

Determinants of Teachers' Use of Instructional Resource in Teaching Pre-primary School Science and Mathematics Activities in Machakos County, Kenya.

Jackson Ombasa Ayiema

Abstract

The continuous poor results of science and mathematics in Athi-River Sub-County of Machakos County-Kenya has yielded to the study of determinants of pre-primary school teachers' use of instructional resources in teaching science and mathematics activities. The effects of use of the instructional resources in learning achievement which has led to poor performance in science and mathematics activities in the current study locale. The major purpose of the study was to establish the extent of teachers' use of instructional resources in teaching pre-primary science and mathematics activities in Athi-River Sub County of Machakos County, Kenya. The study also found out the effects of teachers' training level in the use of instructional resources in teaching science and mathematics, Teacher- gender and use of instructional resources, Teacher's attitude and use of instructional resources in teaching science and mathematics activities and teacher- motivation on the use of instructional resources in teaching science and mathematics in pre-primary schools. This study employed Bruner's learning theory (1966), which matched well with the determinants of pre-primary teachers' use of instructional resource. The study targeted 40 pre-primary head teachers, 600 pre-primary teachers and 1800 pre-primary children in Athi-River SubCounty, Machakos County. Athi-River Sub-County was sub-divided to 5 bases and stratified sampling technique was used to select 6 pre-schools from each base translating to a total of 30 pre-schools. Random sampling was used to select 6 pupils from each of the sampled schools for focused study giving a sample size of 1800 pupils. Purposive sampling was also used to select 2 teachers for science and mathematics activities from each of the sampled schools. All head teachers from all the 30 sampled schools were selected leading to a sample of 30 head teachers. A sample size of 270 respondents including 60 teachers, 30 head teachers and 180 pupils) was used in the study. Questionnaires and oral-interviews were used to collect data. Validity of the instruments was determined through examining of the items using content validity. A. Pilot test of the research instruments was done in two schools in the neighboring sub county. Quantitative data was generated from the close-ended items from the questionnaires. Descriptive statistics was used to analyze data such as frequency; standard deviation and mean data analysis was analyzed according. The data was presented in tables. Qualitative data produced from the questionnaire, interview schedules, focused group discussion, as well as data obtained through the observation checklists was analyzed with regards to relevant themes and discussed in line with the research objectives. The findings of the study were as follows: teachers with higher training qualifications were more likely to use instructional resources in teaching science and mathematical activities than their counterparts with less or no training. Male teachers were found to use instructional resources more often in teaching science and mathematics than

their female counterparts. Teachers with positive attitude towards science and mathematics were also found to use more instructional resources than teachers with negative attitude. The study recommends that the ministry of education should facilitate pre-primary school teachers to advance their studies through in service training and that the government of Kenya should motivate pre-primary teachers by paying them reasonable salary. All stakeholders should ensure that instructional resources are made available for better pupil achievement in science and mathematics.

Key words: Determinants of Teachers' Use of Instructional Resource, Teaching Pre-primary School Science and Mathematics Activities, Machakos County, Kenya.

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