on how to organize the growth and development of plants, the methodology of transfer. For example, paragraph 21 of the methodological components of the topic "Artificial ecosystems" in the section "Express your opinion" describes the main features of urban flora and fauna. How did the adaptations in them come about? Isn't the so-called task more difficult for students? In our opinion, it would be expedient to give this task to students in a simpler and clearer way and to show them what materials and tools to use in finding the answer.

CONCLUSION

In our opinion, the above ideas in the textbook do not affect the quality and value of the methodological components of the textbook. We hope that our comments will be taken into account in the next edition of the textbook if the authors like them. Indeed, the above-mentioned Resolutions of the President of the Republic of Uzbekistan dated August 12, 2020 PQ-4805, the Cabinet of Ministers of the Republic of Uzbekistan dated 05.04.2019 No 281 also encourage authors to fulfill new tasks, such as creating new generations of textbooks that fully meet modern students.

Based on the above considerations, we believe that the authors of the biology textbook published for 11th-grade students of secondary schools have made a significant contribution to the creation and improvement of new generations of textbooks.

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