

## THE EFFECT OF THE CONTEXT-BASED APPROACH ON HIGH SCHOOL STUDENTS' UNDERSTANDING OF THE GAS CONCEPTS

Doç. Dr. Gökhan Demirciođlu  
KTU Fatih Eđitim Fakóltesi  
Matematik ve Fen Bilimleri Eđitimi Bölümü, Trabzon  
[demircig73@hotmail.com](mailto:demircig73@hotmail.com)

Büşra Kurnaz  
KTU Fatih Eđitim Fakóltesi  
Matematik ve Fen Bilimleri Eđitimi Bölümü, Trabzon  
[busrakurnz@hotmail.com](mailto:busrakurnz@hotmail.com)

Tuğçe Erol  
KTU Fatih Eđitim Fakóltesi  
Matematik ve Fen Bilimleri Eđitimi Bölümü, Trabzon  
[eroltugce9394@gmail.com](mailto:eroltugce9394@gmail.com)

### Abstract

The gas topic is too difficult for students to learn because of the fact that it is an abstract concept and related to the particulate nature of matter. In this study, the effects of context-based practices on students' understanding levels and alternative conceptions about gas concepts were examined. Three activities based on the REACT model of the context-based approach were developed and their effectiveness was investigated with an experimental approach. The present study, used the quasi-experimental design, was conducted with 59 students (30 in the experimental group and 29 in the control group). A test consisting of 21 multiple-choice and 8 open-ended questions was used to collect data. This test was applied to both groups as pre-test before the treatment and post-test after the treatment. The pre-test results showed that students in both groups held many alternative conceptions about the gas concepts. It was found that the experimental group taught with REACT model was more successful at the end of the study.

**Keywords:** Chemistry Education; Gases; Context-Based Approach.