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"Science", the European Association  
of pedagogues and psychologists

" GENEVA THEORETICAL AND  
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the 28th of  
December  
2015,  
Geneva  
(Switzerland)

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**PECULIARITIES OF TEACHING BIOORGANIC AND BIOLOGICAL CHEMISTRY TO FOREIGN STUDENTS AT THE DEPARTMENT OF BIOORGANIC AND BIOLOGICAL CHEMISTRY AND CLINICAL BIOCHEMISTRY, THE HIGHER STATE EDUCATIONAL ESTABLISHMENT "BUKOVINIAN STATE MEDICAL UNIVERSITY"**



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The article presents the peculiarities of teaching Bioorganic and Biological Chemistry to foreign students getting medical education in English medium at the Higher State Educational Establishment "Bukovinian State Medical University", and introducing innovation pedagogical methods and information-communication technologies into the educational process to increase the efficacy of studies, control and evaluation of students' knowledge.

**Key words:** Bioorganic and Biological Chemistry, foreign students, innovation pedagogical methods, information-communication technologies.

Bioorganic and Biological Chemistry is a fundamental science which learning is compulsory in the system of training future doctors. Mastering the basic knowledge of the subject creates the fundamentals to form biochemical thinking of medical students, development of the main skills and abilities to estimate metabolic processes in the body of a healthy man and in case a pathological process occurs. This subject is widely integrated with the following disciplines: Medical Biology, Biophysics, Physiology and Molecular Pharmacology [1, 169].

For recent years in Ukraine the number of foreign students getting medical education in English medium has been increasing, and since 2004 all the subjects at Bukovinian State Medical University (BSMU) have been taught in English for the representatives of more than 40 states including the citizens of European countries, America, Middle East, Asia and Africa. Although, the biggest number of students (80%) is representatives from India.

At the beginning of 2015/2016 academic year more than a thousand students study at the Medical Faculty № 3 organized by the University Rector, Professor Boychuk T.M. according to the Order №107-O dated August 11, 2011, with the aim to optimize educational process.

The questions of mastering knowledge in Biological and Bioorganic Chemistry by foreign students are very important as a substantial attention is paid to clinical as-

pects: congenital and acquired metabolic disorders, enzymopathy, the issues of using enzymes as pharmaceutical agents, as well as pathochemical processes occurring in the development and course of diabetes mellitus, atherosclerosis, obesity, rheumatism, myocardial infarction, digestive diseases etc.

Foreign first and second-year students of the Medical Faculty № 3 study at the Department of Bioorganic and Biological Chemistry and Clinical Biochemistry of the Higher State Educational Establishment “Bukovinian State Medical University” according to the standard curriculum and educational plan elaborated on the basis of European Credit-Transfer System (ECTS) for the students of higher educational establishments of Ukraine, III-IV levels of accreditation. The subject of Bioorganic and Biological Chemistry consists of 270 hours (9 ECTS credits) including 40 hours of lectures, 100 – practical classes, 130 – independent students’ work after classes.

The standard curriculum is structured into three modules corresponding to the educational requirements of Bologna Declaration process. The first module “Biologically Important Classes of Bioorganic Compounds. Biopolymers and their Structural Components” is studied during the first year. The second module “General Regularities of Metabolism. Metabolism of Carbohydrates, Lipids, Amino Acids and its Regulation” and the third module “Molecular Biology. Biochemistry of Tissues and Physiological Functions and their Regulation” are included into the second year of studying the discipline (III-IV terms) [5,267].

Therefore, teaching and learning Bioorganic and Biological Chemistry is conditionally divided into the three interrelated stages. At the beginning the structure and properties of biologically valuable compounds is studied, those of proteins, lipids, carbohydrates and nucleic acids as separate components of living systems. The second stage deals with the study of the regularities of metabolic processes of the main classes of organic compounds functioning in the human body. The third stage concerns the study of the fundamentals of Molecular Biology and Functional Biochemistry with the aim to combine previously obtained knowledge on a higher level of understanding metabolic processes with the possibility to use theoretical experience on the allied subjects: Histology, Physiology, Microbiology. A module principle of teaching Bioorganic and Biological Chemistry ensures individual learning, increases the level of independent educational activity of a student, providing the integrity of teaching the subject from the point of view of training a future specialist [7,17].

The experience of teaching the subject is indicative of the fact that at the very first classes with foreign students the teachers of the Department admit a number of difficulties complicating the process of mastering knowledge. An important problem is a big difference in the level of a basic training between the students of different countries, which might be caused by the difference in the school programs and insufficient level of English by the students themselves. Language barrier affects the process of preparing for classes and mastering the material during practical classes substantially. To solve this problem the staff of the Department have organized additional classes and consultations to improve mastering educational material.

The educational-methodical manual was published at the Department in English containing all the information necessary to train students for practical classes: the topicality is indicated and the objective and purposes of every topic are formulated, theoretical questions are given, references are recommended, the methods of doing laboratory practical work are written in details, combining modern biochemical methods of examination with the algorithm to every laboratory work, clinical estimation of certain indices, test questions and situational tasks for self-education with the samples of answers,

credit test questions for module, necessary reference material [4,67].

The use of interactive innovation technologies in the system of higher education is successfully realized innovation promoting to increase the efficacy of the educational process, and it is one of the ways to improve a qualification level of a future doctor. The final objective of introducing innovation technologies into the higher education is compatibility of future professionals on the labour market.

During the last year the Department of Bioorganic and Biological Chemistry and Clinical Biochemistry has elaborated and organized measures to introduce interactive methods of learning including the use of a multimedia projector and interactive board during practical classes and lectures on Bioorganic and Biological Chemistry which is one of the basic disciplines forming the outlook of a future doctor.

Application of innovation technologies enables to improve the quality of education by means of using up-to-date computer technologies (educational compact-disks, books, atlases, presentations, films, tests etc.). For example, during combined classes a tutor can use audio-, video presentations, information from other sources (Microsoft Word, Excel, Power Point etc.), demonstrated on the interactive board, and students by means of an electronic marker are able to work with images on the screen, reproduce and make compositions from text and graphic fragments, and take an active part in discussion of presented issues.

In case of active perception people are proved to retain 80% of that they are talking about and 90% of that they are making themselves [6,456].

Therefore, interactive methods of learning improve considerably the process of memorizing, promote its identification and purposeful, substantiate, practical realization.

In addition, preparation to practical training is considerably facilitated with the use of BSMU distance learning server on the base of MOODLE (Modular Object Oriented Distance Learning Environment), containing all the necessary information enabling the possibility for self-education, as the students have an access to the materials presented in the form of electronic lecture notes, diagrams, schemes, illustrations, tables, videos, situational tasks and tests facilitating to learn the material, references to web pages in the Internet and use of interesting chemical programs (WinMOPAC, Hyper Chem, Chem Sketch, ISIS Draw, ACD/3D). This material is constantly updating, supplemented with the latest scientific discoveries and advanced tendencies.

During practical classes and laboratory training the students' knowledge is controlled with the aim to evaluate the level of training in the following forms:

- individual oral test, as one of the most common form of control, is conducted in the process of interview near the board or while doing laboratory work. It helps to control the knowledge acquired and promotes to correct mistakes;
- the use of structural “case-method” [ 8,118];
- the work in “small groups” format to do a practical task [9,122 ];
- frontal or group oral test – students answer from their seats supplementing one another per 5-6 persons;
- “brain storming” method when students answer quickly and constructively the questions asked [3,61];
- “aquarium” method is dividing groups into smaller ones to discuss questions in turns;
- written control includes tests, solving clinical-situational tasks, biochemical transformations enabling to check the level of knowledge of many students;
- programmed control – computer testing with the use of distance learning server [2,17];
- practical control enables to evaluate skills and abilities of students acquired during

laboratory research and experiments.

Thus, teaching Bioorganic and Biological Chemistry to foreign students differ a little from teaching home students and requires sufficient amount up-to-date educational-methodical materials, English speaking teachers having profound professional knowledge of an educator and psychologist, and especially an individual approach to the students being under conditions of psycho-emotional strain due to the influence of a new cultural and social surrounding.

Intensive cooperation of theoretical and clinical departments is very important and necessary constituent of adaptation and formation of future doctors.

The teaching staff should be a guarantee of training educated specialists-foreign citizens before their returning home after getting education in Ukraine. Undoubtedly, training of highly qualified workers in the field of medicine for rather low tuition fee creates and promotes preconditions for compatibility of the university at the educational market not only in Ukraine but abroad as well.

#### REFERENCES:

1. Грачева Е. Л. Методика формирования компетентности студентов в области биохимии / Е. Л. Грачева, Л. Н. Сухорукова // Ярославский педагогический вестник. – 2012, №2 – С. 168-172.
2. Князевич-Чорна Т. В. Проблеми викладання біохімії у вищій медичній школі / Т. В. Князевич-Чорна, М. І. Гришук, О. Г. Попадинець [та ін.] // Медична освіта. – 2011, №4. – С. 17-19.
3. Мосула Л.М. Особливості організації самостійної роботи іноземних студентів в контексті кредитно-модульної системи при вивченні фармацевтичної хімії / Л. М. Мосула // Медична освіта. – 2012, №3. – С. 61-63.
4. Ніженковська І.В. Особливості викладання біологічної хімії на медико-психологічному факультеті національного медичного університету ім. О. О. Богомольця / І. В. Ніженковська, Л. В. Яніцька, О. В. Стеченко [та ін.] // Медична освіта. – 2012, №3. – С. 66-68.
5. Пентюк О. О. Особливості викладання біохімії іноземним студентам та шляхи його оптимізації / О. О. Пентюк, М. Б. Луцюк, Е. В. Столярчук [та ін.] // Медична освіта. – 2002, №3. – С. 265-267.
6. Нагайчук В. В. Застосування інтерактивних технологій навчання для викладання у вищих медичних навчальних закладах / В. В. Нагайчук // Вісник Вінницького національного медичного університету. 2013. №2. Т. 17. С. 456-459.
7. Мотузенко Л. А. Значимість та проблемність у викладанні загальної хімії в системі медичної освіти / Л. А. Мотузенко // Матеріали Всеукраїнської науково-методичної конференції, присвяченої дню заснування Черкаського медичного коледжу. 2014. С. 16-21 [Електронний ресурс] – Режим доступу до журн.: [http://medcollege.ck.ua/wp-content/uploads/2014/10/Articles\\_conference.pdf](http://medcollege.ck.ua/wp-content/uploads/2014/10/Articles_conference.pdf)
8. Дікал М. В. Ференчук Є. О. Використання «кейс-методу» при вивченні біоорганічної та біологічної хімії іноземними студентами / М. В. Дікал, Є. О. Ференчук // "Science", European Association of pedagogues and Psychologists. International Scientific-Practical Congress of Pedagogues, psychologists and Medics "Driven to discover". June 5, 2015, Geneva (Switzerland), P.117-121.
9. Чернюх О. Г., Дікал М. В. Особливості проведення практичних занять з біоорганічної та біологічної хімії в «малих групах» у асоціації з інтерактивними методами навчання / О. Г. Чернюх, М. В. Дікал // "Science", European Association of pedagogues and Psychologists. International Scientific-Practical Congress of Pedagogues, psychologists and Medics "Driven to discover". June 5, 2015, Geneva (Switzerland), P.121-126.
10. Dent. J. R. A practical guide for medical teachers / J. R. Dent, R. M. Harden. – Churchill Livingstone Elsevier: Edinburgh, London, New York, Oxford, Philadelphia, St. Louis, Sydney, Toronto, 2009. – 435 p.