

**AN INVESTIGATION OF THE RELATIONSHIP BETWEEN TEACHERS'  
PREPAREDNESS AND STUDENTS' PERFORMANCE IN MATHEMATICS IN  
SECONDARY SCHOOLS IN MARSABIT COUNTY, KENYA**

**ADAN DADACHA ROBA**

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## ABSTRACT

Mathematics performance amongst students in secondary schools has been poor and has been a concern for different education stakeholders. Thus, the main objective of the study was to investigate the relationship between teachers' preparedness and students' performance in Mathematics in Marsabit County. The objectives of this study included; teachers' attitudes, planning and experience in relation to students' performance in Mathematics. The study was guided by The Instructional Management Theory. The study adopted mixed methods approach, that is, both quantitative and qualitative methods. The study applied explanatory sequential design in which qualitative data helped explain quantitative results. The target population for this study comprised of 20 Principals, 20 Heads of Mathematics' Department, 40 Mathematics teachers and 920 Forms III and IV students all totaling to 1000. Using The Central Limit Theorem, 4 schools, that is, 20% of 20 and 200 respondents, that is, 20% of 1000, were sampled. Stratified sampling was applied to create 4 different strata. From each stratum, 1 secondary school was sampled using simple random sampling and all the principals and heads of departments of the selected schools were used in the study. The study applied purposive sampling to select 2 Mathematics teachers from each stratum. The study used simple random sampling to select 46 Forms III & IV students from each stratum. Questionnaires were used to collect data from Form III & IV Students whereas interview schedules were used to collect data from principals, Heads of Mathematics' Department and teachers. Piloting of research instruments was conducted amongst 15 Form III & IV Students to establish validity, reliability, credibility and dependability. Reliability coefficient,  $r = 0.65$  was obtained using Pearson's Product Moment Correlation which indicated high internal consistency. Data analysis began by identifying common themes from the respondents' description of their experiences. Frequency counts of the responses were obtained to generate descriptive information about the respondents and to illustrate the general trend of findings on the various variables that were under investigation. Qualitative data was analyzed thematically based on research objectives whereas quantitative data was analyzed inferentially using Pearson's Product Moment Correlation Test Analysis in Statistical Package for Social Sciences (SPSS Version 21). The findings of this study were presented using tables. The study established that there are different aspects of teachers' preparedness which include; attitudes, planning and experience which enhance students' performance in Mathematics. However, such preparedness has not been effective. Thus, the study recommends that Mathematics' teachers should be made to understand that the nature of their attitudes and perceptions are critical characteristics which enhance students' performance in Mathematics. That is, teachers should be encouraged to avoid situations which may dampen the students' desire to perform well in Mathematics. Teachers should adopt planning and organization strategies which brings students' Mathematics' potential into perspective. Teachers should be advised to apply their exposure attributed to Mathematics' experience to turn around students' performance in Mathematics. The Ministry of Education should organize seminars and workshops where Mathematics' teachers can learn strategies different challenges attributed to students' diversity in studying Mathematics.