

Secondary School Students' Perceptions of Mathematics Formative Evaluation and the Perceptions' Relationship to Their Motivation to Learn the Subject by Gender in Nairobi and Rift Valley Provinces, Kenya

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Abstract

In the 21st century, more than ever before nearly all fields of knowledge are dependent on mathematics for solving problems, stating theories and in the prediction of outcomes. Despite the importance of mathematics to individuals in their daily lives as well as in industry, Business, governance, science and technology, students' performance in the subject has persistently been poor internationally and in Kenya. Some of the reasons advanced for students' low achievement in the subject are the specialized language used in the subject, ineffective teacher-centered teaching methods, learners' low mathematics self-concept and anxiety of the learners during mathematics tests. This study analyzed secondary school students perceptions of Formative evaluation in learning mathematics and the relationship to their motivation to learn the subject. The target population was all students in secondary schools of Kenya's Nairobi province, Nakuru, Kericho and Koibatek districts. A sample size of 649 students from 32 secondary schools (320 boys and 329 girls), stratified by class level, school category, gender and social set up (mixed sex or single sex schools) was used for the study. A 16-item Students' Perception of Formative Evaluation (SPEM) Questionnaire and a 28-item students' motivation to learn mathematics (SMLM) Questionnaire with reliability coefficient alphas of 0.81 and 0.89 respectively were used to collect the data. The results indicated that relationship between SPEM and SMLM was strong and significant ($r=0.750$) at $\alpha=0.01$ significant level. Some aspects of students perception of mathematics formative evaluation had gender differences significant at $\alpha=0.05$ level. The implications of the findings of the study have been indicated and recommendations made for mathematics educators and for further research.

Keywords: Students' perceptions; Formative Evaluation; mathematics; learner's motivation; Secondary school students; Gender; Kenya

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