METABOLIC WAR: A VARIATION FOR METABOLIC BIOCHEMISTRY LEARNING OF A WORLDLY KNOWN BOARD GAME

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Biomedical careers are highly wished by young students in Brazil. Although future jobs, academic knowledge and higher earnings are tempting reasons for this life choice, few of them are aware of the difficult path through the basic classes. Advanced and specific disciplines are easier to associate with the professional career itself, but few students can identify the importance of the basic knowledge for their future work. Biochemistry is one of the most difficult disciplines for Brazilian students, probably due to the level of abstraction needed to fully learn and understand the topics. Some recent experimental tools, such as bioinformatics, are now helping students with the learning process, providing visual data for understanding biomolecule structure. In addition to this, biochemical reactions could be even tougher because of the many variables involved. To facilitate the learning process for metabolic biochemistry, we created a game based on the board game WAR[®], using Photoshop software. Named Metabolic War, it keeps the same basic rules of WAR[®], but with some minor changes. The continents are metabolic pathways (citric acid cycle, glycolysis, beta-oxidation, etc) and the countries are metabolic intermediates. Similarly to the original game, players must conquer an objective (one or more metabolic pathways) by dominating intermediates. But the desired intermediate must be a possible product from an intermediate the player already owns. This and other games were produced by Biomedicine undergraduate students in Metabolic Biochemistry classes. It was presented to other students, who tested and acknowledged it as a great help in understanding metabolic biochemistry, giving a great understanding of integrative metabolism. Keywords: game; Biochemistry; Metabolic Biochemistry learning; science learning; playful learning.