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TERMINOLOGY OF BIOLOGY AS A KEYSTONE OF INTERDISCIPLINARY NATURAL SCIENCE AND EDUCATION

Zamira Z. Abdushukurova
Associate Professor, Candidate of Agricultural Sciences
National University of Uzbekistan
Tashkent, Uzbekistan
E-mail: zamiraabdushukurova@gmail.com

Bashorat A. Muminova
Senior Lecturer
Tashkent State Technical University named after Islam Karimov
Tashkent, Uzbekistan
E-mail: muminovabashorat@gmail.com

Dilnoza A. Umarova
Assistant
Tashkent State Technical University named after Islam Karimov
Tashkent, Uzbekistan
E-mail: umarovadilnoza@gmail.com

ABOUT ARTICLE

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Abstract: Interdisciplinary natural sciences and education The natural sciences are intertwined in their methods and results, as well as in their specific terminology. The best approach to a correct and unified understanding of science in education is to develop professional dictionaries. For a number of reasons, current reference publications do not always meet the requirements of students and professionals. This article is based on the development of a new comprehensive dictionary of biological terms that includes basic medical concepts. The principles of compiling such a dictionary are suggested.

BIOLOGIYA TERMINOLOGIYASI FANLARARO TABIIY FAN VA TA'LIMNING ASOSIY TOSHI SIFATIDA

Zamira Z. Abdushukurova
Dotsent, qishloq xo‘jaligi fanlari nomzodi
O‘zbekiston Milliy universiteti
Toshkent, O‘zbekiston
E-mail: zamiraabdushukurova@gmail.com

Bashorat A. Mo'minova
Katta o‘qituvchi
Islom Karimov nomidagi Toshkent davlat texnika universiteti
Toshkent, O‘zbekiston
E-mail: muminovabashorat@gmail.com

Dilnoza A. Umarova
Assistent
Islom Karimov nomidagi Toshkent davlat texnika universiteti
Toshkent, O‘zbekiston
E-mail: umarovadilnoza@gmail.com

MAQOLA HAQIDA

Kalit so‘zlar: biologiya, fanlararo bilimlar, lug'at, terminologiya.

Annotatsiya: Fanlararo tabiatshunoslik va ta'lim tabiiy fanlar o'zlarining usullari va natijalari, shuningdek, o'ziga xos terminologiyalari bilan bir-biriga big`liq. Ta'limda fanlarni to'g'ri va yagona tushunishga eng yaxshi yondashuv kasbiy lug'atlarni ishlab chiqishdir. Bir qator sabablarga ko'ra joriyb ma'lumotnoma nashrlari har doim ham talabalar va yetuk mutaxassislar talablariga mos kelmaydi. Ushbu maqola asosiy tibbiy tushunchalarni o'z ichiga olgan biologik atamalarning yangi yalpi lug'atini ishlab chiqishni asoslaydi. Bunday lug'atni tuzish tamoyillari taklif etiladi.

ТЕРМИНОЛОГИЯ БИОЛОГИИ КАК КРАЕУГОЛЬНЫЙ КАМЕНЬ МЕЖДИСЦИПЛИНАРНОГО ЕСТЕСТВОЗНАНИЯ И ОБРАЗОВАНИЯ

Замира З. Абдушукурова
доцент, кандидат сельскохозяйственных наук
Национальный университет Узбекистана
Ташкент, Узбекистан
E-mail: zamiraabdushukurova@gmail.com

Башорат А. Муминова
Старший преподаватель
Ташкентский государственный технический университет имени Ислама Каримова
Ташкент, Узбекистан
E-mail: muminovabashorat@gmail.com

Дильноза А. Умарова
Ассистент
Ташкентский государственный технический университет имени Ислама Каримова
Ташкент, Узбекистан
E-mail: umarovadilnoza@gmail.com

О СТАТЬЕ

Ключевые слова: биология, междисциплинарное знание, словарь, терминология.

Аннотация: Междисциплинарное естествознание и образование Естественные науки переплетены как в своих методах и результатах, так и в своей специфической терминологии. Наилучшим подходом к правильному и единому пониманию науки в образовании является разработка профессиональных словарей. По ряду причин современные справочные издания не всегда отвечают требованиям студентов и специалистов. Данная статья основана на разработке нового всеобъемлющего словаря биологических терминов, включающего основные медицинские понятия. Предлагаются принципы составления такого словаря.

INTRODUCTION

V.I. Vernadsky already noted about a hundred years ago that the growth of scientific knowledge of the twentieth century. quickly erases the boundaries between the individual sciences, specialization is increasingly carried out not according to the sciences, but according to problems; science acquires a problem-oriented orientation, integrated complexes and knowledge systems are created around the actual problems of our time [9]. 21st century only exacerbated this trend. The complex method acts as an effective way of organizing systematic research designed to reveal the structural and functional relationships of a complex holistic subject of study. An integrated way of organizing research involves a well-known division of functions between representatives of different sciences for the study of individual aspects of a single object [5]. For the subsequent synthesis, it is necessary that these specialists understand each other accurately.

For example, at the present stage of development of biology, which is characterized by an increase in the interdisciplinary synthesis of knowledge, the share of integrating research is increasing. Similar processes are taking place in medicine, where clinical disciplines that were separated at the end of the 19th century, pathomorphology and pathophysiology are being reintegrated on a new methodological basis, and pathophysiology is now given the expanding and integrating role of systemic pathobiology [16]. This inevitably leads to a constant exchange between sciences not only of individual methods and results of scientific research, but also of special terms. The results of scientific research obtained by biology in the twentieth century. (especially in its last third) and at the

beginning of this century, are used by an ever-expanding circle of non-biologists. Achievements in biology have direct access to medicine, agriculture, ethnography and anthropology, industry, they allow us to develop the foundations for the protection and rational use of nature, form our ideas about the reasonable relationship between man and the biosphere. The biosocial nature of human nature leads to the need to use the concepts formulated by biomedicine (for example, stress, shock, neurosis) in the social sciences and humanities.

THE MAIN RESULTS AND FINDINGS

Natural science knowledge reveals the basic and stable laws of nature, it can be interpreted as the identification of the interconnections of all structural levels of the organization of matter, phylogenetic and ontogenetic, hierarchical and structural-functional relations of a living organism in its unity with the environment. Before science, and above all before the natural disciplines, the task was to develop such methods and means that could ensure effective interaction and synthesis of the methods of various sciences.

At the same time, however, a paradoxical situation arises: the constantly growing amount of scientific information in biology leads to a deep differentiation of its areas and, as a result, to deepening specialization and narrowing the range of professional interests of specialists, as well as to the isolation of the thesaurus used by each of them. The historically conditioned movement in the opposite direction - towards the interpenetration of sciences, the integration of knowledge from various fields that study the same or similar objects, is often complicated due to the fact that the extensive terminological apparatus of biology does not allow one to fully understand the essence of the processes and phenomena being studied.

Another difficulty lies in the fact that over the past 20–30 years, a number of terms and concepts have appeared or have become widely used in scientific use, both rare and quite common, which are not available in existing reference books and dictionaries of previous years of publication (abzymes, autacoids). , gene library, western blot, genomics, disisome, southern hybridization, capacitation, colony forming unit, missense, liponomic, metabolomics, neuronal plasticity, annealing, proteomics, restriction fragments, site, spike, sprouting, sequencing, and many others). In view of the development of methods for studying gene expression and identifying antigens, more and more new biologically significant molecules are being discovered, which the authors give new names, and often designate them with abbreviations and serial numbers (AES, Hym-323, CnNK2, etc., etc.). Researchers describe new diseases and syndromes that receive acronyms (ASIA, APECED, SIRS, MERS), and due to the social significance of these, sometimes epidemic diseases, the corresponding terms are widely used not only in specialized literature, but also in the media space. Without a reference text with an abundance of such abbreviations (acronyms) becomes incomprehensible. We also note that foreign (primarily English) terms have flooded into the scientific literature, which, as a

rule, are not translated into Russian, but only rewritten in Russian letters. Even excellent knowledge of the English language often makes it impossible to understand the meaning of such terms without special explanations. In addition, to be a good translator, you must first of all know your native language well. Often there are good Russian equivalents, but they were not used by those specialists who transferred these foreign terms to Russian soil, and then the effect of fashion and imitation worked: an example is the general use by psychiatrists and psychologists of the term coping strategy (coping strategy) instead of the Russian equivalent, the strategy of coping.

The classification of plants and animals, tissues, diseases, etc., used by foreign researchers, does not always correspond to ours, which can lead to serious errors, for example, when comparing the results of different authors. A textbook example is the situation with the concept of neurosis, which remains relevant and nosologically specific in Russian medical documents, but is excluded or replaced by vague non-nosological formulations in all modern American classifications of neuropsychiatric forms of pathology - under the pressure of the sublanguage and theoretical ideas of the psychoanalytic school, which is still dominant in the field. mental health care in the United States [14]. Sometimes the use of special scientific terminology in medicine is influenced by everyday fashion: doctors are people like everyone else, and are influenced by what is happening in the whole complex of human sciences, in public life around, and not just in medicine itself. For example, in recent years we, as editors of scientific biomedical texts, have been struck by the tendency, in place and out of place, to replace the word sexual with the word gender.

Sometimes this trend leads to comical consequences: after all, gender is, strictly speaking, not sexual, but sex-role, and the authors insert a fashionable word in the era of political correctness into phrases that describe biological, rather than social characteristics, for example, gender differences in the morphology of organs, the content of bioregulators in the blood, the incidence of diseases.

An equally difficult situation is developing in natural science education: a student who is just starting his way into big science, reading special literature or communicating with colleagues, often encounters a misunderstanding (or, worse, a misunderstanding) of the essence of the problems under discussion due to insufficient mastery of a specific scientific thesaurus. And as a result, a graduate of a modern university will not be able to fully adapt to his professional activities if he does not realize the general cultural meaning of the scientific picture of the world, the involvement of science in solving global problems [3, 5]. Terminology in the course of education should be explained specifically. And in medical education, an essential part is practice, internships at the workplace, in cooperation with professionals. And in these conditions, sometimes there is no time to explain what's what. The emerging doctor is a witness and participant in the speech communication of specialists taking place under conditions of limited time (the famous hospital five minutes!) in the course of solving difficult and sometimes urgent medical and preventive tasks. And specialists often in

everyday medical practice communicate with each other in a professional jargon that is easy for them to understand, and not at all in academic medical language. If the emerging doctor earlier, in the junior years, did not go through and did not learn the canons of the use of terms from teachers of biology, physiology, pathology, propaedeutics, pharmacology, does not own a general medical thesaurus, then he is at risk of incorrect unauthorized interpretation of certain slang medical words and expressions. It may seem to him that he understood everything, but in reality this is not so, because the slang term does not reflect the completeness of the concept, it is only a signal for those who understand. But the young doctor still needs to grow in order to enter the “circle of initiates”.

And one more important circumstance. Such dictionaries should be constantly and promptly updated, which is possible only when referring to the electronic version of the publication.

CONCLUSION

Thus, we consider it quite urgent to create a modern explanatory dictionary of biological and pathobiological terms with the inclusion of basic medical concepts in it. Such a dictionary should significantly help the researcher in his work, facilitate the study of scientific literature and save time on searching for definitions of unfamiliar concepts. It is necessary for a large number of users of various specialties and will be a useful tool for both established researchers and those who are just starting their scientific activities.

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