

***Sub-theme (v): Leveraging educational
assessment data for decision-making and
accountability***

Topic/Title: Factors Associated with Academic
Achievement of Primary School Learners in
Numeracy in Uganda

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Introduction

- ❑ Internationally, education plays a significant role in both direct and indirect ways in fostering socio-cultural and economic development of a country (Mahbubur, Arifa, & Maahmudul, 2024).
- ❑ Academic achievement is considered to be a multifaceted construct that comprises different domains of learning.
- ❑ Among the important factors affecting learners' academic achievement are the economic conditions they find themselves in, their habits for studying and for doing homework, their time management skills, their health conditions and their relationships within the family (Oke, Oladeji, & Olofin, 2020).
- ❑ Parental participation in their children's activities carried out at home, and more productive and better-quality family communication contribute towards shaping the child's future (Kim & Umayahara, 2010).
- ❑ Uganda has made tremendous progress in education development outcomes. The literacy rate for people aged 10 years and above increased from 69 per cent in 2006 to 76.1 per cent in 2020 (UBOS, 2020).
- ❑ Uganda still faces a challenge of fewer primary school learners rated proficient in Numeracy. According to previous NAPE surveys of 2015, 2018, 2021 and 2023, 52.6%, 50.9%, 41.2% and 58.0% of learners were rated proficient in Numeracy at Primary six respectively (NAPE, 2023)

Objectives of the study

- ❑ To examine the influence of school factors on learners' academic achievement in Numeracy
- ❑ To examine the influence of parental factors on learners' academic achievement in Numeracy
- ❑ To examine the influence of student factors on learners' academic achievement in Numeracy

Research Hypotheses

- ❑ Distance travelled to school by learners is not associated with academic achievement in Numeracy
- ❑ Provision of adequate scholastic materials to learners is not associated with academic achievement in Numeracy
- ❑ Teachers' involvement in learners' discussion groups is not associated with academic achievement in Numeracy
- ❑ Parental involvement in school activities is not associated with academic achievement in Numeracy

Methodology

- ❑ An explanatory sequential design of the mixed method research approach was employed throughout the study
- ❑ A stratified two stage cluster random sampling design was used
- ❑ Stratified by 136 districts, between 8 and 13 primary schools were randomly selected through probability proportional to class size
- ❑ A random sample of 20 learners was obtained from the P 6 class in the selected schools
- ❑ The national school sample for the Numeracy test consisted of 1,770 primary schools.
- ❑ A sample size of 35,349 P 6 learners sat the standardized Numeracy test.
- ❑ This study used a sample size of 3,864 P 6 learners from 14 districts which were categorized as green (with at least 75% learners rated proficient) and red (with at most 25% learners rated proficient) districts
- ❑ The researcher collected qualitative data from the green and red districts in the second phase

Methodology cont'd

- ❑ The dependent variable of this study was “academic achievement in Numeracy”
- ❑ The item response theory (Psychometric analysis) was used to determine the abilities of learners in Numeracy test. Learners’ proficiency levels were categorized into four bands namely; band 4 (highly proficient), band 3 (proficient), band 2 (moderately proficient) and band 1 (lowly proficient)
- ❑ Learners in Bands (4 & 3) were coded 1 “proficient” while learners in bands (2 & 1) were coded 0 “low proficient” as the dependent variable.
- ❑ The independent variables included; gender, school ownership, school location, distance traveled to school, provision of adequate scholastic materials, support rendered by teachers parental involvement in school activities, school, availability of adequate menstrual health materials.
- ❑ The assessment tools were pretested. Using item response theory, item difficulty, item discrimination and a wright Map were generated
- ❑ A logistic regression model was used to determine factors associated learners academic achievement

Results

Background characteristics of the learners

- ❑ Almost half (48%) of the learners were rated proficient in Numeracy.
- ❑ Over half (52%) of the learners were female.
- ❑ Over three quarters (91%) of the learners were schooling from government schools.
- ❑ Nearly two-quarters (74%) of the schools were located in rural areas.
- ❑ Large percentage (70%) of the learners reported that they travel more than 1 kilometer to reach school.
- ❑ Majority (74%) of the learners were provided with adequate scholastic materials.
- ❑ About half (48%) of the learners reported being given regular tests by their teachers.
- ❑ Over three quarters (83%) of the learners had their parents involved in school activities.
- ❑ Almost half (48%) of the learners reported that their parents contribute money or bring raw food to support school feeding.
- ❑ Almost two-thirds (61%) of the female learners reported the existence of adequate menstrual health materials.

Results Cont'd

Association between learners Background factors and academic achievement in Numeracy

- ❑ A larger proportion of learners rated proficient in Numeracy were male (53% vs. 49%).
- ❑ A significantly higher percentage (57%) of the learners who were rated proficient in Numeracy reported to be traveling less than one kilometer to school compared to those who travels more than one kilometer (44%).
- ❑ A significantly large proportion of learners who were rated proficient in Numeracy reported to have adequate scholastic materials compared to their counterparts (53% vs. 33%).
- ❑ A high percentage of the learners who were rated proficient in Numeracy were had extra support from their teachers in formation of discussion groups (67%), followed by those who were regularly tested (46%) and those who were helped in doing corrections (33%).
- ❑ A higher percentage (50%) of learners who reported their parent's involvement in school activities were rated proficient in Numeracy

Results Cont'd

Factors associated with learners' academic achievement in Numeracy

- ❑ Findings of the study show that learners supported by teachers in discussion groups were significantly associated with increased odds (OR=2.24; 95%CI: 1.90 - 2.63) of better academic achievement in Numeracy compared to those whose teachers regularly tested without corrections.
- ❑ Learners that travelled over 1 kilometre to school were significantly associated with reduced odds (OR=0.66; 95%CI: 0.57 - 0.76) compared to those that travelled less than 1 kilometre.
- ❑ Learners that are provided with adequate scholastic materials had significantly increased odds (OR=1.97; 95%CI: 1.67 - 2.33) for better academic achievement compared to those who were not provided with adequate scholastic materials
- ❑ Learners whose parents were involved in school activities were associated with increased odds (OR=1.26; 95%CI:1.03-1.53) of better academic achievement compared to those whose parents did not involve in school activities.

Recommendations

- ❑ The government should motivate primary school teachers through enhanced remuneration. Government authorities and education partners should develop and implement a policy aimed at building school dormitories or more schools to reduce on school-home distance
- ❑ The government should come up with a policy that subsidizes tax on educational materials to enable low income families access to learning materials.
- ❑ Schools should establish partnership with local community organizations and sponsors to create programs aimed at ensuring all learners have access to scholastic materials
- ❑ The government and education partners should develop parent education programs and outreach initiatives aimed at creating a supportive and inclusive school environment that encourages parental participation in school programs.

THANK YOU
