

Exploring Grade 11 Learners' Conceptual Understanding of Refraction: A South African Case Study

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ABSTRACT This paper formed part of a larger study, which aimed to evaluate the effectiveness of an optics teaching module in enhancing Grade 11 learners' conceptual understanding about optical phenomena. The paper reports on the learners' conceptual understanding on the optical phenomenon, refraction. The sample for this study constituted 70 Grade 11 learners from a selected senior secondary school in the Mthatha District of the Eastern Cape Province of South Africa. The school was chosen using the convenient sampling technique. The data was collected using three open-ended questions and analyzed qualitatively by developing common categories from the participants' responses. The findings revealed that the Grade 11 learners experienced serious difficulties in conceptualizing the optical phenomenon of refraction. Based on the findings, some recommendations regarding substantial revision of the current teaching strategies were also made.