

**MEDICAL AND BIOLOGICAL SCIENCES:
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**THE IMPACT OF EDUCATION GAMIFICATION METHODS
ON BIOLOGICAL CHEMISTRY LEARNING
BY MEDICAL STUDENTS**

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Biological chemistry is a compulsory fundamental medical and biological discipline in a system of high medical education for students of all specialties (education programs).

The main role of biological chemistry studying is underlying in creation of powerful background for understanding key metabolic pathways, consistent patterns of organism's functioning under physiological and pathological conditions.

It is obviously, that residency training in a healthcare system requires not only precise understanding of metabolic processes in cells, but also implementation of these knowledge for holistic view of disorders formation molecular mechanisms. Moreover, it is important for clinical disciplines effective studying and future professional activity.

According to data of scientific literature, one of the modern education goals is creation of student's strong motivation to learning with using different approaches in studying process. From our point of view, it is very remarkable especially for high medical education, because of the requirement to know a large amount of information in very short period of time and future significant doctor's responsibility.

Taking into consideration that medical students have to know different metabolic pathways and their role in a cell, it is critically to remember name of the enzymes, compounds and, for example, points where substrate phosphorylation takes place in a chain of chemical reactions. In this conditions, our responsibility as a teachers/tutors facilitate with such types of tasks.

In our opinion, one of the most useful methods in this case is gamification of educational process. It is well-known, that this direction development started in the early 2010's and has continued to be a popular topic among the educational community.

It is also practically assured, that gamification is the perfect way not only for engagement of students in discipline studying, but also for formation of social cooperation and networking. Moreover, in mostly cases gamification involves work in a team, therefore it is relevant way for development team-building and time-management skills, learning how to support each member of academic group. Additionally, partitioning in to the teams' students of one group leads to healthy competition that significantly enhances motivation and subsequently provides better results in studying.

At our department we tend to use different pedagogical approaches, such as lecture-discussion. Among this type of academic lectures, the lecturers involve students answer the questions about topic that they haven't studied yet, but discuss during the lecture. According to our experience in this field, this strategy provokes on the one hand, deeper interest to the topic and stimulates preparing before the lecture and on the other hand, it is a possibility for achieving additional marks.

We believe, that our experience in gamification could be useful for our colleagues from different professional fields in their work with supporting students during educational process.