

CHEMISTRY TEACHING AND TRAINING IN SCHOOLS AND UNIVERSITIES

Case-study method and its usage as a teaching tool for chemistry teachers-to-be training

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The efficiency of teachers-to-be training is an urgent problem of modern education. Today, tutors of higher educational establishments turn to innovative pedagogical practices and modern methods of teaching. One of the most widely-spread methods is the analysis of the provided cases, i.e. the case-study method. The case study method is a teaching tool, which is based on learning how to grapple with real-life problems. The method's distinct advantage is new knowledge active transformation and assimilation. "Case" as a true life episode is a teaching tool that allows us to apply theory into practice while solving a real-life problem. Applying theory into practice the case method leads to the development of skills, which allow us to take reasoned decisions within the available time. There are several classifications of the case method. We differentiate such cases as: "field" and "chair"; practical, training and research; structured, sketches, classical, non-structured. Long-term usage of the case-study method as a teaching tool proves its irresistible appeal to students as well as teachers.



Development of student cognitive strategies by the use of problem solving in chemistry

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According to our experimental research students solving chemistry problems tend to rely on algorithmic methods. However most of students can not solve more difficult problem. To develop the competence of creative problem solving in chemistry students have to use more than one strategy. In addition they have to develop a non-mathematical logical or visual strategy. For this purpose teacher should increase step-by-step the difficulty of chemical problems and discuss strategies with students. Discussion is seen to be of two types that are task orientated discussion (how to solve the problem), and reflective discussion to consider in what method and why the group was successful.

The study of the affect of story based learning material and worksheets in active learning on success and attitude towards chemistry

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The affect of story based method including worksheets in 11th class on "factors that affect chemical equilibrium" was studied. In this context, achievement and chemistry attitude scales were used to analyze the effectiveness of new learning material. This experimental research was conducted in the first term of 2009-2010 educational years. Two classes were randomly selected. The experimental group was instructed through story based method with using sheets whereas the control group was utilized by traditional teacher-centered method. The study carried out on 60 high school students in İzmir, Turkey. The differences of control and experimental group tests' were outlined. According to