

A Hierarchical Linear Modelling of Teacher Effects on Academic Achievement in the Kenya Certificate of Primary Education Examination

Epari Ejakait, Maureen Olel, Lucas Othuon, Ochanda Khasenye

Abstract

The past five decades have seen rapid expansion in academic achievement surveys with mixed findings and interpretation. Utilizing the education production function models, the surveys sought to test whether school or teacher-level variables explain academic achievement variance to a greater extent than student-level variables. Within this framework, we modelled teacher-level predictors of academic achievement in the Kenya Certificate of Primary Education (KCPE) examination in Mumias and Kuria East Sub-Counties in Kenya. Using a three-level hierarchical linear model (with 1824 students at Level-1 nested within 305 teachers at Level-2 who were themselves nested within 61 schools at Level-3), the results suggest that adjusting for Level-1 and Level-3 covariates, teacher age, the number of short in-service courses attended by the teachers in their respective subject areas and the number of formal written tests in those respective academic subjects have statistically significant effect on student academic achievement in the Kenya Certificate of Primary Education Examination. Policy implications of these findings are discussed.

Keywords: Teacher-level predictors, Hierarchical linear modelling, Kenya Certificate of Primary Education Examination, Mumias Sub-County, Kuria East Sub-County, Kenya

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