

Use of analogies in learning chemistry

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Learning chemistry is related to the abstract nature of the subject content, which is characterized by chemical processes, and entities that are microscopic. This makes it difficult for students to comprehend the subject. In regular classrooms students who do not readily visualize or think in terms of abstract levels find it more the difficult to learn the subject. The aim of this study is to use analogies in teaching to help students to understand the abstract nature of concepts in an interesting and a

simple way. The study used a qualitative approach to understand how students learn through observations, interviews and documents.

The study was conducted in three phases. In the first phase a classroom was observed in an urban school when teaching chemistry lessons on the sub topic “Chemical equilibrium” of the unit twelve of the G.C.E. Advanced Level chemistry syllabus. By triangulating the collected data it was found out that analogies were rarely and effectively used in teaching chemistry. During the second phase of the study lessons with activities based on analogies were planned to provide visualization of the abstract nature of concepts relating to real world applications while making connections to the students prior knowledge. Discussions were had with the teachers who planned to implement the prepared lessons in order to get a clear understanding of the analogies. In the third phase of the study, planned lessons were tried out in two classrooms in two other urban schools.

In the implementation of prepared lessons, teachers used analogies for explanation. They were also able to give some other analogies for the practice of individual students who indicated a lack of understanding. The analogies presented had a motivational impact on the students. Students were attentive and actively involved in the lessons. They were able to understand the meaning of what they had learned in the classroom. In addition to that each teacher had a good interaction with his or her students. It is recommended that teachers should develop useful analogies and also select those analogies that could be related to the student’s own experience.