

The Effects of Traditional, Outcomes Based Education (OBE) and Blended Teaching Approaches in Alleviating Conceptual Difficulties and Alternative Conceptions in Grade Twelve Mechanics

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ABSTRACT According to literature and classroom experience many learners experience serious difficulties with some mechanics concepts. This paper reports the results of a study comparing the effectiveness of three instructional approaches in alleviating learning difficulties of grade 12 learners in mechanics. The research sample consisted of 140 grade 12 physical science learners drawn from four high schools in the Empangeni education district, South Africa. A quasi-experimental, non-equivalent comparison group research design was used. ANOVA and average normalized gain scores were used to analyse the data. The results showed that all the three interventions significantly alleviated conceptual difficulties and alternative conceptions of the learners in mechanics. However, the blended intervention was the most effective, followed by OBE and then the traditional approach. The comparison group showed no conceptual growth between the pre- and post-tests.