

Effects of Concept Mapping Based Instruction on Students' Achievement in Physics in Secondary Schools, Kenya

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Abstract

Candidates' responses to a large extent show partial concept development (KNEC, 2006). The purpose of this quasi-experimental study using pre-test and post-test with control and experimental groups was to determine if combining instructional concept mapping (ICM) and conventional instructional techniques (CIT) would improve students' achievement in physics. Validated instruments were used to gather data on students learning achievements in physics, role of physics teacher and student, and challenges encountered in ICM and CIT lessons. Analysis of data was done using both descriptive and inferential statistics. It was found that students in the concept mapping group were more participative in class and obtained a statistically significant higher mean gain on the physics test compared to the non-concept mapping class, with $p < 0.05$. It was concluded that generating instructional concept maps is an effective teaching and learning tool for developing physics concepts.

Keywords: Instructional concept mapping, Conventional, Improve, Achievement

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