

Abstract

School students often characterise chemistry as a solely logical and analytical discipline, whereas creativity is rather associated with arts or languages. These conceptions not only represent an inadequate image of chemistry but also prevent students who prefer open and inventive tasks from including chemistry in their potential career plans. This is even more problematic, as chemical research and industry not only depend on researchers with a distinct chemical knowledge, but also on creative scientists. Thus, the question arose how an implementation of creativity into chemistry education can be initiated. A necessary condition to achieve this aim are adequate conceptions of chemistry teachers. Only if they are aware of the role of creativity in chemistry, they can mediate corresponding conceptions to their students. In a first step of the research project, it was investigated whether student teachers reveal the typical misconceptions about creativity in chemistry. The second step consisted of an examination how student teachers can be supported in developing adequate conceptions. Therefore, different interventions were tested. Concerning the preconceptions, it could be confirmed that student teachers do not have adequate conceptions about the role of creativity in chemistry. With regard to possible ways to support the student teachers in developing adequate conceptions, a combination of two different approaches seemed to be the most suitable. In the first approach, historical and contemporary case studies were used to make the student teachers aware of the role of creativity in chemistry. The second approach offered the student teachers the opportunity to actively go through creative processes in chemistry by themselves. The integration of corresponding course units into the curriculum of chemistry teacher education could be a first step on the way to adequate conceptions of school students.