



PECULIARITIES OF THE DEVELOPMENT OF BIOLOGICAL SCIENCE IN HIGHER EDUCATION INSTITUTIONS BASED ON AN INTEGRATIVE APPROACH

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Annotatsiya. Maqolada Jahonda ta'lim XXI asrning barqaror taraqqiyotini ta'minlovchi asosiy omil sifatida e'tirof etilib, talabalarning biologiya va genetika fanidagi ta'lim jarayoniga tadbiiq etilgan. Insoniyatning barqaror rivojlanishi tushunchasi ehtiyojlar kelajak avlodlarga ziyon yetkazmagan holda qondirilsa insoniyatning ekologik-valeologik xavfsizligini ta'minlaydi. Barqaror rivojlanish tamoyillariga muvofiq yashash, ota-bobolarimiz va ajdodlarimizdan meros yurtimizni avlodlarimiz uchun saqlab qolish, ya'ni tabiiy ekosistemalarda ekotizimga olib keluvchi o'z o'zini boshqarish jarayonlarini saqlab qolish bo'yicha tizimli ishlar amalga oshirish.

Tayanch so'zlar: ilmiy, o'simlik, ildiz, gullash, morfologiya, xayvon sistematikasi, organism, kompleks, gidrobiologiya, murtak, sistematika

Аннотация. В статье образование в мире признается главным фактором, обеспечивающим устойчивое развитие 21 века, и применяется к образовательному процессу студентов по науке биология и генетика. Концепция устойчивого развития человечества обеспечивает экологическую и экологическую безопасность человечества, если потребности удовлетворяются без ущерба для будущих поколений. Жить в соответствии с принципами устойчивого развития, сохранять землю, унаследованную от наших предков и предков для наших потомков, то есть проводить планомерную работу по сохранению процессов самоуправления, которые приводят к экосистеме в природных экосистемах.

Ключивые слова: Научный, растение, Корень, Цветение, Морфология, Систематика животных, организм, сложный, Гидробиология, Кустарник, Систематика

Abstract. In the article, education in the world is recognized as the main factor that ensures the sustainable development of the 21st century, and it is applied to the educational process of students in the science of biology and genetics. The concept of sustainable human development ensures the ecological and ecological security of mankind if the needs are met without harming future generations. To live in accordance with the principles of sustainable development, to preserve the land inherited from our ancestors and ancestors for our descendants, that is, to carry out systematic work on preserving the self-management processes that lead to the ecosystem in natural ecosystems.

Keywords: scientific, plant, root, flowering, morphology, animal systematics, organism, complex, hydrobiology, shrub, systematics.

Human culture can be seen as a general context in which human-environmental relations occur and develop. Interestingly, research on human culture and cultural evolution has been enriched by some new perspectives that correspond to recent developments in evolutionary biology. All this allows for a new and promising understanding of the basis of the

interaction between man and the environment, according to which it can be shown that the environment plays a pedagogical role for humanity, and humanity itself can be understood as a species that changes the environment in order to change it.

Information about about 500 species of plants and 454 species of animals in the scientific works of the ancient Greek scientists Hippocrates and Aristotle had an ecological nature. For example, Aristotle in his scientific works gave information about the life, distribution, and migration of more than 500 species of animals, birds, and fish [16, 47].

In the 10th-12th centuries, the great scholars of Central Asia, Al-Khorazmi, Al-Farabi, Abu Raykhan Beruni, Ibn Sina, in their historical works, described the structure of the earth, the increase and decrease of water, the habitats of medicinal plants and animals, and their appearance. , roots, in which periods of their development are the most beneficial properties. Great scholars such as Abu Rayhan Beruni (973-1048) and Ibn Sina (980-1057) in their historical works have listed the names of 700-800 different plants and animals, leaf and flower shapes, the shape of the bush, the places where they grow, and the flowering period. and they provide information about which diseases are treated. In the 14th and 17th centuries, medicine in Asia, including Central Asia, was highly developed, and mainly plants, internal organs and other parts of animals were used in the treatment of diseases [15, 40, 47].

Z.M. Babur (1483-1530) in his historical work "Boburnoma" described various plants and animals of Central Asia and India, their growing and living places, flowering and reproduction periods, their single and double species. provided a lot of information. As a result of the discovery of new lands, the occupation of one country by another country, and the study of the nature of these lands, the systematics, morphology, and adaptation of plants and animals to the place where they live are studied [13, 40, 47].

In the XV-XVII centuries, plants and insects such as A. Cezalpine (1519-1603), D. Ray (1623-1705), J. Tournefort (1656-1708), A. Reomyura (1734), L. Gramble (1744) and studied aquatic animals in many ways. J.L. Buffon[23] (1707-1788) in his 13-volume "History of Nature" covered the relationship between living organisms and the environment and the impact of the environment on the organism. In the works of J. Lamarck (744-1829), A. Decandol (1806-1893), A. Humboldt (1769-1807), S.P. Krashennikov and other scientists, the diversity of the world of plants and animals, the relationship between them, in different regions ecological information about the meeting of their various species is presented. Ch. Darwin (1809-1882) became famous throughout the world with his work "On the Origin of Species" and raised the science of biology to a higher level. His evolutionary theory also stimulated the development of ecological science [63,147, 156].

The model model of the national concept of the formation of a healthy lifestyle makes it possible to conduct the process of formation of a healthy lifestyle among the population of the republic in a certain order and on a scientific basis, and increases its efficiency. At the same time, an exemplary model of a healthy lifestyle regulates and accelerates the process of forming healthy relationships and an exemplary character between people. People will have the opportunity to compare their existing lifestyles, hygienic behavior, as well as medical culture and activities in the society with the model stage and to make appropriate changes to it.

Biology studies all forms of life on Earth, all the properties of its systems at different levels: molecule, cell, organism, population (species), biogeocenosis (ecosystem), biosphere level. 'increase, development,



is the study of their origin, interactions with natural communities and habitats. The term biology was introduced to science by the French scientist J. B. Lamarck and the German scientist G. R. Treviranustoman, and it means "bios" - life, "logos" - science. The development of biology depends on the development of biology to solve such important problems as the protection of unique species of plants and animals in nature, the creation of productive plant varieties, productive animal breeds, the creation of new microorganism strains, and the provision of quality food products to humanity.

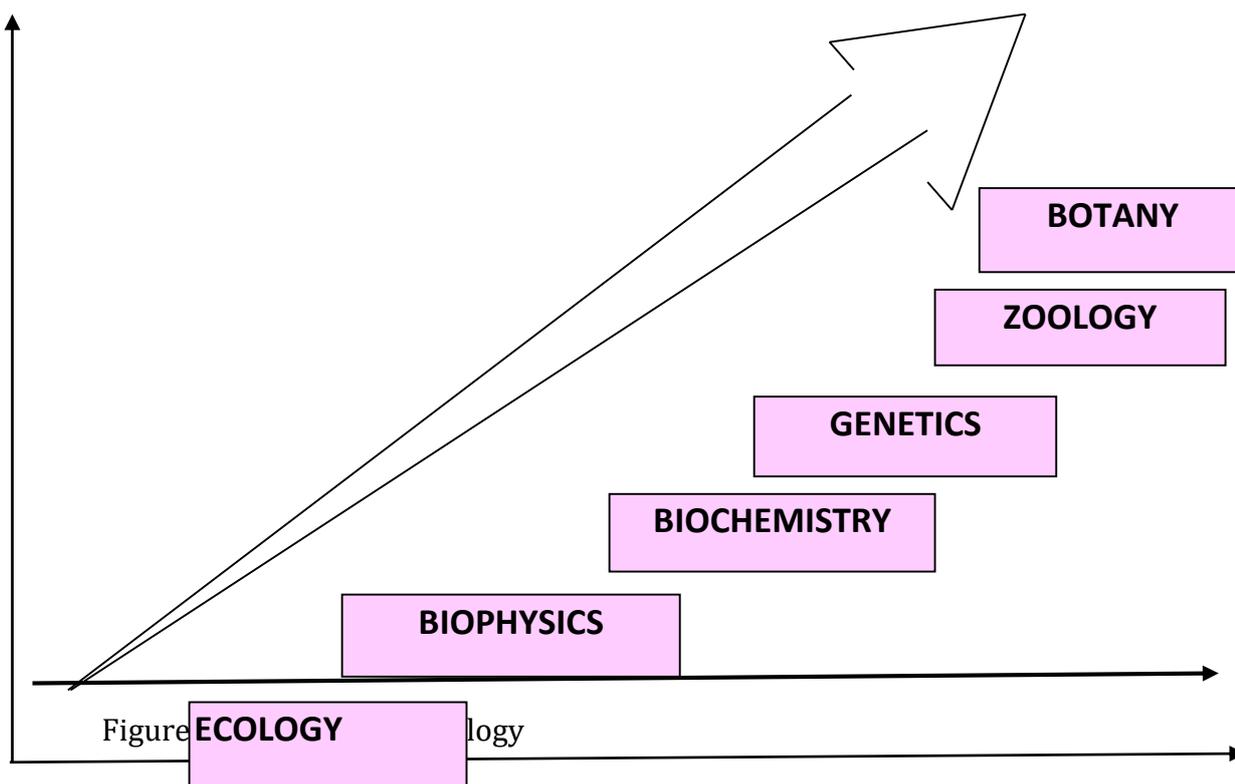
Biology is a fundamental and complex science. The reason why it is called a fundamental science is that biology is the theoretical basis for medicine, psychology, agronomy, food industry, pharmacology, and as a complex science, it includes many branches of science.

Biological science is divided into several fields according to the object of investigation. Botany - plants, zoology - animals, microbiology - microorganisms, mycology - fungi, hydrobiology - organisms in the water environment, paleontology - fossil organisms, and ecology is the science of the relationship between organisms and the environment.

Biology also differs in examining some aspects of living organisms

divided into disciplines. Anatomy is the study of the structure of organs of organisms, and physiology is the study of their functions, embryology is the study of embryo development, systematics is the systematic grouping of organisms, mutual kinship relationships, ethology is the study of the behavior of the animal world.

Biophysics studies the physical processes that occur in biological systems, biochemistry studies the chemical composition of organisms, their chemical processes, and biogeography studies the laws of distribution of living organisms on the earth. Bionics is the creation of technical systems based on the unique aspects and structure of life activities of organisms, and biotechnology is the biological control of living organisms.aims to use processes in production enterprises



Some areas of biology emerged in cooperation with other natural sciences. Physical processes occurring in biological systems are studied by biophysics, chemical composition of organisms, chemical processes in them by biochemistry, laws of distribution of living organisms on the earth are studied by biogeography. Bionics aims to create technical systems based on the unique aspects and structure of life activities of organisms, and biotechnology aims to use biological processes in living organisms in production enterprises.

In biology, the following methods are used to study the vital properties of living organisms.

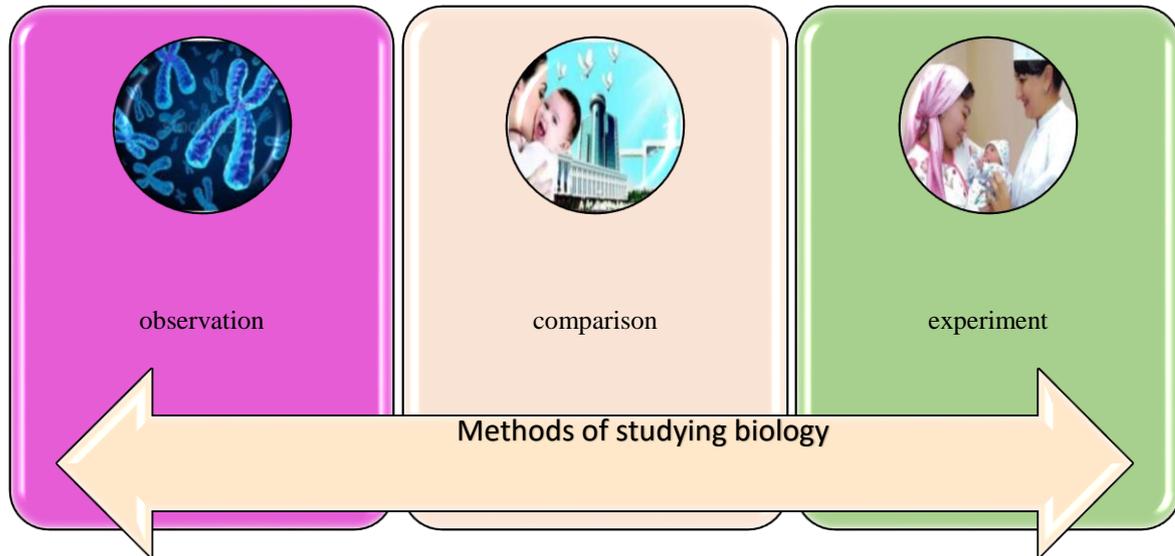


Figure 1.1. Methods of studying biology

Currently, individual, age, sexual, constitutional, territorial, social, etc. health indicators are shown separately. Moral values of social and spiritual goals. high goals, level of treatment and reamulation of requirements, etc. Clinical - absence of disease symptoms [139].

Much of the current debate on environmental valuation revolves around the concept of ecosystem services. This concept was originally developed from a conservation perspective, including the idea that nature has functional value beyond its economic, aesthetic, and spiritual values (Ehrlich & Ehrlich, 1981), and a landscape planning perspective, which emphasizes the "functions of nature." points out (De Groot, 1987). At the beginning of this process, economic arguments were put forward showing that nature has a complex economic value beyond the provision of marketable goods (Costanza et al., 1997). With the Millennium Ecosystem Assessment (MA, 2005), the concept of ecosystem services entered the political arena as a tool for assessing the status and potential future of terrestrial ecosystems. Since then, it has been used in various scientific and political contexts. It is to show the benefits of nature can serve as a mere "didactic" tool - qualitative or quantitative - or a practical tool for assessment and planning, and for solving environmental conflicts.

References:

- 1.Джураев Р.Х. Организационно - педагогические основы интенсификации системы профессионального подготовки в учебных заведениях профессионального образования: Автореф. дисс. док. пед. наук.-Т.:1995. - 43с.;
- 2.Усаров Ж.Э. Кадрлар сифатини оширишда таълимга компетенциявий ёндашувнинг ўзига хос жиҳатлари/Халқ таълими тизимида педагог ходимлар компетенциясини

такимлаштириш: муаммо ва уларнинг ечимлари. Республика илмий-амалий конференцияси. – Самарқанд, 2018. – Б. 133-136.

3.Гришина И.В.Профессиональная компетентность директора школы: Теория и практика формирования. Автореф.:дис.докт.пед.наук.-М., 2004. 52 с.

4.Азизходжаева Н.Н. Педагогические технологии в подготовке учителя. – Ташкент, 2003. -241-с.

5.Толипова Ж.О. Биология ўқитувчисининг илмий-методик тайёргарлиги даражасини орттириш назарияси ва амалиёти. Монография -Т.: 2005. –114 б.

6.Нография. –т.: фан, 2007. – 144 б.barotova, a., xurramov, a., rahmatullayev, s., & ismoilova, a. (2023). Evaluation of fiber quality indexes in different varieties of cotton plants. Journal of agriculture & horticulture, 3(2), 41-46.

7.azizov, b. M., jumashv, m. M., yakubjonova, n. A., & khayrullayev, s. (2021). Effect of sowing rate on the quality of seeds of winter wheat. Theoretical & applied science учредители: теоретическая и прикладная наука, (9), 755-760.

8.azizov, m. B., aberkulov, m. N., yakubjonova, n. A., & khayrullayev, s. S. (2021). Efficiency of mixed sowing of maize with forage beet in irrigated meadow sierozem soils of uzbekistan. Academics: an international multidisciplinary research journal, 11(8), 316-320.

9.kholmurodova, g., barotova, a., namazov, s., yuldasheva, r., & jumashv, m. Creation of selected items with high fiber yield and length based on cotton composite hybrids. In e3s web of conferences (vol. 371, p. 01039). Edp sciences.

10.barotova a. Et al. Evaluation of fiber quality indexes in different varieties of cotton plants //journal of agriculture & horticulture. – 2023. – т. 3. – №. 2. – с. 41-46.

11.yakubjonova, n. (2023). General factors of the development of the science of biology and genetics in higher educational institutions. International bulletin of medical sciences and clinical research, 3(3), 52-54.

12.abdullayeva, b., & yakubjonova, n. (2023). Typological features of combining biology and genetics based on an integrative approach. International bulletin of medical sciences and clinical research, 3(3), 39-41.

13.Juraev, s. T., & yakubjonova, n. A. (2022). Analysis of value-economic characteristics of introgressive hybrids of cotton under different soil-climate conditions in uzbekistan. Galaxy international interdisciplinary research journal, 10(12), 1638-1646.

14. Yakubjonova, n., & sherboyev, s. (2023). Sabzavot loviyasi kolleksiya nav namunalari oqsil miqdorining tahlili. Евразийский журнал медицинских и естественных наук, 3(4), 111-115.

15.Баротова, а. Р., якубжонова, н. А., & хуррамов, а. А. (2022). Ғўза навлари селекциясида қимматли хўжалик белгиларнинг ирсийланиши, ўзгарувчанлиги ва шаклланиши. European journal of interdisciplinary research and development, 10, 318-321.

16.Barotova, a., xurramov, a., mamadaliyev, a. B., & jo'rayev, o. (2023). Fiber length and quality indicators in cotton varieties. Journal of agriculture & horticulture, 3(3), 50-53.

17.Barotova, a., xurramov, a., mamadaliyev, a. B., & jo'rayev, o. (2023). Fiber length and quality indicators in cotton varieties. Journal of agriculture & horticulture, 3(3), 50-53.

18.Kholmurodova, g. R., mirkhomeidova, n. A., yuldasheva, r. A., nazarova, m. B., barotova, a. R., & aktamova, i. A. (2023, march). Creation of goods with high fiber quality from the selection of



varieties

belonging to g. Hirsutum l. Species. In iop conference series: earth and environmental science (vol. 1142, no. 1, p. 012089). Iop publishing.

