International Journal on New Trends in Education and Their Implications
January 2013 Volume: 4 Issue: 1 Article: 07 ISSN 1309-6249

THE EFFECT OF 5E LEARNING CYCLE MODEL IN TEACHING TRIGONOMETRY ON STUDENTS' ACADEMIC ACHIEVEMENT AND THE PERMANENCE OF THEIR KNOWLEDGE

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ABSTRACT

In this study, the effect of 5E learning cycle model, based on the constructivist approach, which is used for teaching trigonometry in 10th grade of elementary mathematics education, on the students' academic achievement and on the permanence of their trigonometry knowledge is investigated. The participants of this research are 10th grade students registered for spring semester of 2010-2011 academic year to an Anatolian high school in Kastamonu. These students divided into two equal groups, a control and an experimental group. The students in the experimental group took the course about trigonometry from the researcher in an environment where the 5E learning model based on the constructivist approach is used. The students in the control group took the same course from their mathematics teacher in an environment where the activities of official mathematics curriculum are used. The statistical findings of the research show that the experimental group students' scores of academic achievement and permanence of trigonometric knowledge are higher than those in the control group. The difference between these groups is statistically significant and is in favor of the experimental group.

Key Words: Mathematics Education, Trigonometry Teaching, 5E Learning Cycle Model.