

Abstract

This study aimed to explore the effect of using The Constructivist Learning Model on changing alternative conceptions and achievement about density, also it aimed to specify the alternative conceptions about density for the study sample. The study answered three questions:

1. what is the alternative conceptions of 7th grade students about density?
2. what is the effect of using the Constructivist Learning Model on conceptual change in density?
3. what is the effect of using the Constructivist Learning Model on achievement of 7th grade students in density.

The quasi- experimental design of two equivalent groups was employed. The sample (56) of 7th grade from a school related to Ramallah district. The experimental and control group were chosen randomly, the experimental group was taught using The Constructivist Learning Model as cited by Yager (1991); while the control group was taught by the traditional method. The study took place during the first semester of the academic year 2013-2014. Data were collected using a test that contains items to measure the academic achievement, and other items to diagnose the alternative concepts about density. The validity and reliability of the test were investigated; the value of reliability coefficient using split half method was (0.73). Eight activities were designed according to The Constructivist Learning Model. Also; a teacher guide for teaching density using The Constructivist Learning Model was developed, and another one for teaching using the traditional method. Data analysis indicated that there were common alternative conceptions about density, they were characterized by: the effect of volume, mass, weight, shape, and liquid volume on floating; the relation between temperature and density; the relation between viscosity and density. The results of testing the study hypothesis indicated that the were

significant differences at the level ($\alpha \leq 0.05$) in the achievement post-test means between the experimental and the control group related to teaching method. Furthermore, there were significant differences at the level ($\alpha \leq 0.05$) in the alternative conceptions post-test means between the experimental and the control group related to teaching method.