ENHANCING STUDENTS' PERFORMANCE IN ORGANIC CHEMISTRY THROUGH CONTEXT-BASED LEARNING AND MICRO ACTIVITIES- A CASE STUDY

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ABSTRACT

This study explored high school students' reasoning patterns towards conceptual change and academic achievement as they learned to construct concepts in basic organic chemistry through everyday experiences for life. Analysis revealed a number of patterns by which students constructed ideas in formal and contextual aspects. A formal procedure used to teach and learn organic chemistry for life is presented. Tasks for context-based problem solving procedures were designed using combinations of familiar contexts and concepts based on the students' syllabus. In this study the application of concepts like addition reactions, saturation, unsaturation, electronegativity, molecular formula, molecular structure, bonding, polarity and electronegativity were expected. Students' reasoning patterns after an intervention showed that they could apply their gained concepts to solve problems in different contexts. Results were explored and implications for context-based teaching and learning assessed.

Keywords: Analytical, conceptual change, context-based, remediation.