

Área: EDU

Application of the Jigsaw teaching method in chemistry studies

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Highlights

Application of the JIGSAW teaching method in high school classes, aiming to promote more effective and meaningful learning of Chemistry content.

Resumo/Abstract

During the chemistry classes, it was observed that students had difficulty assimilating some of the chemistry content. According to American psychiatrist William Glasser (1925–2013), creator of the so-called "learning pyramid," different study methods produce different levels of knowledge retention. Considering the difference between passive and active learning methods, it is possible to observe that the use of the cooperative learning technique, Jigsaw, falls into the category of active learning, in which students demonstrate greater assimilation capacity. Initially, the teacher introduces the subject in a traditional way (passive learning); according to Glasser's theory, knowledge consolidation occurs more through discussion, practice, and teaching. These steps—discussion, practice, and teaching—are part of active learning and are associated with high retention rates, making the Jigsaw technique an effective teaching strategy for student learning. In chemistry classes, it was observed that second-year students at CECM Mahatma Gandhi frequently became distracted, possibly due to the lack of interaction provided by traditional classes. However, it was found that when more dynamic activities were proposed, students were more participatory, attentive, and engaged in the learning process. Given this observation, we analyzed the possibility of applying the Jigsaw teaching method (or "puzzle" method) in some classes, aiming to promote more collaborative and meaningful learning. To this end, we selected the main topic: "Isomerism." To implement the method, the class was divided into four groups, each containing five participants. Each group received a questionnaire related to the subtopics: chain isomerism, positional, functional and metamerism/tautomerism. From there, students were invited to analyze and discuss the questions with the help of support materials provided by the teacher. After the study period, each group presented their conclusions on the topic, enabling a collective discussion among all students in the class. A total of two 50-minute classes were used. During the final stage, the consolidation of knowledge encouraged by student participation in the teaching and learning process offered by the Jigsaw method was evident. Through research and group discussion, the students completed the course satisfactorily, leaving them with a better understanding of the content titled "Isomerism".

Ref.:FATARELI, Elton Fabrino et al. Método cooperativo de aprendizagem Jigsaw no ensino de cinética química. Química nova na escola, v. 32, n. 3, p. 161-168, 2010.

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