ABSTRACT

Using a Constructive Approach to Monitor the Development of Conceptual Understanding among Science Students in an Urban Secondary School in North Trinidad

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This study monitored the development of conceptual understanding of the reactivity of metals among 16 Form 4 students of an integrated science class at a secondary school in Trinidad and Tobago, using the 5E Learning cycle. Pre- and post-concept maps were constructed by each student in each lesson taught, to monitor their understanding. A Summative Concept Achievement Test was administered at the end of the topic to assess students' understanding, and the results were compared with those of the concept maps to determine whether any conceptual change occurred at the end of the unit of work. Students' perceptions of this teaching strategy were also investigated. The results indicated that while the 5E learning Cycle did affect the students' conceptual understanding in three of the lessons taught, students displayed no conceptual change with respect to some of the lessons. However, the students expressed the view that the learning cycle helped their understanding and learning through an engaging learning environment.

Keywords:; Secondary school students; Scientific concepts; Case studies; Concept teaching; Concept formation; Science teachers; Teaching methods; Trinidad and Tobago