Concept Mapping: an Interactive Teaching Strategy that Enhances Active Learning and Students' Achievement in Biology

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ABSTRACT

This study investigated the effects of concept mapping teaching strategy (CMTS) on secondary school students' achievement in biology. A non-equivalent control group design under quasi- experimental research was used in which a random sample of four co-educational secondary schools was used. The four schools were randomly assigned to four groups. The accessible population was the form two class (second grade in the secondary school cycle in Kenya). The study sample comprised of 186 form two students. Students in all the groups were taught the same biology content. Two groups (experimental) were taught using CMTS while the other two (the control groups) were taught using regular methods. One experimental group and one control group were pre-tested prior to the CMTS intervention. After a four-week intervention period, all the four groups were post-tested using the Biology Achievement Test (BAT). Data were analyzed using t-test and one way ANOVA. The results show that students exposed to CMTS intervention had a significantly higher achievement than those taught using regular methods. The researchers conclude that CMTS is an effective teaching strategy, which enhances active learning and learners' achievement in biology. It is recommended that curriculum developers and biology teachers incorporate concept mapping as one of the major teaching strategies to enhance active and meaningful learning in biology lessons.

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