Online Journal of Mathematics, Science and Technology Education (OJOMSTE)

Vol: 5 No: 1 Year: 2024

journal homepage: https://www.ojomste.com/index.php/1

The Effect of 5E Model in Teaching the Concept of Ratio and Proportion*

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Keywords:

mathematics education,
5E model,
ratio-proportion

Paper Type:

Research

Abstract

This study investigates the effect of teaching based on the 5E learning cycle model on students' academic achievement in the subject of ratio and proportion. The research was conducted with 55 students studying at a middle school in a province located in the northern region of Turkey. Two classes with equivalent mathematics report card grades were randomly assigned as the experimental and control groups. The experimental group was taught using activities designed according to the 5E learning model, while the control group received instruction using the activities from the Ministry of National Education (MoNE) textbook.

A quasi-experimental design with pre-test and post-test control groups was employed in the study. As a measurement tool, the Ratio and Proportion Achievement Test, developed by the researcher with expert opinions, was used as both the pre-test and post-test. The test consisted of 10 two-tier questions, including open-ended and multiple-choice items. The collected data were statistically analyzed to determine whether there was a significant difference between the two groups.The results revealed that lessons taught using activities designed according to the 5E learning cycle model were significantly more effective compared to those taught using the activities in the MoNE textbook.

** This study was produced from the master's thesis of the first author under the supervision of the second author.*

Taşkın, S., & Tuna, A. (2024). *Oran ve Orantı Kavramının Öğretiminde 5e Modelinin Etkisi. Online Journal of Mathematics, Science and Technology Education (OJOMSTE)*, 5(1), 37–51.