Key findings on student achievement and equity in education in Nyanda

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Prepared for: Adam Ondra, Ministry of Education Nyanda
Author: UNICEF Innocenti, Education Unit

Executive Summary:

Our analysis of the 2023–2025 student datasets for Nyanda show 43.4 mean reading and 41.5 mean math score in 2025, with persistent gaps by households' income, rural residence, attendance, and to certain extent basic parental education. The analysis is based on nationally representative and balanced data, weighted to account for the disproportionate number of students in the lower income cohort and analyzed in order to account for school and district level variation. The analysis reveals the key findings below:

1. Household income: Students from the lowest income quintiles consistently score lower in both reading and mathematics across the 3 years. However, the percentage difference in mathematics and reading scores between the lowest and the highest income quantile decreased by 3.3% and 2.7% respectively from 2023 to 2025.

2. Attendance: As expected, attendance strongly influence reading and mathematics scores. Controlling household income, gender, rural location, disability status, parental education, and year, higher attendance is associated with higher reading and mathematics scores. The analysis suggests that the relationship between attendance and tests scores holds true across all income groups. Therefore, policies that aim to improve attendance are beneficial to students independently of their socioeconomic status.

3. Rural-Urban Disparities: The analysis of rural vs urban location shows that students in rural settings have lower attendance compared to urban settings, their dropout rates are disproportionately higher (59.6% for rural students and 14.6% for urban students) and their tests scores in both mathematics and reading are lower compared to urban settings.

4. Gender and disability: Surprisingly, gender and disability do not seem to make any difference in tests scores.

5. Livelihoods: Analyzing the role of household economic activities, reveals that students in households practicing agriculture as primary economic activity are worse in terms of mathematics and reading test scores, this might be due to the fact that often students support the household primary economic activity at the cost of skipping school.

6. School facilities: While school facilities, such as water, internet, and electricity can contribute to improving students well-being, the analysis shows that in Nyanda these characteristics do not significantly affect mathematics and reading scores.

An important take away from the analysis is that most inequalities are within schools and not between schools or between districts. Therefore, policy interventions targeting individual student

support such as tutoring, remedial education, attendance improvement, and other individual student interventions are likely more effective than broad district level reforms.

Students result in math and reading proficiency

The graph below aims to present the differences in reading and mathematics test scores by household income quantile. This is very important and informative because it shows the progress made over the years in Nyanda, simultaneously showing the great disparities between the lowest and the highest income quantiles.

Through the years 2023 and 2025, students in Nyanda have increased both their mathematics and reading test scores for all income quantiles. Reading test scores are significantly higher for all income quantiles and for all years, compared to test scores in mathematics. The curve shows that scores for both tests increase with income, but the difference between them is narrowing over time despite only slightly.