

INCORPORATING SOCIOSCIENTIFIC ISSUES IN 7<sup>TH</sup> GRADE SCIENCE  
COURSE: AN EXAMPLE OF THE CHEMISTRY INDUSTRY

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**Abstract:** One of the main aims of science education is to raise scientifically literate students. Based on science literature, it is possible to suggest that engaging in socioscientific issues (SSIs) may enhance students' scientific literacy. As a part of a larger study conducted by the researchers, in the present study the focus was on how SSIs could be incorporated into 7<sup>th</sup> grade science course. To this end, the fundamental aim of the present study was to incorporate "Chemistry Industry" as a socioscientific issue using 5E learning model related to the unit of "Structure and Properties of Matter". The effect of the intervention on the students' reflective judgment and their views on chemical industry discussion was investigated. The study was conducted with 7<sup>th</sup> grade students at a middle school in the west part of Turkey during the spring semester of 2016-2017 academic year. The quasi-experimental design with non-equivalent control group posttest-only was utilized. Both in experimental and control groups, multiple methods designed in 5E learning model based on the constructivist approach were used. Besides, the experimental group received an instructional intervention integrated SSIs. To collect quantitative data, all participants completed an issue-based reflective judgment test and a questionnaire of their views of chemistry industry. As qualitative data resources, we also used worksheets for two groups. We evaluated the quantitative data descriptively, and employed content analysis technique for the qualitative data. The results of the study revealed that the experimental group developed insights into different perspectives and opinions such as the possible negative effects of the chemical industry, especially on the local environment, and showed an increase in tendency towards controversy more than the control group. We suggest that the study can be helpful for teachers who wish to incorporate the chemistry industry as a socioscientific issue into their science curriculum.

**Keywords:** chemical industry, middle school students, science education, socioscientific issues, 5E learning model

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