ENZYME EVOLUTION: A DIFFERENT WAY TO LEARN WITH A GAME

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With the growth of biomedical sciences, more and more students want to start a new career in this area, mostly because of job prospectives. In Biomedicine course, basic classes are important to understand oncoming classes, but bring such difficulty for understanding because it requires great capacity of abstraction from the students. Technology evolution helps biomedical sciences with tools that facilitate students' learning and promote a good visualization of biomolecules, reactions, cells, etc. To facilitate Biochemistry learning, we created a game to improve the learning of enzymes specificity for students of the biomedical career. The game board is similar to that of Scotland Yard's, but, instead of possible scenes of the crime, there are laboratory glassware, each with a different buffer. The players are enzymes that get into these environments and find clues. Substrates, coenzymes and cofactors are collected through the board and can be changed for cards, which are used by the player to adapt buffer conditions (pH and temperature). The better the environment, the faster the player get in and out of the buffer with the clue. Drawing a card also depends of answering correctly a question on biochemistry. The objective of the game is to find out in a list of possibilities which enzyme the player is, according to its characteristics. This and other games were produced by Biomedicine undergraduate students in Structural Biochemistry classes. It was presented to other students, who tested and acknowledged it as a great help in understanding enzyme mechanism of action, specificity, reaction modulation, etc. Keywords: Biochemistry; Structural Biochemistry learning; enzyme; science learning; playful learning.