Abstract

Pedagogical and didactic issues have been presented traditionally as problems related to both teaching and learning of chemistry. A review has been performed on the different approaches of researchers in the field of education and how they have addressed the teaching of science. We found that some researchers review the role of teachers and their ways of teaching, others ask about the ways students learn by using learning tools such as maps and mental models, or traditional models. The theoretical foundation for the development of the didactic proposal lies in the dialectical conception of knowledge and in the ideas of activity theory and teaching based on training by stages of mental actions, according to the scheme of subordinate learning, supported by theories of Vygotsky, Leantiev, Galperin, Talizina and Ausubel. Finally, we propose a method for students to conduct integrative reconciliation, allowing them to develop a greater capacity for significant comprehension of concepts related to chemistry, specifically those related to concept of valence.

Keywords

Significant learning, Teaching of chemistry, Conceptual pedagogy, Training by stages of mental actions, Valence.