- 2. [VIII National Congress of Pharmacists of Ukraine. 2016.09.13–16. Kharkiv. Ukrainian]. Available from: http://www.isc.kharkov.com/uk/activity/news/2016-09-15-14-42-17. doi: https://doi.org/10.15407/ugz2016.01.009
- 3. Klimov O. [The role of the pharmaceutical specialist in society and in the health care system must be identified]. Available from:
- http://www.apteka.ua/article/361967
- 4. [Congress FIP-2016. World Pharmacist's Day in the International Pharmaceutical Family]. Available from: http://www.apteka.ua./article/384828
- 5. [The Past, Present, Prospects. According to the materials of the VIII National Congress of Pharmacists of Ukraine]. Available from:
- http://www.apteka.ua./article/385701
- 6. [Towards the VIII National Congress of Pharmacists of Ukraine. All-Ukrainian Pharmacy Chamber: Good Pharmacy Practice The Guarantee and Gold Standard of Effective Pharmaceutical Assistance to the Patient]. Apteka. 2016;32. Available from: http://www.apteka.ua/article/381791

- 7. Nizhenkovs'ka IV, Reva TD, Butkevich TA. [Trends, problems of pharmaceutical education and their solution]. Program of the VIII National Pharmacists Congress of Ukraine, 2016 Septem. 13-16; Kharkiv; 2016. p. 34. Ukrainian.
- 8. [Order of the Ministry of Health of Ukraine. The concept of development of the pharmaceutical sector of the healthcare sector of Ukraine for 2011-2020]. 2013 March 27. No. 242. Available from: www.apteka.ua/article/225241
- 9. Reva TD. [Actual problems of training specialists in the pharmaceutical sector of health care in Ukraine]. Humanitarny Visnyk Pereyaslav-Hmelnytskogo Derzhavnogo Pedagogichnogo Universytetu imeni Hryhoriya Skovorody. Gnozis. Kyiv. 2016;37:358-66. Ukrainian.
- 10. [75th International Congress of the International Pharmaceutical Federation (IPF) in Pharmacy and Pharmaceutical Sciences. 2015]. Russian. Available from: http://www.mospharma.org/ru/novosti-fip/75-mezhdunarodnyy-kongress/

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O.V. Kuryta, K.H. Karapetian, Ye.O. Frolova, Yu.S. Kushnir

# THE ROLE OF STUDENTS' INDIVIDUAL WORK IN THE FORMATION OF PROFESSIONAL COMPETENCES OF FUTURE DOCTORS

SE «Dnipropetrovsk medical academy of Health Ministry of Ukraine» Department of internal medicine 2 and phthisiology V. Vernadsky str., 9, Dnipro, 49044, Ukraine ДЗ «Дніпропетровська медична академія МОЗ України» кафедра внутрішньої медицини 2 і фтизіатрії (зав. — д. мед. н., проф. О.В. Курята) вул. В. Вернадського, 9, Дніпро, 49044, Україна e-mail: dr.frolova81@gmail.com

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Key words: professional competences, students' individual work, higher medical education Ключові слова: професійні компетенції, самостійна робота, вища медична освіта

**Ключевые слова:** профессиональные компетенции, самостоятельная работа, высшее медицинское образование

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Abstract. The role of students' individual work in the formation of professional competences of future doctors. Kuryta O.V., Karapetian K.H., Frolova Ye.O., Kushnir Yu.S. Modern requirements for training of high-skilled specialists require the implementation of international medical and educational standards in the educational and integrative process. Formation of cognitive activity, pursuance of professional development, the necessity to correspond to world standards medical students' of gained knowledge. Medical students' individual work is very important for medical students' education because it helps to systematize and use knowledge that was gained in practical classes. The aim of the work – to analyze the forms of students' individual work, used at in the Department of Internal Medicine 2 and Phthisiology, in order to improve the educational process and to form the future doctor's medical judgment, their ability to self-improvement and self-education. The recommended hours attempted for students' individual work is 90 out of the total of 240 hours assigned to the discipline in teaching the module "internal diseases" for the 5th year students at the Depertment of Internal Medicine 2 and Phthisiology. In studying the discipline of "internal diseases" in the 5th year one of the main tasks of medical student's occupation training is mastering ability of assimilation on his own, of knowledge and refresh it, and then to use knowledge effectively in the future career. The difference of the individual work lies in the fact that students can study individually choosing the necessary kind of extracurricular activity according to their interests. In addition, the lack of strict grading by the teacher has more advantages compared to practical classes. The curriculum, the teacher's tasks and methodological materials determine the content of the individual work. The article presents the three main directions of students' individual work in teaching discipline of "internal diseases" for students of the 5th year as: students' individual work in classroom learning, students' individual work individual work under the teacher's supervision. When discussing the results of individual work, students learn to think critically, communicate with each other, and make their own well-thought-out (educated) decision. Well-structured process of the individual work encourages medical students to its qualitative fulfillment and it is a significant motivation for further professional growth. Significant reserves to increase its efficiency inherent in the use of modern computer technology. Medical students' individual work should be considered as one of the necessary stages of a modern doctor training. The latest information technologies and individual scientific projects adoption into the educational process leads to efficiency improvement and it forms new future doctor's professional competences.

Реферат. Роль самостійної роботи студентів у формуванні професійних компетенцій у майбутніх лікарів. Курята О.В., Карапетян К.Г., Фролова Є.О., Кушнір Ю.С. Сучасні вимоги до підготовки висококваліфікованих спеціалістів потребують впровадження в освітньо-інтегративний процес міжнародних медичних та освітніх стандартів. Формування пізнавальної активності, прагнення до професійного розвитку, необхідність відповідності отриманих знань світовим стандартам у студентів-медиків є надзвичайно актуальними. Самостійна робота студентів має особливе значення в навчанні студентів-медиків, допомагає систематизувати та використовувати знання, отримані на практичних заняттях. Мета роботи – проаналізувати форми самостійної роботи студентів, які використовуються на кафедрі внутрішньої медицини 2 і фтизіатрії, для вдосконалення навчального процесу та формування у майбутніх лікарів клінічного мислення, здатності до самовдосконалення і самоосвіти. Рекомендований обсяг СРС при викладанні модулю «Внутрішні хвороби» для студентів 5-го курсу на кафедрі внутрішньої медицини 2 і фтизіатрії становить 90 годин із загальних 240 годин, виділених на дисципліну. Одним з головних завдань професійного навчання студентівмедиків при вивченні дисципліни «Внутрішні хвороби» на 5-му курсі є формування здатності самостійно засвоювати, знаходити та оновлювати знання та надалі ефективно їх використовувати в майбутній професійній діяльності. Відмінність СРС полягає в тому, що студенти можуть працювати на добровільних засадах, обираючи необхідний вид позааудиторної роботи згідно зі своїми інтересами. Окрім цього, відсутність суворого оцінювання з боку викладача є більш виграшною порівняно з практичними аудиторними заняттями, проте не менш відповідальною. Зміст СРС визначається навчальною програмою, завданнями викладача і методичними матеріалами. У статті представлено три основні напрямки індивідуальної роботи студентів з викладання дисципліни "Внутрішні хвороби" для студентів 5 курсу: самостійна робота студентів на аудиторних заняттях, позааудиторна самостійна робота студентів, самостійна позааудиторна робота під контролем викладача. При обговоренні результатів самостійної роботи студенти навчаються критично мислити, спілкуватися між собою та приймати власні продумані рішення. Правильно організований процес самостійної роботи заохочує студентів-медиків до її якісного виконання та  $\epsilon$  вагомим мотивуючим фактором до подальшого професійного розвитку. Самостійну роботу студентів-медиків необхідно розглядати як один з необхідних етапів підготовки сучасного лікаря. Впровадження в освітній процес новітніх інформаційних технологій та самостійних наукових проектів приводить до покращення результативності та формує нові професійні компетенції в майбутніх лікарів.

In Ukraine, higher education undergoes permanent changes, which are connected with the search and review of both procedural and substantive training aspects of future specialists with higher medical education. Modern requirements for training

of high-skilled specialists require the implementation of international medical and educational standards in the educational and integrative process [12]. It also requires the professional, academic and intellectual development of future doctors, providing



them with modern innovative and informative medical technologies [4, 6]. The Strategy of Medical Education In Ukraine [9] was presented to the medical community in 2018 and approved by the government in 2019. It gives an idea about the prospects of higher medical education in Ukraine. In the coming years we expect further reduction of state orders, the decline in domestic training students for a payment, high competition for foreign student domestically and internationally.

There are different ways to increase the educational process efficiency in modern medical education [7]. One of these ways is the organization of medical students' individual work, is type of learning activity that provides planning and performing of defined tasks under the teacher's methodological supervision and control but without his or her direct participation [3]. Today there are extremely important the following points for medical students: the formation of cognitive activity, the pursuit of professional development, the necessity of gained knowledge to correspond to world standards of the future specialist. Ability and desire to study scientific-medical information, to analyze it basing on the evidence-based medicine principles, to work with the Internet resources, to have chances to apply the modern information technologies for solving professional problems, all of these set medical graduates' professional competency that promote their competitiveness in further professional activity [7].

Students' individual work is very important for medical students' education because it helps to systematize and use knowledge that was gained in classroom setings. And individual work is an important tool in improving clinical judgment of the future doctor as well [11].

The aim of the work – to analyze the forms of students' individual work, which are used at the Internal Medicine 2 and Phthisiology Department, in order to improve the educational process and to form the future doctor's medical judgment, their ability to self-improvement and self-education.

## MATERIALS AND METHODS OF RESEARCH

In the process of the work, we analyzed and systematized a lot of information material. We used a literary synthesis, structural and logical analysis, personal experience and abstract thinking taking into account the principles of systemic analysis and approaches.

### RESULTS AND DISCUSSION

According to the new standards of higher medical education in Ukraine, a large part of the curriculum is devoted to students' individual work. It is due to the reducing number of lecture course hours and because of the reduction of academic load. The recommended volume of students' individual work is 90 hours out of the total of discipline 240 hours in teaching the module "internal diseases" for the 5th year students at the Internal Medicine 2 and Phthisiology Department. Individual work is a special form of learning activity, which is aimed at the student's gained knowledge mastering, student's learning skills and training to work individually [5]. In studying the discipline of "internal diseases" in the 5th year one of the main tasks of medical student's occupation training is the mastering ability formation on one's own, grope for knowledge and refresh it, and then to use knowledge effectively in the future career. The content of the individual work is determined by the curriculum, the teacher's tasks and methodological materials.

The difference of the individual work lies in the fact that students can study individually choosing the necessary kind of extracurricular activity according to their interests. In addition, the lack of strict grading by the teacher has more advantages than practical classes [1]. This type of work allows the medical student to be more initiative and creative, and the teacher is in a role of assistant in this work organizing. As a rule, the results of individual work are performed by means of the following class presentations: section meetings, conferences, subject olympiads etc.

The main tasks of student's individual work are [7]:

- 1. Consolidation, improving and systematization of knowledge that was gained in practical classes; individual mastering of new learning material.
- 2. Formation of the professional competences within the educational and qualification requirements; the development of cognitive and research skills [11] and the development of skills of search and analysis of the obtained information; the formation of medical judgment and communication skills with patients, colleagues and management.

In this work the staff of the department uses such kinds of individual work in teaching the discipline of "internal diseases" for students of the 5th year as:

I. Students' individual work in classroom hours. According to the topic of practical classes students work with thematic patients, collect patient's complaints, medical and life history by themselves. Students also examine the patient, make provisional diagnosis and make a plan of examination and treatment; use communication skills with the patient as well. During the learning course every student receives a patient and follows him up with. The student observes the dynamics of clinical and laboratory values, dynamics of instrumental methods of diagnosis that allows assessing the efficacy of

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prescribed research methods and treatment, fills in case history presents it to the teacher and defends.

II. Students' individual work (self-stydy with) the received data includes: making of lecture notes and drafts; additional familiarization with the clinical guidelines and the clinical protocol for the patients' follow-up in accordance with leading world medical societies in internal medicine. Individual work also includes individual preparation for the final lessons, practical skills, pre-examination testing based on Step 2 tasks and the final exam.

III. Students' individual work under the teacher's supervision (work in a students' scientific circle or individual studies with a teacher [2]) includes preparation of an informational oral report message or in multimedia form; making educational films; indepth study of learning material with followed by further participation in the subject olympiad in the "internal diseases" discipline; research work under teacher's supervision which is realized during working in a students' scientific circle [11] and the presentation of obtained results as publications and/or speaking at conferences and at the annual All-Ukrainian competition in clinical medicine for students and young scientists [10].

When discussing the results of individual work, students learn to do critical thinking, communicate with each other, and make their own well-thought-out (educated) decision.

Students' individual work is the most complex form of organization of the educational process, which requires a modern material and technical facilities, appropriate scientific, methodological and pedagogical support, taking into account the students' needs for self-realization. Well-structured process of the individual work encourages medical students to its qualitative fulfillment and it is a significant motivation for further professional growth. Significant reserves to increase its efficiency inherent in the use of modern computer technologies [8].

### **CONCLUSIONS**

Students' individual work is an important and effective organizational method of the teaching and learning process in the modern higher medical school. Introduction of the latest information technologies and individual scientific projects into the educational process leads to efficiency improvement and forms new professional competences of future doctors. By providing an opportunity for individual study many-sided man future specialist is formed, self-confidence and ability to make decisions are developed. Medical students' individual work should be considered as one of the necessary stages of a modern doctor training.

Conflict of interests. The authors declare no conflict of interest.

# REFERENCES

- 1. Boyko TV. [Acquisition experience of practical skills and peculiarities of individual work of 5 course students of the medical faculty at the internal medicine department No. 3]. Medical education. 2017;4:70-73. Ukrainian. doi: https://doi.org/10.11603/me.2414-5998.2017.4.7829
- 2. Voloshchuk NI, Denysyuk OM, Khodakivska OV, Galiutina OYu. [Extracurricular work of students: untapped reserves or sources of didactic innovations]. Medical education. 2018;4:36-40. Ukrainian. doi: https://doi.org/10.11603/me.2414-5998.2018.4.9193
- 3. Detsiuk TM, Dudarenko AA. [Forms and methods of extracurricular work of students in higher educational institutions]. Pedagogical Sciences. 2018;3(55):80-83. Ukrainian.
- 4. Yefremova NA, Rudkovskaya VF. [Independent work: organization, implementation and control]. Modern Problems of Science and Education. 2016;4. Available from: https://www.science-education.ru/ru/article/view?id=24957. Russian.
- 5. Kuriata OV, Karapetian KH, Frolova YeO, Kushnir YuS. [Experience of organization of the "Internal medicine" course teaching for the 5th year foreign students with english language study mode]. Bulletin of Lviv State University of Life Safety. 2017;15:222-5. Ukrainian.

- 6. Linchevskyi OV, Chernenko VM, Piatnytskyi YuS, Bulakh IYe. [Ways of reforming the system of higher medical education in Ukraine in modern conditions]. Medical Education. 2017;3:6-9. Ukrainian. doi: https://doi.org/10.11603/me.2414-5998.2017.3.7753
- 7. Martyniuk LP, Boiko TV, Lykhatska VO. [Independent work of students at the Department of Internal Medicine No. 3]. Medical education. 2016;1:85-86. Ukrainian.
- 8. Karapetian KH, et al. [The principles of building information support for a computer class at the department of therapeutic profile]. In: Topical Issues in Internal Medicine: Abstracts of Scientific Papers of the Scientific and Practical Conference. Dnipro: Herda; 2017;190:139-40. Russian.
- 9. [Strategy for the Development of Medical Education in Ukraine / Ministry of Health of Ukraine]. 2019; Ukrainian. Available from: https://moz.gov.ua/strategijarozvitku-medichnoi-osviti.
- 10. Waaijer CJF, et al. Scientific activity of medical students: the relationship between academic publishing during medical school and publication careers after graduation. Perspectives on Medical Education. 2019;8:223-9. doi: https://doi.org/10.1007/s40037-019-0524-3
- 11. Chen HC, et al. The Health Professions Education Pathway: Preparing Students, Residents, and Fellows to Become Future Educators. Teaching and Learning in



Medicine. 2016;29(2):1-12. doi: https://doi.org/10.1080/-10401334.2016.1230500

12. Whitcomb ME. Transforming Medical Education: Is Competency-Based Medical Education the Right Ap-

proach? Academic Medicine. 2016;91(5):618-20. doi: https://doi.org/10.1097/ACM.000000000001049

# СПИСОК ЛІТЕРАТУРИ

- 1. Бойко Т. В. Досвід освоєння практичних навичок та особливості індивідуальної роботи студентів 5 курсу медичного факультету на кафедрі внутрішньої медицини № 3. *Медична освіта*. 2017. № 4. С. 70-73. DOI: https://doi.org/10.11603/me.2414-5998.2017.4.7829
- 2. Волощук Н. І., Денисюк О. М., Ходаківська О. В., Галютіна О.Ю. Позааудиторна робота студента: невикористаний резерв або джерело дидактичних інновацій. *Медична освіта*. 2018. № 4. С. 36-40. DOI: https://doi.org/10.11603/me.2414-5998.2018.4.9193
- 3. Децюк Т. М. Форми та методи позааудиторної роботи студентів у вищих навчальних закладах. *Педагогічні науки*. 2018. Т. 55, № 3. С. 80-83.
- 4. Ефремова Н. А. Самостоятельная работа: организация, осуществление и контроль. *Современные проблемы науки и образования*. 2016. № 4. URL: https://www.science-education.ru/ru/article/view?id=24957
- 5. Курята О. В., Карапетян К. Г., Фролова Є. О., Кушнір Ю. С. Досвід організації викладання дисципліни «Внутрішня медицина» для іноземних студентів V курсу з англомовною формою навчання. *Вісник ЛДУ БЖД*. 2017. № 15. С. 222-225.
- 6. Лінчевский О. В., Черненко В.М., П'ятницький .С., Булах І.Є. Шляхи реформування системи вищої медичної освіти в Україні в сучасних умовах. *Медичн освіта*. 2017. № 3. С. 6-9. DOI: https://doi.org/10.11603/me.2414-5998.2017.3.7753

- 7. Мартинюк Л. П. Самостійна робота студентів на кафедрі внутрішньої медицини № 3. *Медична освіта*. 2016. № 1. С. 85-86.
- 8. Принципы построения информационного обеспечения комп'ютерного класса на кафедре терапевтичекого профиля / К. Г. Карапетян та ін. Актуальні питання внутрішньої медицини: тези наукових доповідей наук.-практ. конф. Дніпро: Герда, 2017. 190 с. С.139-140.
- 9. Стратегія розвитку медичної освіти в Україні / MO3 України. 2019. URL: https://moz.gov.ua/strategija-rozvitku-medichnoi-osviti
- 10. Scientific activity by medical students: the relationship between academic publishing during medical school and publication careers after graduation / C. J. F. Waaijer et al. *Perspectives on Medical Education*. 2019. Vol. 8. P. 223-229.
- DOI: https://doi.org/10.1007/s40037-019-0524-3
- 11. The Health Professions Education Pathway: Preparing Students, Residents, and Fellows to Become Future Educators / Chen H. C. et al. *Teaching and Learning in Medicine*. 2016. Vol. 29, No. 2. P. 1-12. DOI: https://doi.org/10.1080/10401334.2016.1230500
- 12. Whitcomb M. E. Transforming Medical Education: Is Competency-Based Medical Education the Right Approach? *Academic Medicine*. 2016. Vol. 91, No. 5. P. 618-620.

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