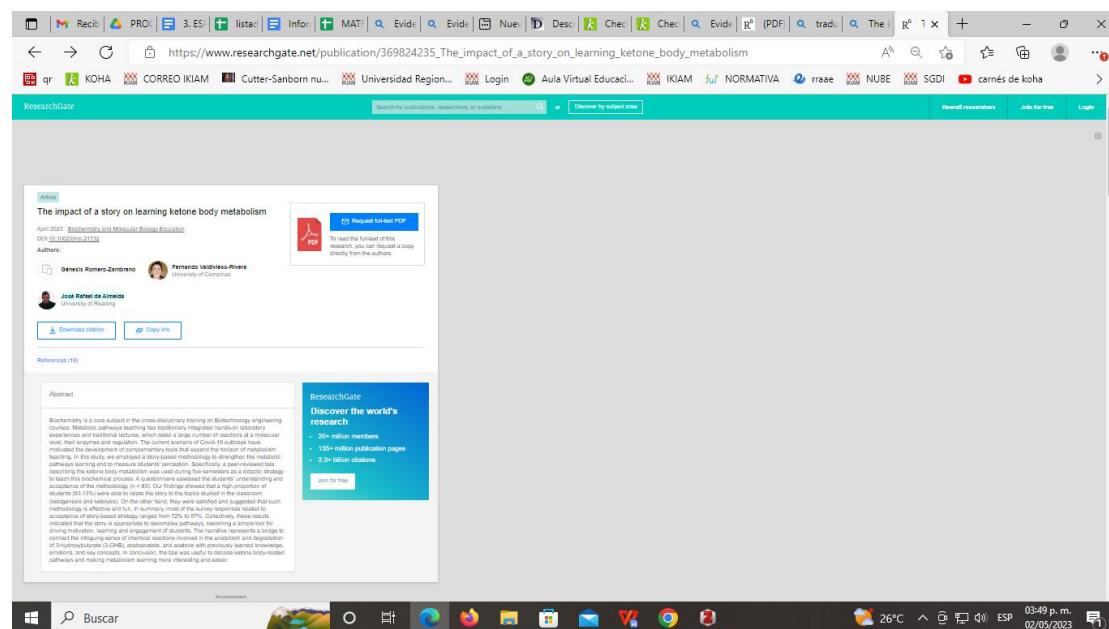


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The impact of a story on learning ketone body metabolism



The impact of a story on learning ketone body metabolism

April 2023 Biochemistry and Molecular Biology Education

DOI 10.1007/s41200-023-00710-2

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Abstract

Biochemistry is a core subject in the cross-disciplinary training of Biotechnology engineering courses. Metabolic pathways teaching has traditionally integrated hands-on laboratory experiences and traditional lectures, which detail a large number of reactions at a molecular level. In this study, we propose the use of a story to facilitate the understanding of metabolic pathways and to stimulate students' motivation. Specifically, a peer-reviewed test developed by the authors was used to measure the effectiveness of a story-based approach to teach this biochemical process. A questionnaire assessed the student's understanding and motivation to learn biochemistry. Our results show that 80% of the students (n = 20) and 85% of the students (n = 13) were able to relate the story to the topics studied in the classroom. Compared to the control group, the students who used the story-based approach to teach such metabolism were more successful in the test. In summary, most of the survey responses related to concepts such as the usefulness of the story to understand the process, the ease of learning, and the enjoyment of the story. The students also indicated that the story is appropriate to describe pathways, becoming a simple tool for learning. In addition, the students indicated that the story was useful to memorize the steps to connect the intriguing series of chemical reactions involved in the catabolism and degradation of ketone bodies. Finally, the students indicated that the story was useful to memorize new emotions, and new concepts; in conclusion, the test was useful to obtain ketone body-related pathways learning more interesting and easier.

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