

THE EFFECTS OF COMBINING INQUIRY-
BASED TEACHING WITH SCIENCE
MAGIC ON THE LEARNING OUTCOMES
OF A FRICTION UNIT.

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Abstract:

This research used a quasi-experimental method to explore whether integrating Science Magic (SM) into 5E Learning in the development of teaching materials for a friction unit would impact students' learning outcomes and attitudes. A total of 68 eighth-grade students were divided into experimental and control groups. The experimental group used teaching materials and methods developed using the SM-based 5ELC, while the control group adhered solely to traditional materials, which were also based on the 5ELC but did not involve SM activities. Two major findings were obtained. First, learning effects for the experimental group were significantly higher than the control group, especially in understanding the characteristics of static friction, factors that affect friction, and relationships between frictional and normal forces. The experimental group showed significant improvements in their attitudes toward science when juxtaposed with the control group.

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