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БУКОВИНСЬКИЙ ДЕРЖАНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

МАТЕРІАЛИ

науково-практичної інтернет-конференції

РОЗВИТОК ПРИРОДНИЧИХ НАУК ЯК ОСНОВА НОВІТНІХ ДОСЯГНЕНЬ У МЕДИЦИНІ

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Медицина є прикладом інтеграції багатьох наук. Наукові дослідження у сучасній медицині на основі досягнень фізики, хімії, біології, інформатики та інших наук відкривають нові можливості для вивчення процесів, які відбуваються в живих організмах, та вимагають якісних змін у підготовці медиків. Науково-практична інтернет-конференція «**Розвиток природничих наук як основа новітніх досягнень у медицині**» покликана змінювати свідомость людей, характер їхньої діяльності та стимулювати зміни у підготовці медичних кадрів. Вміле застосування сучасних природничо-наукових досягнень є запорукою подальшого розвитку медицини як галузі знань.

Конференція присвячена висвітленню нових теоретичних і прикладних результатів у галузі природничих наук та інформаційних технологій, що є важливими для розвитку медицини та стимулювання взаємодії між науковцями природничих та медичних наук.

Розвиток природничих наук як основа новітніх досягнень у медицині: матеріали науково-практичної інтернет-конференції, м. Чернівці, 27 листопада 2019 р. / за ред. В. І. Федіва – Чернівці: БДМУ, 2019. – 390 с.

У збірнику подані матеріали науково-практичної інтернет-конференції «Розвиток природничих наук як основа новітніх досягнень у медицині». У тезах представлені результати теоретичних і експериментальних досліджень.

Матеріали подаються в авторській редакції. Відповідальність за достовірність інформації, правильність фактів, цитат та посилань несуть автори.

Для наукових та науково-педагогічних співробітників, викладачів закладів вищої освіти, аспірантів та студентів.

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MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
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HIGHER STATE EDUCATIONAL ESTABLISHMENT OF UKRAINE
"BUKOVINIAN STATE MEDICAL UNIVERSITY"

CONFERENCE PROCEEDINGS

DEVELOPMENT OF NATURAL SCIENCES AS A BASIS OF NEW ACHIEVEMENTS IN MEDICINE

Chernivtsi, Ukraine
November 27, 2019

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Medicine is an example of the integration of many sciences. Scientific research in modern medicine, based on the achievements of physics, chemistry, biology, computer science and other sciences, opens new opportunities for studying the processes occurring in living organisms and requires qualitative changes in the training of physicians. Scientific-practical Internet conference "**Development of natural sciences as the basis of the latest achievements in medicine**" aims to change the consciousness of people, the nature of their activity and stimulate changes in the training of medical personnel. The skillful application of modern scientific achievements is the key to the further development of medicine as a field of knowledge.

The conference is dedicated to the coverage of new theoretical and applied results in the field of natural sciences and information technologies, which are important for the development of medicine and stimulating interaction between scientists of natural and medical sciences.

Development of Natural Sciences as a Basis of New Achievements in Medicine: Conference Proceedings, November, 27, 2019, Chernivtsi, Ukraine/ edited by V.Fediv – Chernivtsi,BSMU, 2019. – 390 p.

The proceeding contains materials of a scientific and practical Internet conference "Development of the natural sciences as the basis of the latest achievements in medicine" which present the results of theoretical and experimental studies.

Papers are submitted by the author editing. The authors are responsible for the accuracy of the information, the correctness of the facts, quotations and references.

For scientific and scientific-pedagogical staff, teachers of higher education institutions, graduate students and students.

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WAYS TO FACILITATE THE STUDY OF THE DISCIPLINE "MEDICAL BIOLOGY"

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Summary. A modern teacher has to take into account the educational and cognitive activity of students with different levels of development of their personalities. The curriculum in the discipline “Medical biology” is very rich, and to fulfil all the tasks, that have to be done, the teacher and students have to intensify the educational process, using all possible modern methodological and teaching materials. The workbook is one of the important learning tools that has recently gained a general recognition among teachers and students.

The workbook is to be used for practical classes in the discipline “Medical Biology”, the purpose of which is to improve the knowledge acquisition of the first-year students, the development of logical thinking, the ability to analyze, draw conclusions and substantiate them, and increase the motivation of students to study.

To our mind the workbooks are the most convenient means of interaction between a student and a teacher, because: firstly, students have the opportunity to get prepared for classes, as well as to work on solving those tasks that remain outside the classroom; secondly, the workbooks allow not only radical changes in the structure and content of practical classes and homework, but also allows you to establish a new form of student reporting on the results of work. A workbook is a tool that helps teachers teach lessons by simplifying them and making learning more meaningful. This tool also help students get involved and acquire meaningful learning more quickly and allow them to make connections with the acquired knowledge through partner work, individual work, whole groups, and small groups activities.

Key words: motivation, optimization of independent work of students, workbook, biology

Motivating students can be a difficult task, but the rewards are more than worth it. Motivated students are more excited to learn and participate. Teaching a class full of motivated students is enjoyable for teacher and student alike. Some students are self-motivated, with a natural love of learning. But even with the students who do not have this natural drive, a great teacher can make learning fun and inspire them to reach their full potential.

One way to encourage students and teach them responsibility is to get them involved in the classroom. Make participating fun by giving each student a job to do. Give students the responsibility of doing the experiment and to share results. Make students work in groups and assign each a task or role. Giving students a sense of ownership allows them to feel accomplished and encourages active participation in class.

Theoretical knowledge and practical skills play an important role in any human activity. Therefore, in the context of reforming the health care system and higher education in Ukraine, there is an increasing need to improve medical education. A modern teacher has to take into account the educational and cognitive activity of students with different levels of development of their personalities.

Therefore, a large amount of study material, a limited number of hours per subject and different possibilities of a first year student require choosing appropriate teaching methods [1]. The students, who are slow learners, quite often have worse-developed skills of finding the main idea, they cannot think independently or plan their actions.

The curriculum in the discipline “Medical biology” is very rich, and to fulfil all the tasks, that have to be done, the teacher and students have to intensify the educational process, using all possible modern methodological and teaching materials. The workbook is one of the important learning tools that has recently gained a general recognition among teachers and students.

The modern medical biology workbook is a didactic complex, intended for independent work [5] of students in their practical classes, as well as at home. Using a workbook helps a teacher to plan their classes, allows combining oral and written work, helpss students avoid a large amount of mechanical work, and also facilitates the differentiation and individualization of the learning process.

The structure of a workbook depends on the topic of the class, the degree of its complexity, the initial level of preparation of students and on the teacher’s creativity. A workbook is designed to help students master the difficult theoretical material, to show possible methods and techniques for analyzing the material [4]. Performing exercises, solving tasks, working with educational and scientific literature contributes to the development of independent thinking of students, therefore the teacher should provide the opportunity for students [2] to find solutions on their own and argue with it, involving theoretical knowledge, gained at lectures, and in the process of discussion in practical classes.

A workbook allows more efficient use of time for practical classes and optimization of independent work of students; stimulates and activates mental activity of students, enables the

teacher to control all participants in the educational process. While creating the workbook, the staff of the Department of Medical Biology and Genetics took into account the methodical approaches to control the academic achievements of students. It contains multi-level tasks and questions for self-study and preparation for practical classes, tasks for ongoing control, as well as creative tasks that are a kind of project activity.

The workbook consists of the following components: orientation-motivational, operational-executive and reflexive-evaluative ones.

The orientation-motivational component is presented by the work program and the thematic plan, a description of the knowledge and skills that are formed within the theme, the main theoretical questions to practical lessons, sources of information, evaluation criteria, questions to the module [3].

The operational-executive one includes control questions, topics of abstracts, as well as a system of multilevel exercises.

The reflexive-evaluative component provides the final stage of work and depends on the efficiency of the tasks.

Using a workbook for module 1 “Biological features of human life. Molecular-cellular and organizational levels of life organization” and that for module 2 “Population-Species, biogeocoenic and biosphere levels of life organization”, is planned to be introduced into the educational process and they will become a component of the educational-methodical complex in the discipline “Medical biology”. Such workbooks, along with textbooks, multimedia support, lecture notes and guidelines, are considered as a set of tasks for the organization of the independent work of students during practical classes and preparation for them. These notebooks provide the implementation of individual and personally oriented approaches to the training of future medical workers, contribute to the formation and improvement of educational and cognitive abilities; create conditions for self-control, self-examination and self-correction of knowledge; stipulate an increase in the quality of student knowledge, cognitive activity and interest.

The workbook is to be used for practical classes in the discipline “Medical Biology”, the purpose of which is to improve the knowledge acquisition of the first-year students, the development of logical thinking, the ability to analyze, draw conclusions and substantiate them, and increase the motivation of students to study.

The use of a workbook in the process of teaching special disciplines will contribute to the formation of students’ abilities to correlate the theoretical material of personally oriented learning

with practical; use the basic forms, methods, and means of implementation of a differentiated approach to the problem of each separate task.

It is assumed that most of the tasks can be carried out by all students, using, if necessary, the material of the textbook. But in order to motivate the training of strong students, each topic was extended with tasks requiring deeper understanding of the material, and the tasks of a problematic nature. To our mind the workbooks are the most convenient means of interaction between a student and a teacher, because: firstly, students have the opportunity to get prepared for classes, as well as to work on solving those tasks that remain outside the classroom; secondly, the workbooks allow not only radical changes in the structure and content of practical classes and homework, but also allows you to establish a new form of student reporting on the results of work. A workbook is a tool that helps teachers teach lessons by simplifying them and making learning more meaningful [6]. This tool also help students get involved and acquire meaningful learning more quickly and allow them to make connections with the acquired knowledge through partner work, individual work, whole groups, and small groups activities. In addition, this teaching aid helps students sort information and show them how the concepts are related to their prior knowledge. In essence, workbook can provided: an overview of the material to be learned, a reference point for putting new vocabulary and main ideas into orderly patterns, a cue for important information, a visual stimulus for written and verbal information.

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