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DOI: <https://doi.org/10.11603/m.2414-5998.2026.3.16593>**Nataliia Stuchynska**ORCID <https://orcid.org/0000-0002-5583-899X>**Lesia Lymar**ORCID <https://orcid.org/0000-0002-9407-1066>**Mykola Matviienko**ORCID <https://orcid.org/0009-0004-5888-2584>*Bogomolets National Medical University***THE CONCEPT OF MEDICAL STUDENTS' MANAGEMENT
OF THEIR ACADEMIC ACTIVITY****Наталія Стучинська, Леся Лимар, Микола Матвієнко***Національний медичний університет імені О. О. Богомольця***КОНЦЕПЦІЯ УПРАВЛІННЯ СТУДЕНТАМИ-МЕДИКАМИ
ВЛАСНОЮ АКАДЕМІЧНОЮ ДІЯЛЬНІСТЮ**

Abstract. The article presents a theoretical review of the concept of the management of academic activity in a medical university. The authors state that teaching management to medical students is not equal to teaching leadership: in medical education, educational management is primarily interpreted as the student's competence to organise, regulate, monitor and improve their own academic activity. The article analyses contemporary theoretical approaches to competency-based medical education, self-regulated learning, co-regulation, team-based learning, deliberate practice and academic integrity. Particular attention is paid to the distinction between leadership and educational management as the purposeful organisation of learning. The review argues that the management of educational activity includes five interrelated components: metacognitive, strategic-organisational, practice-oriented, collaborative-communicative and ethical-digital-reflective, which provide for successful academic performance of the students. The paper describes these components and their practical manifestations in the everyday academic work of medical students. The authors propose a cycle of shaping medical students' academic activity management, which includes self-analysis, goal-setting, planning, practice, feedback, reflection, correction and adaptation of further learning strategies. The review concludes that the management of educational activity should be introduced into medical curricula as a transversal competence. Regarding wartime disruption, blended learning and rapid digital transformation, academic activity management competence becomes especially important for maintaining the continuity, quality and ethical direction of medical education. This approach also redefines the teacher's role as a facilitator of learning and a supporter of student self-regulation.

Keywords: medical university; management competence; self-regulated learning; academic integrity; collaboration; medical students; medical education.

Анотація. У статті представлено теоретичний огляд проблеми управління студентами-медиками власною академічною діяльністю в умовах сучасного медичного університету. Обґрунтовано, що управління академічною діяльністю не є тотожним лідерству: у контексті медичної освіти воно тлумачиться передусім як інтегрована здатність студента планувати, організовувати, регулювати, контролювати, оцінювати та вдосконалювати власне навчання, практичну й командну роботу відповідно до професійних, етичних і клінічних вимог. Проаналізовано сучасні теоретичні підходи до компетентісно орієнтованої медичної освіти, саморегульованого навчання, ко-регуляції, командно-орієнтованого навчання, цілеспрямованої практики та академічної доброчесності. Окрему увагу приділено розмежуванню понять лідерства й освітнього менеджменту як цілеспрямованої організації навчання. Визначено п'ять взаємопов'язаних компонентів цієї компетентності: метакогнітивний, стратегічно-організаційний, практико-орієнтований, колаборативно-комунікативний та етико-цифровий рефлексивний, які забезпечують успішність академічної діяльності майбутнього лікаря. Описано зміст цих компонентів та їхні практичні прояви у щоденній навчальній роботі студентів-медиків. Запропоновано циклічну модель формування зазначеної компетентності, що охоплює самоаналіз, постановку цілей, планування, практичне виконання, отримання зворотного зв'язку, рефлексію, корекцію помилок та адаптацію подальших навчальних стратегій. Зроблено висновок, що управління академічною діяльністю доцільно впроваджувати в медичні освітні програми як наскрізну (трансверсальну) компетентність, особливо в умовах воєнного часу, змішаного навчання та цифрової трансформації медичної освіти, коли ця здатність набуває вирішального значення для збереження неперервності, якості та етичної спрямованості підготовки лікаря.

Ключові слова: медичний університет; управлінська компетентність; саморегульоване навчання; академічна доброчесність; співпраця; студенти-медики; медична освіта.

Introduction. The modern medical university is an educational environment in which physicians learn how to transform knowledge into clinical reasoning skills, clinical reasoning skills into action, and action into a responsible professional attitude. This transformation requires students to manage their own academic activity: to plan education, to organise practice, to collaborate with peers, to evaluate their progress and to correct mistakes. In many medical education discussions, the term “management” is associated with leadership. This interpretation is important for postgraduate training and health-care administration. However, medical students should learn how to manage or organise their learning process. Therefore, the management of academic activity in a medical university should be interpreted as a learner-centred competence (Nicolaou et al., 2024).

Medical students face several types of educational overload (Young et al., 2014). The World Federation for Medical Education (2020) defines the educational programme as the totality of processes and activities that a medical school enables to facilitate student learning, wellbeing and achievement. So, students actively participate in the organisation of their own learning. The CanMEDS framework (Frank et al., 2015) also confirms that the physician’s competence includes the ability to contribute to the improvement of health-care systems.

The aim of the article is to provide a theoretical review of the concept of the management of academic activity in a medical university and to clarify its meaning as a student-centred educational competence.

Theoretical Framework. The article is a narrative theoretical review based on the synthesis of previously published papers related to medical education. At the first stage, 58 sources were identified through PubMed, Google Scholar, Scopus- and Web of Science-indexed publications. After removing duplicates and screening titles and abstracts, 20 sources were selected for conceptual synthesis.

Competency-based medical education emphasises outcomes, performance and the learner’s active role in achieving professional competence. Ross et al. (2022) argue that competency-based medical education requires learning environments that support mastery goal orientation. This idea is directly connected with educational management because a student who manages learning activity can set meaningful goals and improve strategies. Cutrer et al. (2017) describe the master adaptive learner as a physician who uses metacognition, self-regulation and adaptive expertise. This model shifts attention from episodic learning to continuous learning. Among all learning priorities, medical students must learn to organise further learning, to self-regulate. Sandars and Cleary (2011) define self-regulation in medical

education as a cyclical process that includes goal-directed behaviour and learning strategies. Recent meta-analytic evidence also confirms a positive association between self-regulated learning strategies and learning outcomes in undergraduate and graduate medical education (Zheng & Sun, 2025).

As for clinical training, Cho et al. (2017) show that self-regulated learning in clinical settings changes under the influence of context and workplace expectations. Van Houten-Schat et al. (2018) emphasise that effective self-regulation in clinical learning includes setting goals. In blended and digital learning environments, students also need to adapt learning behaviour across online and offline formats (Ballouk et al., 2022).

Medical learning depends on the learning environment. Bransen et al. (2020) demonstrate that medical students’ self-regulated learning is supported by interactions with supervisors, peers and clinical teams. Aulakh et al. (2025) show that self-directed learning can improve cognitive performance in undergraduate medical education and helps develop autonomy; however, it requires structured guidance and teacher support.

Practical medical training adds another layer. Duvivier et al. (2011) demonstrate the role of deliberate practice in the acquisition of clinical skills, while McGaghie et al. (2011) provide evidence that simulation-based medical education with deliberate practice can be more effective than traditional clinical education. Wijnen-Meijer et al. (2022) demonstrate the value of linking real experience, case-based discussion and simulation according to Kolb’s experiential learning cycle, which includes reflection and management of study. Collaboration is another necessary component within study management. Roossien et al. (2025) review team-based learning in health professions education and show that it includes conceptual management elements connected with peer interaction.

Ukrainian medical education research also confirms the need to develop non-clinical and managerial dimensions of medical training. Research management skills in medical PhD education should be understood as those shaped by educational design, mentoring, ethical training and career support (Lymar & Drapey, 2026). Lymar et al. (2025) demonstrated that artificial intelligence is widely used by medical students, interns and PhD students in Ukraine, but its ethical boundaries remain unclear. Finally, Turan et al. (2009) confirm that metacognitive awareness and self-regulated learning skills differ across medical curricula. Despite the large number of studies on medical education, several aspects remain insufficiently resolved. Management in medical education is often discussed at the level of institutional governance, curriculum administration or health-care leadership. Less attention is paid to

management as a student's educational competence. Also, leadership and management are frequently used as overlapping terms, which creates conceptual confusion. Although self-regulated learning, collaboration and academic integrity are often taught separately, in real education they function together, yet the medical curricula often include management-related elements only implicitly. So, Ukrainian medical education needs a clearer theoretical model that connects international medical education theory with local challenges, which include wartime disruption, blended learning, digital transformation, academic integrity concerns and the need for responsible artificial intelligence use.

Students' management of medical education may be defined as an integrated competence that enables medical students to plan, organise, implement, monitor, evaluate and improve their own academic activity in accordance with professional, ethical and clinical requirements. The competence includes five components, represented in Table 1.

The metacognitive component reflects the medical student's ability to understand and regulate their own learning: to realise the knowledge gaps and learning difficulties, and to know and define their strong and weak learning strategies. For example, after receiving a low mark in anatomy or pharmacology, a student with a well-developed metacognitive component knows the reason for the poor result: insufficient theoretical knowledge, poor clinical reasoning, weak terminology, or an ineffective revision strategy. A strong manifestation of this component is seen when the student knows weak topics, reflects on mistakes after tests or simulations, and adjusts learning behaviour accordingly, the following actions representing the next components of the competence. A weak manifestation is observed when the student cannot explain why they failed a task.

The strategic-organisational component concerns the planning and organisation of academic activity. A medical student has to manage a large amount of information and practice; therefore, this component is manifested in the ability to plan time, organise

learning resources and determine the sequence of tasks. For instance, before a module on cardiology, a student may prepare a weekly study plan. A strong manifestation is seen when the student prioritises tasks and prepares for classes in advance. A weak manifestation appears when the student misses deadlines and cannot distinguish urgent tasks.

The practice-oriented component is connected with the organisation of deliberate practice and the gradual improvement of professional skills. For example, a student preparing for an OSCE station may practise history-taking, physical examination, injection technique, suturing or interpretation of clinical data several times. A strong manifestation of this component is observed when the student practises and repeats procedures until improvement is achieved. A weak manifestation is observed when the student avoids practical training and expects competence to develop naturally.

The collaborative-communicative component reflects the student's ability to organise learning in interaction with others. Medical education is based on teamwork, peer learning, and communication with teachers, clinical supervisors and other students. A strong manifestation of this component is seen when the student participates actively in group learning. A weak manifestation appears when the student remains passive in group work or creates communication difficulties within the learning group.

The ethical-digital-reflective component includes the responsible use of digital tools, academic integrity and reflective correction of learning behaviour. Modern medical students use electronic platforms, online resources, clinical databases, AI tools and digital learning environments. However, academic management requires using them responsibly: verification of AI-generated information and disclosure of AI use. A strong manifestation of this component is observed when the student checks sources and follows academic integrity principles. A weak manifestation is seen when the student copies AI-generated answers without verification and uses unreliable sources.

Table 1

Components of the medical student's academic management

Nº	Component	Meaning	Example
1	Metacognitive component	awareness of one's knowledge, gaps, learning strategies and progress	identifying weak topics, setting learning goals, reflecting on mistakes
2	Strategic-organisational component	planning and organising learning resources, time and sequence of tasks	weekly study plan, preparation for modules, prioritisation of clinical cases
3	Practice-oriented component	organisation of deliberate practice and skill improvement	simulation practice, procedural repetition, feedback-based correction
4	Collaborative-communicative component	coordination of learning with peers, teachers and clinical supervisors	team-based learning, peer discussion, requesting feedback, case presentation
5	Ethical-digital-reflective component	responsible use of digital tools, academic integrity and reflective correction	AI use disclosure, source verification, reflective portfolio, learning diary

All the components are joined together in a common cycle of academic activity management shaping, shown in Figure 1. The cycle begins with self-reflection, followed by goal-setting and planning of learning activity. The next stage is clinical,

simulation or digital practice, after which the student receives feedback and corrects mistakes. The cycle ends with the adaptation of further learning strategies, after which a new round of the competence-fostering cycle begins.

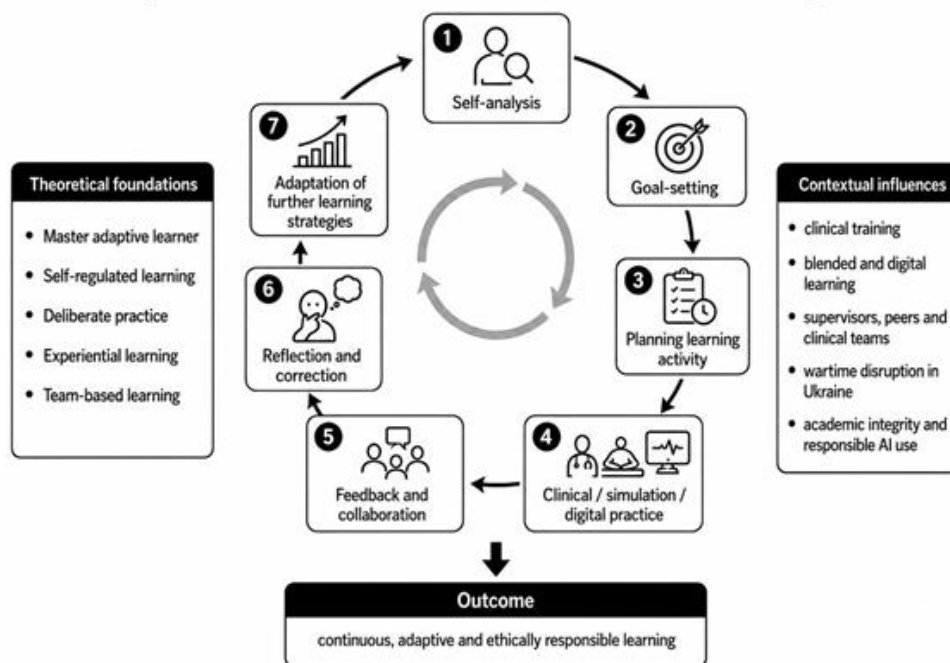


Fig. 1. Cyclical process of shaping the medical student's academic activity management

This approach changes the teacher's role. Upon the development of the managerial competence, the teacher becomes a facilitator of education and a supporter of self-regulation. This corresponds to WFME standards, which emphasise that educational programmes should facilitate student learning, wellbeing and achievement (WFME, 2020). The proposed approach and the cycle are particularly relevant for Ukrainian medical universities, with the present political situation necessitating the skills of management of academic activity under unstable conditions, and where soft skills have long been neglected in the curriculum.

Conclusions. The management of academic activity in a medical university should be interpreted as a transversal competence of medical students. Its essence is the conscious organisation of one's educational, practical, collaborative and reflective activity. The theoretical analysis shows that this competence is grounded in competency-based medical education and self-regulated learning. These approaches demonstrate that medical students must learn how to plan, practise, collaborate, and improve. The proposed structure includes five components: metacognitive, strategic-organisational, practice-oriented, collaborative-communicative and

ethical-digital-reflective. Together they form the basis for one's education management. Further research should develop diagnostic tools for assessing medical students' management of educational activity, and analyse its relationship with academic performance, clinical readiness, communication skills, digital responsibility and professional identity formation.

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Information on the use of artificial intelligence. Generative AI (ChatGPT 5.2) was used for proofreading and academic correction of the text, after which the authors revised the corrected text. The authors bear complete responsibility for the text of the article.

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