

OCHWO, PIUS, Ph.D., August 2013

Evaluation and Measurement

PUPIL, TEACHER, AND SCHOOL FACTORS THAT INFLUENCE STUDENT
ACHIEVEMENT ON THE PRIMARY LEAVING EXAMINATION IN UGANDA:
MEASURE DEVELOPMENT AND MULTILEVEL MODELING (161 pp.)

Co-Directors of Dissertation: Aryn C. Karpinski, Ph.D.
Tricia Niesz, Ph.D.

This study examined the multilevel factors that influence mathematics and English performance on the Primary Leaving Examinations (PLEs) among primary seven pupils (i.e., equivalent to the United States [U.S.] 7th graders) in Uganda. Existing student state test data from the Wakiso District were obtained. In addition, a newly created Teacher Quality Measure (TQM) was used to collect teacher data from the same district. Pupil data from primary seven (7th grade) and the TQM data were analyzed via Rasch Analysis, Analysis of Covariance, and Hierarchical Linear Modeling to investigate the following two main objectives: (1) Developing a behavioral frequency measure of teacher quality for Ugandan teachers, (2) Examining the relationship between pupil-, teacher-, and school-level factors on pupil achievement on the PLEs in Uganda.

Specific to the first objective, it was found that a psychometrically sound measure of teacher quality can be developed. The results rendered a 38-question measure focusing on four domains: (1) Teacher Planning and Preparation, (2) Classroom Environment, (3) Teacher Instruction, and (4) Teacher Professionalism.

The second objective found that there are no significant differences between boys and girls on English achievement controlling for prior ability in English. However, there were significant differences between the sexes on mathematics achievement, with boys

having higher scores. Additionally, the results showed that there is a significant relationship between student SES (i.e., boarding and day schools) and student achievement, with higher SES students (i.e., boarding schools) having higher achievement. It was also found that teacher TQM scores were a significant predictor of student PLE mathematics and English test scores, with higher teacher quality rendering higher student mathematics and English scores. There was also a significant difference between school types (i.e., urban and rural) on student achievement in mathematics, with rural schools (i.e., lower SES schools) having higher means compared to urban schools.

Future research should continue to define the network of relationships between pupil-, teacher-, and school-level factors and pupil achievement, and maintain the measure revision and validation process of the TQM. Assessment is becoming commonplace in the classroom in Uganda, and the need to examine the influence of the teacher on pupil achievement is in high demand. Results from this study can provide insight into the disparities involving sex, student SES, and school SES that influence pupil achievement in Uganda. The findings also support administrative demands for more efficient ways to monitor teacher quality, and in turn, meet educational standards and increase student achievement.