AN EVALUATION OF THE INFLUENCE OF SMASSE PROGRAMME ON TEACHING AND LEARNING OF MATHEMATICS OF LOWER PRIMARY SCHOOLS IN KIGUMO SUB-COUNTY, MURANG'A COUNTY, KENYA

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ABSTRACT

In collaboration with Japan, the government of Kenya embarked on the implementation of strengthening of Mathematics and Mathematics Education (SMASE) in service programme in all schools from 2009. However, the influence of these programme remain unrevealed. Thus, this study intended to investigate the influence of instructional materials, teaching strategies, school environment and teachers' attitude towards SMASE on teaching and learning of Mathematics in lower primary schools Kigumo Sub-county, Murang'a County. The study was guided by The Pragmatism Theory by John Dewey (1952). The study adopted mixed methods approach, that is, both quantitative and qualitative research methods. Concurrent triangulation research design was applied to enable the researcher use the quantitative and qualitative methods during the same timeframe and with equal weight. The study targeted the 61 Head teachers, 244 Teachers and 2000 Lower primary school learners from 61 public Lower primary schools in Kigumo Sub- County, Murang'a County. Using The Central Limit Theorem, 10 lower primary schools, that is, 16.39% of 61 and 300 respondents, that is, 13.04% of 2301, were sampled. The researcher then applied stratified sampling to create 3 strata based on the number of zones. From each zone, 3 Head teachers, 25 Teachers were selected using purposive sampling. From each zone, 72 lower primary learners were selected using simple random sampling. This sampling procedure enabled the researcher to realize a sample of 10 Head teachers, 74 Teachers and 216 Lower primary school learners. Questionnaires were used to collect data from Head teachers and Teachers whereas observation checklist was used to collect data from Lower primary school learners. Piloting of research instruments was conducted amongst 2 Head teachers and 5 Teachers to establish validity, reliability, credibility and dependability. Validity was established by involving the supervisor and other experts from the University who determined content validity. Reliability coefficient, $r = 0.65$ was obtained using Pearson's Product Moment Correlation Method. Credibility and dependability of the qualitative data was also established through triangulation and multiple analysts. Data analysis began by identifying common themes. Frequency counts of the responses were then obtained to generate 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 along the objectives whereas the basic quantitative data was analyzed using Pearson's Product Moment Correlation (PPMC) in Statistical Packages for Social Science (SPSS Version

21). The findings of the study were presented using tables. The study established that instructional materials, teaching methods, school environment and teachers' attitude influence teaching and learning of Mathematics. However, in Kigumo Sub-county, this has not been the case. Thus, the study recommends that educators, teachers and other stakeholders should ensure that suitable, relevant and appropriate teaching and learning materials for Mathematics. Teachers should be encouraged to improvise such instructional materials to supplement in cases where commercial materials are not available. Teachers should adopt learner-centered approaches which promotes hands-on learning amongst learners. A conducive learning with teaching aids, cordial school-parent partnerships, friendly school leadership support in order to enhance teaching and learning of Mathematics. Teachers should understand that the nature of their attitudes towards Mathematics is critical in enhancing teaching and learning. The nature of their attitude may go a long way in motivating learners to develop an interest in Mathematics.