



# Deutscher Wissenschaftsherold German Science Herald

**№ 4/2016**

*Die Zeitschrift „Deutscher Wissenschaftsherold“ ist eine Veröffentlichung mit dem Ziel ein breites Spektrum der Wissenschaft allgemeinverständlich darzustellen. Die Redaktionsleitung versteht sich als Vermittler zwischen Wissenschaftlern und Lesern. Durch die populärwissenschaftliche Bearbeitung wird es möglich unseren Lesern neue wissenschaftliche Leistungen am besten und vollständigsten zu vermitteln. Es werden Untersuchungen, Analysen, Vorlesungen, kurze Berichte und aktuelle Fragen der modernen Wissenschaft veröffentlicht.*

**Impressum**

Deutscher Wissenschaftsherold – German Science Herald  
Wissenschaftliche Zeitschrift

Herausgeber:  
InterGING  
Sonnenbrink 20  
31789 Hameln, Germany  
Inhaber: Marina Kisiliuk  
Tel.: +49 51519191533  
Email: [info@dwherold.de](mailto:info@dwherold.de)  
Internet: [www.dwherold.de](http://www.dwherold.de)

**Chefredakteur/Editor-in-chief:**

Elias Haidamous

**Korrektur:**

O. Champela

**Gestaltung:**

N. Gavrilets

Auflage: № 3 2016 (August) – 20

Redaktionsschluss August 2016

Erscheint vierteljährlich

**Editorial office:** InterGING

Sonnenbrink 20  
31789 Hameln, Germany  
Tel.: +49 51519191533  
Email: [info@dwherold.de](mailto:info@dwherold.de)

Deutscher Wissenschaftsherold - German Science Herald is an international, German/ English language, peer-reviewed journal and is published quarterly.

№ 4 2016

Passed in press in August 2016

Der Abdruck, auch auszugsweise, ist nur mit ausdrücklicher Genehmigung der InterGING gestattet. Die Meinung der Redaktion oder des Herausgebers kann mit der Meinung der Autoren nicht übereinstimmen. Verantwortung für die Inhalte übernehmen die Autoren des jeweiligen Artikels.

**INDEXING:** Google Scholar, WorldCat, InfoBase Index, Journal Index, Ctefactor, International Scientific Indexing.

© InterGING

© Deutscher Wissenschaftsherold - German Science Herald

## REDAKTIONSKOLLEGIUM / INTERNATIONAL EDITORIAL BOARD:

**Jurga Bernatoniene**, Dr., Prof.  
Physics Lithuania  
*jurgabernatoniene@yahoo.com*

**Arvidas Galdikas**, Dr. habil., professor  
Physics Lithuania,  
*arvidas.galdikas@ktu.lt*

**Kristina Ramanauskienė**, Ph.dr., Prof.  
Pharmacy, Lithuania  
*kristinaraman@gmail.com*

**Khpalik Alexander**, Dr. med. habil., Prof.  
Pharmakologie, Belarus  
*clinicfarm@bsmu.by*

**Arnold M. Gegechkori**, Dr., full Prof.  
Biology, Georgia  
*arngegechkori@yahoo.com*

**Omari Mukbaniani**, Prof., DSc.  
Chemistry, Georgia  
*omar.mukbaniani@tsu.ge*

**Teimuraz Lezhava**, Prof.  
Genetics, Georgia  
*teimuraz.lezhava@tsu.ge*

**Shota A. Samsoniya**, Prof.  
Chemistry, Georgia  
*shota.samsonia@tsu.ge*

**Mdzinarashvili Tamaz**, DSc., Prof.  
Biophysics, Georgia  
*tamaz.mdzinarashvili@tsu.ge*

**Aliaksandr V.Prokharau**, MD, PhD, MSc Prof.  
Oncology, Belarus  
*aprokharau@gmail.com*

**Pyrochkin V.**, MD, PhD, MSc Prof.  
Therapy, Belarus  
*wlad\_cor@mail.ru*

**Golubev A.P.**, BD, Prof.  
Ecology, Belarus  
*algiv@rambler.ru*

**Makarevich A.**, MD, PhD, Prof.  
Therapy, Belarus  
*maka@bsmu.by*

**Kanunnikova N.**, BD, Prof.  
Physiology, Belarus  
*n.kanunnikova@grsu.by*

**Giedrius Vanagas**, Prof.  
Internal Medicine, Lithuania  
*Giedrius.Vanagas@lsmuni.lt*

**Armuntas Baginskas**, Prof.  
Neurofiziologija, Lithuania  
*Armuntas.Baginskas@lsmuni.lt*

**Ricardas Radisauskas**, MD., Ph.D., Prof.  
Cardiology, Lithuania  
*Ricardas.Radisauskas@lsmuni.lt*

**Meyramov Gabit**, Prof.  
Cytology and Histology, Kazakhstan  
*meyramow@mail.ru*

**Edmundas Kadusevicius**, MD, PharmD, PhD, Prof.  
Pharmacology, Lithuania  
*Edmundas.Kadusevicius@lsmuni.lt*

**Ivo Grabchev**, Prof., PhD.  
Chemistry, Bulgaria  
*i.grabchev@chem.uni-sofia.bg*  
*grabchev@mail.bg*

**Mariyana Ivanova Lyubenova**, Prof., PhD.  
Ecology, Bulgaria  
*ryann@abv.bg*  
*ryana\_1@yahoo.com*

**Tsvetanka Tsankova Marinova**, MD, PhD, DMedSci,  
Biologv. Bulgaria  
*tmarinova@yahoo.com*

**Evgueni D. Ananiev**, Prof PhD,  
Biology, Bulgaria  
*evgueni\_ananiev@yahoo.com*

**Plamen G. Mitov**, Prof., PhD.  
Biology, Bulgaria  
*mitovplamen@gmail.com*

**Atanas Dimov Arnaudov**, Ph.D.  
Physiology, Bulgaria  
*arny87@yahoo.co.uk*

**Iliana Georgieva Velcheva**, PhD,  
Ecology, Bulgaria  
*anivel@abv.bg*

**Osman Demirhan**, Prof.  
Biology, Turkey  
*osdemir@cu.edu.tr*

**Jharna Ray**, M. Sc., PhD, Prof.  
Neurogenetics, India  
*Indiajharnaray@gmail.com*

**Marián Halás** doc. RNDr, Ph.D.  
Human geography, Czech  
*marian.halas@upol.cz*

**Ayfer Pazarbasi** Prof.Dr.  
Biology, Turkey  
*payfer@cu.edu.tr*

**Tusharkanti Ghosh** Prof.  
Physiology, India  
*tusharkantighosh53@yahoo.in*

**Khudaverdi Gambarov Gambarov**, Prof.  
Microbiology, Azerbaijan  
*khuda1949@mail.ru*

**Rovshan Ibrahimkhalil Khalilov**, Prof.  
Biophysics, Azerbaijan  
*hrovshan@hotmail.com*

**Svitlana Antonyuk**, Dr.phil., Stony Brook University,  
USA  
Linguistics

**Samuel M.Johnson**, Prof.Dr.phil., Wells, Maine, USA  
Theology  
*djtjohnson@earthlink.net*

Lists of references are given according to the author's country standards

**CONTENT:**

Boichuk O.M., Kryvetska I.I., Bambuliak A.V., Sapunkov O.D. Structural components of autonomic innervation of mucosa of nasal cavity and paranasal sinuses	3
Fediv O.I., Sitsinska I.O., Vivsianyk V.V. The dependence of the cytokine homeostasis state on the cytotoxicity of h. Pylori strains in patients with peptic gastric and duodenal ulcer combined with hypertension and type 2 diabetes mellitus	6
Kavun M.P. The structure and formation of topography of the venous duct in human prenatal ontogenesis	9
Moroz V.M., Sarafyniuk O.P. Features of the shin rheogram values in volleyball players	12
Yakym'yuk D.I., Kryvetsky V.V. Morphogenesis of structures in hip joint region during embryonic and pre-fetal periods of human ontogenesis	15
Tykhola V.O. Morphometric parameters of the structures of the medulla oblongata of human fetuses with sacrococcygeal teratoma at 17-18 weeks of prenatal development	19
Bondar Ya.Ya., Bidovanets B.Yu., Holovata T.K. Structural organization of bladder mucosa in women with early and late menopause with overactive bladder syndrome	24
Voronich-Semchenko N.M., Guranich T.V., Semchenko V.A., Voronich V.O. Effectiveness of correction of metabolic disorders within myocardium tissue of rats with hypothyroidism on the background of combined iodine and copper deficit	27
Shevchyk L.O., Kravets N.Ya. Ecological analysis of the diversity in the elements of melanized picture in the integument of a red soldier bug (pyrrhocoris apterus l.) In the urbanized ecosystem of ternopil	31
Drachuk V.M., Zamorskyi I.I., Horoshko O.M. Morphological changes of kidney tissue when using glutathione at rhabdomyolytic acute kidney injury	34
Mikulets L.V., Voloshyn O.I., Tovkach Y.V. Remote results of obseravtion over the patients with rheumatoid arthritis with comorbid intestinal disbacteriosis	38
Ilashchuk T.O., Mikulets L.V., Tovkach Y.V. Teaching medical students on the base of a competence approach	42
Nechyporuk V.M., Zaichko N.V., Korda M.M. Effect of thyroid gland functional state on the functioning of homocysteine remethylation cycle in rat organs	45
Voloshina L.O. Evaluation of quality of life in patients with osteoarthritis	49
Pecheryaga S.V. Hormonal changes of fetoplacental complex in pregnant women when abnormal placentation during early gestation	52
Protsak T.V., Hayina N.I., Gumenyuk A.L. Modern literary data of development features coronal arteries of heart (literature reviev)	54
Holyar O.I., Molokus I.V., Tsumanets I.O., Shkriblyak U.V. Degree of adaptative strain and cellular responsiveness of organism in patients with acute shigellosis	58
Kravtsova A.V. Effect of different materials used for duraplasty on changes of the peripheral blood values	62

UDC 378.147:614.253.4

**Ilashchuk T.O.,****Mikulets L.V.,***Higher State Educational Institution of Ukraine «Bukovinian State Medical University», Department of Propedeutics of Inner Diseases, Chernivtsi, Ukraine, lvmikulets@ukr.net***Tovkach Y.V.***Higher State Educational Institution of Ukraine “Bukovinian State Medical University”, Department of anatomy, topographical anatomy and operative surgery, Chernivtsi, Ukraine, tovkach11@rambler.ru*

## TEACHING MEDICAL STUDENTS ON THE BASE OF A COMPETENCE APPROACH

**Abstract.** *The article gives an example of the definition of the notion “competence”. Training a medical student is not possible without considering the grounds of the competences approach. The combination of theoretical and practical tasks of the teacher in the work with students provides a multistep system of the quality of mastering knowledge and skills, and promotes stage-by-stage formation of professional competence. An example of the competence approach is brainstorming method applied in teaching the students of the Stomatological Faculty.*

**Key words:** *competence approach, brainstorming, medical student.*

### **Topicality of the study and problem**

**statement.** Joining the European space by Ukraine requires all the educational branch to think over the questions of educational quality and search of new conceptions of education reflecting contemporary changes in the society and directed to making up of personality of the XXI century. One of the approaches directed to the improvement of professional education is a competence approach. It is a substantiated and objective phenomenon in modern education, as accelerated rate of social development, transition to information technologies, new requirements to specialists and development of informatization processes promoted reorientation of the educational conception from getting knowledge to a competence one.

**Analysis of the studies and publications.** One of the priority tendencies to improve professional education is a competence approach. The problem of a competence approach in the systems of higher and general secondary education is studied in the works of domestic scientists – I. Drach, I. Babyn, P. Bachynskyi, N. Bibik, G. Gavryshchak, I. Gudzyk, N. Dvornikova, Y. Kodliuk, O. Lokshyna, S. Nikolayenko, O. Ovcharuk, L. Pylgun, O. Pometun, I. Rodygina, K. Savchenko, O. Sadivnyk, L. Sen, S. Sysoyeva, O. Sytnyk, T. Smagina, G. Tereshchuk, S. Trubachova, N.

Fomenko etc.

Although, the analysis of literary sources is indicative of the fact that there is no a coordinated view concerning the list of professional competences of a medical student that should be formed after graduation from a higher educational establishment.

**Task statement.** Analysis of the main items of the competence approach and its application to the teaching process for medical students.

**Brief description of the main material.** Designing of educational programs on the base of a competence approach (general European project TUNING (“Establishing Educational Structures”)) means: reflection of educational results in the systemic and integral aspects; formation of educational results at the Higher Educational Establishment as a characteristic of a student’s/graduate’s ability to demonstrate appropriate knowledge, skills and values; definition of the structure of competences that should be acquired and demonstrated by learners [1]. As a result, a competence list of a specialist in different branches was designed containing 31 positions (for example, ability to communicate in another language, ability to apply knowledge in practical situations, ability to make a substantiated decision, ability to abstract thinking, analysis and synthesis, ability to a team work etc.). The project «TUNING

MEDICINE» for medical branch includes over 50 competences (both general and special without clear systematization and differentiation) [8]. Considering this fact a question arises as to the instruments of formation of medical student's competences.

«Competence education», as a notion, appeared at the end of the 80-s beginning of the 90-s XX century in the USA. The basis for it was the requirements to business and entrepreneurship of the graduates of higher educational establishments, who have certain difficulties in the application of knowledge and make decisions in real situations due to the lack of experience and uncertainty [5].

Since 1986 in Great Britain the competence-oriented conception was taken as a basis of the national system of qualification standards and received an official support of the leaders. In 1997 within the framework of the Federal Statistical Department of Switzerland and the National Center of Educational Statistics of the USA and Canada the program "Detection and Selection of Competences: Theoretical and Conceptual Bases" (DeSeCo) was initiated [4].

The competence approach intensifies a practical orientation of education, ensures the ability of a personality to meet new requirements of the labour market, to have appropriate potential for practical solution of professional tasks. This approach accentuates on the ability to apply acquired knowledge, to use the experience of successful actions in the situations of educational and professional work, but at the same time it does not deny the value of knowledge. According to the competence approach the first place is occupied by the ability to solve problems occurring in various professional situations, but not by the students being informed [2].

Availability of the competence approach in education is in the ability of a graduate to future professional activity. This approach is oriented to getting practical results, experience of the personality and its activity stipulating principle changes in the organization of education. Improvement of the educational process considering the competence approach is in the teaching students to apply acquired knowledge

and skills effectively in certain situations [2].

While preparing for practical classes on the base of the competence approach, first of all, one should be definite with the list of competences, pedagogical methods of teaching and learning, formulation of the kinds of work of students and estimation criteria of the results of education, as well as detection of the level of their competences [7].

Conditions to provide an integral approach is the combination of traditional and contemporary forms, methods and technologies of teaching students, motivation of students' activity and their interaction, discussion, application of standardized patients, clinical rounds etc.

In higher medical education today there are pedagogical methods ensuring interaction of students. Application of such methods by teachers promotes the formation of professional competences [3].

One of the most effective methods, especially during the introductory part, is "brainstorming" [6]. Brainstorming method was suggested by Alex Osborn (USA) in the 40-s of the XX century. Alex Osborn paid attention to the fact in certain situations some people begin to generate a number of ideas, while others, according to the peculiarities of their thinking, are more inclined to the analysis and critical estimation of other people ideas and their development. Brainstorming is the method to stimulate creative activity and productivity to solve problems. Brainstorming is the method to solve urgent tasks in very limited time. The sense of the method is in the necessity to express the biggest number of ideas for a short period of time, discuss them and make a right choice. This method is used for the development of creative abilities or for the solution of complicated problems. Brainstorming method can be used in various forms of activity: in the work with small groups, teams, big groups (game with the audience). The most optimal groups are considered those containing from 3 to 12 persons (the number of participants should be divided into three).

Brainstorming method is widely used at the Department of Propedeutics of Internal

Diseases during practical classes. The teacher begins the class with the statement of a clearly formulated problematic question before the students. It enables to suggest a number of versions for answer and invites students to express their ideas and comments. While “ideas are suggested” none of them cannot be ignored. All the students should be encouraged to suggest their ideas. In case during brainstorming the teacher fails to get many variants it is indicative of the fact that students are not sure in their suggestions. Combination or changes of the ideas suggested before frequently leads to the appearance of new ones which can be better than the previous ones.

**Conclusions.** While training a medical student the main issues of the competence approach should be considered, it promotes the quality of education and the use of effective pedagogical technologies. Creation of conditions to form necessary competences promotes productivity and competitiveness of a specialis on the labour market.

**Prospects of further studies:** to work on the improvement of a competence model in teaching medical students for the formation of professional competence.

#### References

1. Вступне слово до проекту Тьюнінг – гармонізація освітніх структур у Європі. Внесок університетів у Болонський процес [Електронний ресурс] // Socrates – Tempus. – Режим доступу: [http://www.unideusto.org/tuningeu/images/stories/documents/General\\_Brochure\\_Ukrainian\\_version.pdf](http://www.unideusto.org/tuningeu/images/stories/documents/General_Brochure_Ukrainian_version.pdf).

2. Кривенко І.П. Формування у майбутніх

лікарів компетентності з опрацювання медико-біологічних даних у процесі навчання медичної інформатики: дис. на здобуття наук. ступеня канд. педагог. наук: спец. 13.00.02 /І.П. Кривенко. – К., 2015. – 208 с.

3. Максименко С.Д. Педагогіка вищої медичної освіти [текст]: підручник / С.Д. Максименко, М.М. Філоненко. – К.: Центр учбової літератури, 2014. – С. 109-116.

4. Овчарук О.В. Компетентнісний підхід до формування змісту середньої освіти: досвід зарубіжних країн. Компетентнісний підхід у сучасній освіті: світовий досвід та українські перспективи (Бібліотека з освітньої політики) / За заг. ред. О.В. Овчарук. – К.: «К.І.С.», 2004. – С. 5-15.

5. Ситуаційна методика навчання: теорія і практика. – К.: Центр інновацій та розвитку, 2001. - С. 8-10 .

6. Січкарук О.І. Інтерактивні методи навчання у вищій школі: навч.-метод. посібник / О.І. Січкарук. – К.: Таксон, 2006. – 88 с.

7. Філоненко М.М. Специфіка викладання навчальних дисциплін на основі компетентнісного підходу [Текст] / М.М. Філоненко // Науково-практична конференція з міжнародною участю «Вища медична освіта: сучасні виклики та перспективи», (3-4 березня 2016 р., Київ): зб. наук. праць – К.: «КиМ», 2016. – С. 246-250.

8. The Tuning Project (Medicine): Learning Outcomes/Competences for Undergraduate Medical Education in Europe. – Режим доступу: <http://www.umed.pl/procesbolonski/materialy/tuning%20project.pdf>.