



THE QUALITY OF EDUCATION IN UGANDA

A case of Iganga and
Mayuge Districts





**African Population and
Health Research Center**

THE QUALITY OF EDUCATION IN UGANDA:
A Case of Iganga and Mayuge Districts

May 2016

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1. INTRODUCTION

1.1 Purpose of the study

The study aimed to examine the schooling patterns of children living in rural settlements in Uganda as well as the quality of the education they receive. Specifically, the study sought to identify the key barriers that have the most effect on learning outcomes. The ultimate anticipation is that the evidence generated through this study will be used by policymakers to improve the provision of quality basic education for all children living in rural settings in Uganda.

1.2 Study motivator

In the last two decades Uganda, like many sub-Saharan African countries, has established a universal primary education policy, which has enhanced access to education and improved enrollment. This is consistent with the EFA goals that focus on zones of exclusion and access. Uganda introduced Universal Primary Education (UPE) policy in 1996, a free primary education policy in 1997 and compulsory primary education policy in 2008. Following the introduction of these policies, the primary school net enrollment rate improved from less than 60% in 1996 to almost 98% in 2012.

Despite the remarkable improvement in school enrollment, there are indications that learning outcomes remain poor in Uganda (especially in rural settings), suggesting little progress on the EFA goal on quality education (see for example UNEB, 2012; SACMEQ, 2011; UWEZO, 2013). It is against this backdrop that the African Population and Health Research Center (APHRC) undertook this study to identify the key learning barriers among children in rural settings. This study was carried out in collaboration with the Iganga-Mayuge Health and Demographic Surveillance System (IMHDSS) in 2014 among primary schools that serve families residing in the IMHDSS area.

1.3 Study authorization and ethical approval

During the design of the study and before data were collected, the APHRC team, with assistance from the IMHDSS leadership, made a successful oral presentation about the study to the Sector Policy and Management Working Group at the Ministry of Education and Sports headquarters in Kampala in February 2014. The team also sought study approval from the Uganda National Council for Science and Technology (UNCST) and the approval was granted in June 2014. Because the IMHDSS is hosted by Makerere University, the study protocol also went through the university's internal approval process. In addition, the team obtained administrative approval from the district education officers of Iganga and Mayuge as well as from all the head teachers of the schools in the study. Moreover, the team sought and obtained consent from all study participants including teachers, parents and students. Participation in the study was voluntary and participants were not coerced. Interviews were conducted in privacy and confidentiality was upheld.

1.4 Target population

The desired target population for this study was all P3 and P6 students attending schools that serve families living in the IMHDSS in July and August 2014. Although students were the main target population, the study also collected data that described the students' families, their teachers and their schools.



1.5 Sampling design and sample size

The study employed a cross-sectional design that involved schools and households in IMHDSS. In total, the study collected data from 82 primary schools involving 2,913 P3 and 2,711 P6 students and their teachers (297). About three in every four schools involved in this study were public (government) schools and most of them were located in Iganga District (Figure 1.1).

1.6 Study instruments

Both qualitative and quantitative methods were used to collect data. To measure achievement, P3 and P6 students completed English and mathematics tests. In addition, the P3 students completed a literacy test in Lusoga while the P6 students completed a questionnaire about their personal and home backgrounds. P3 and P6 mathematics teachers completed a mathematics knowledge test and a teacher questionnaire covering their personal and professional backgrounds. For qualitative data, a total of seven focus group discussions (FGD) were conducted with teachers and parents to establish their perceptions on schooling patterns, the quality of education and learning barriers. In addition, a total of 158 P3 and P6 English and mathematics classroom lessons were recorded on video in an effort to observe classroom processes and how these processes could relate to learning barriers at the classroom level. These classroom observation data were subjected to a rubric developed to systematically analyze the video recordings.

Figure 1.1 ➔ Distribution of schools by type and district

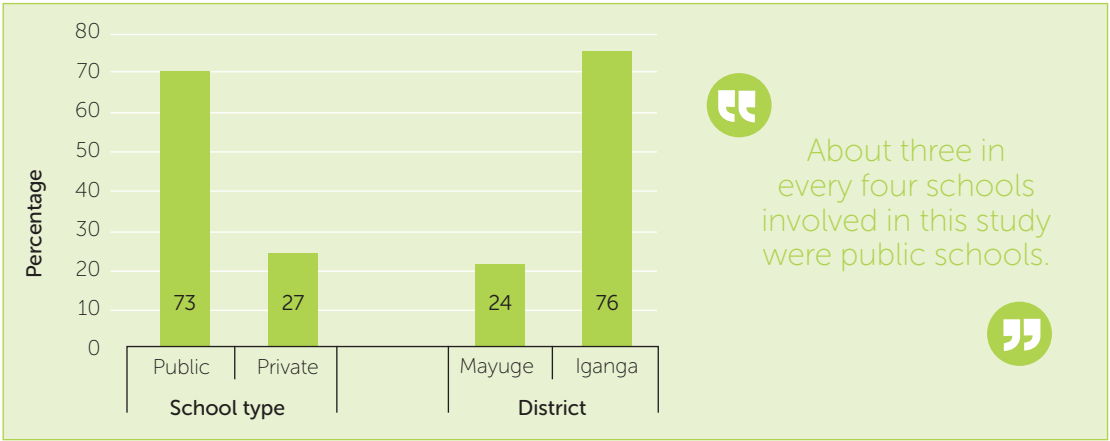




Image 1 → Students during one of the lessons conducted outside the classroom.

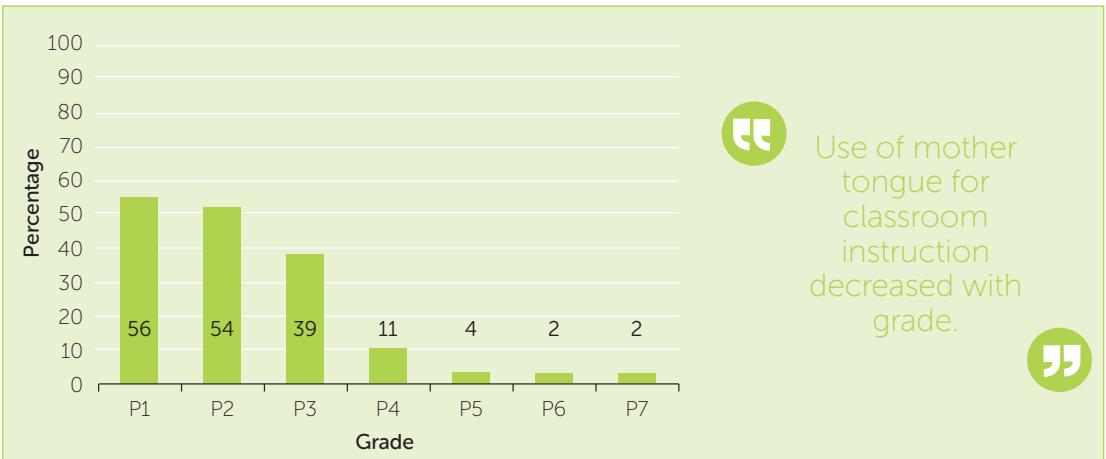


2. CHARACTERISTICS OF SCHOOLS

2.1 Use of mother tongue during classroom lessons

Figure 2.1 depicts the use of mother tongue for classroom instruction as reported by the head teachers. As expected, the use of mother tongue decreased at higher primary school grades. This is consistent with the current education policy in Uganda that encourages use of mother tongue for classroom instruction in lower primary school grades.

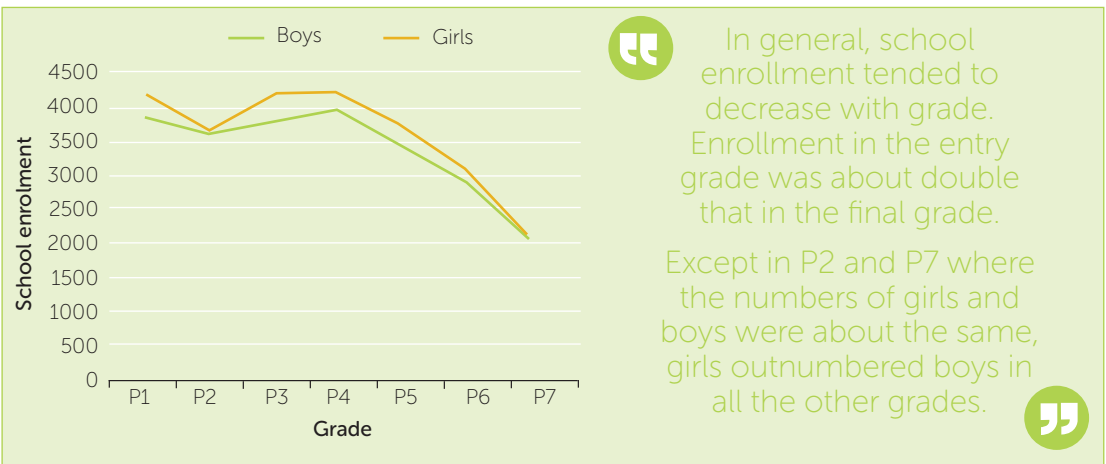
Figure 2.1 → Percentage of schools always using mother tongue for classroom instruction



2.2 School enrollment by grade and sex

Figure 2.2 shows school enrollment rates, split by student grade and sex. The school enrollment rate was measured by checking the records given by the head teachers against actual records in the class registers. The results showed that, apart from P2, school enrollment generally tended to decrease with grade level. In addition, girls outnumbered boys in five out of the seven grades. However, in P2 and P7 the numbers of girls and boys were about the same. This would suggest that more girls drop out between P1 and P2, and that more girls gradually drop out as students progress towards the final grade.

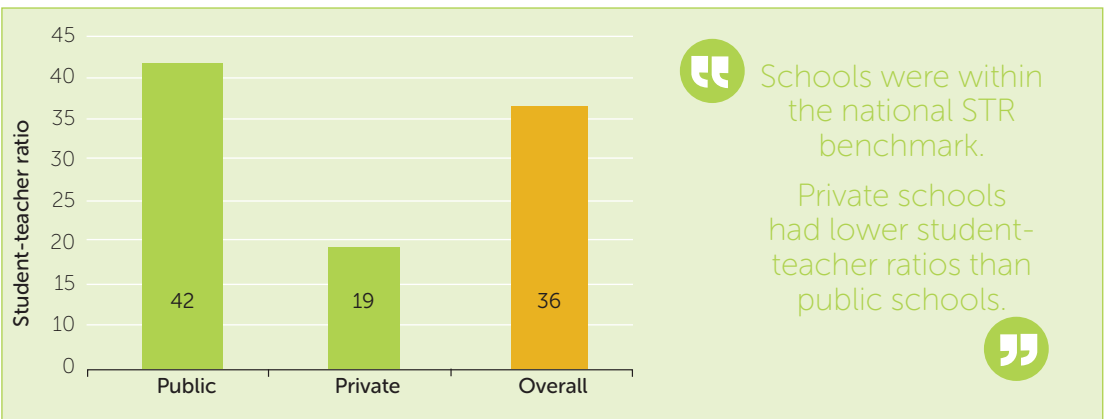
Figure 2.2 → School enrollment by grade and sex



2.3 Student-teacher ratios

The overall average student-teacher ratio (STR) was 36 and this ratio was well within the set national benchmark of 43 students per teacher (GoU, 2010). The STR was markedly lower in private schools (19) than in public schools (42) but both were within the national benchmark (Figure 2.3).

Figure 2.3 ➔ Student-teacher ratios by school type

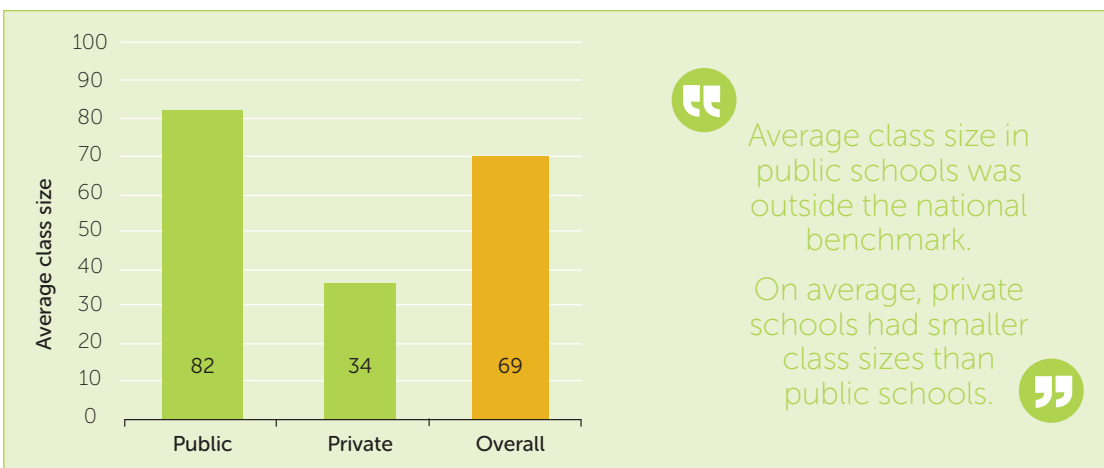


Note: The national benchmark is 43 students per teacher (GoU, 2010).

2.4 Class size

Overall, the average number of students per class was 69. This average was slightly outside the nation's set benchmark, which is 61 students per class (GoU, 2010). On average, classes in public schools had more students than those in private schools (Figure 2.4).

Figure 2.4 ➔ Average class sizes by school type

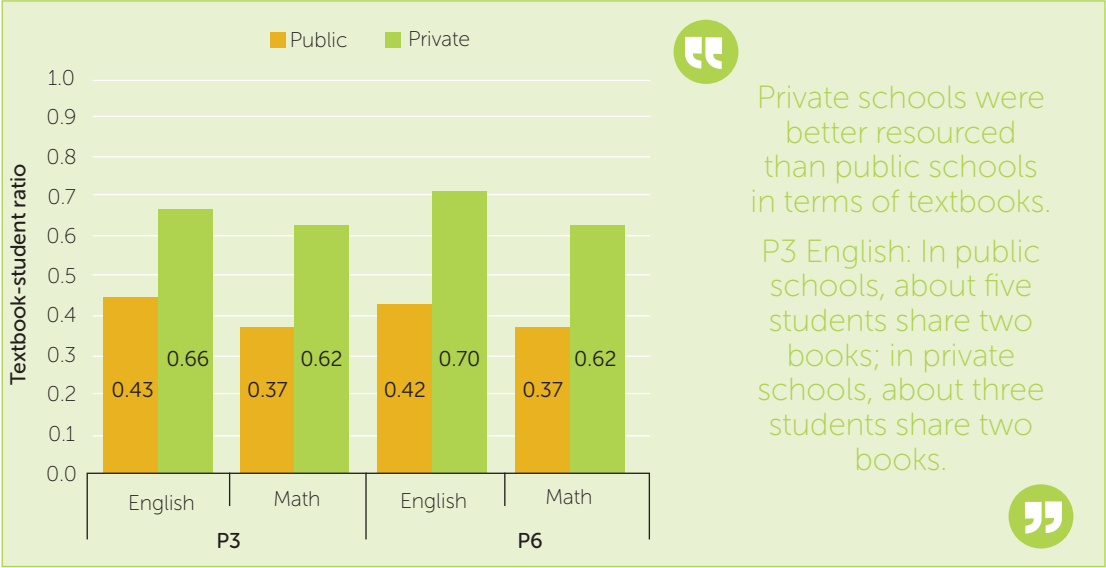


Note: The targeted national benchmark for 2014/2015 was 61 students per class (GoU, 2010).



2.5 Textbook-student ratios

Figure 2.5 ➔ Textbook-student ratios for P3 and P6 by school type



The English and mathematics textbook-student ratios for P3 and P6 are shown in Figure 2.5 split by school type. The ideal textbook-student ratio for each subject is 1, which would mean that each student has sole use of a textbook. A ratio of 0.5 means that two student share one textbook. From the results depicted in Figure 2.5, it is clear that private schools had better ratios than public schools regardless of the grade level and the subject under consideration.





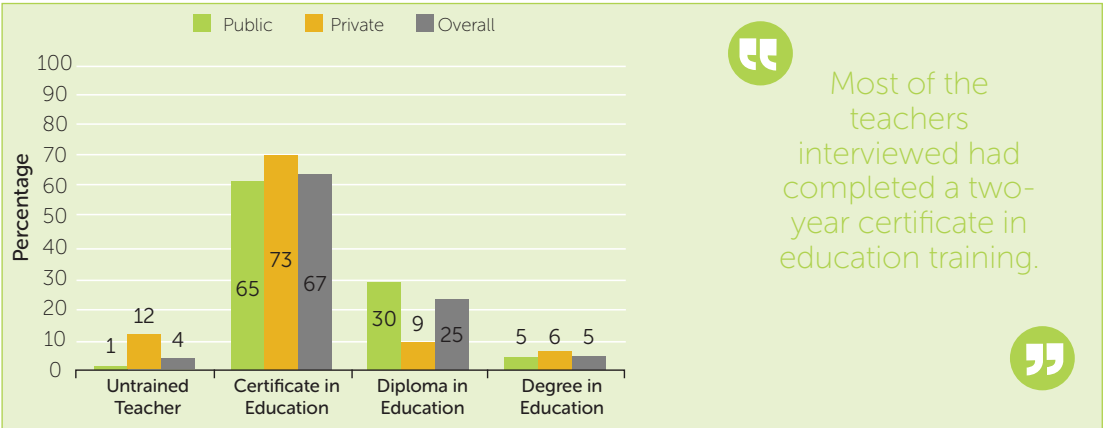
3. CHARACTERISTICS OF TEACHERS

3.1 Teacher qualification

A total of 297 P3 and P6 teachers were interviewed in this study, of whom 220 were in public schools while the rest (77) were in private schools. These teachers were asked to report on their pre-service teacher training qualifications (results in Figure 3.1).

Most of the teachers interviewed in both public and private schools had certificates in education. Around one in three (30%) of teachers in public schools had a diploma in education. Only a small percentage of teachers were untrained, and these untrained teachers were mostly in private schools (12%). The percentage of teachers with a university degree in education in both public and private schools was very small (5% overall).

Figure 3.1 ➔ Percentage of teachers with various teacher training qualifications

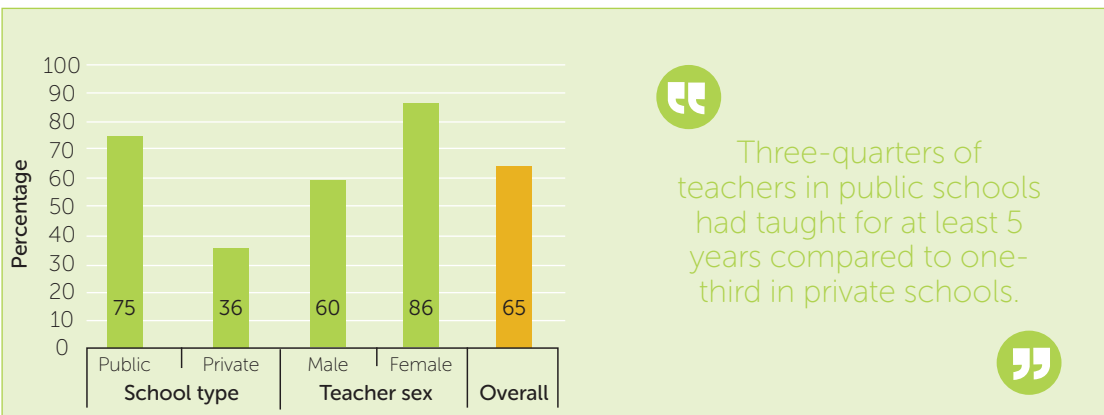


3.2 Teacher experience

Teachers in this study were asked for how long they had taught. As an example, the teaching experience data for P6 mathematics teachers who reported teaching for at least five years are depicted in Figure 3.2.

Overall, about two in every three (65%) P6 mathematics teachers had taught for at least five years. The percentage of teachers with at least five years' teaching experience was higher among teachers in public schools and among female teachers.

Figure 3.2 ➔ Percentages of P6 mathematics teachers who had taught for at least five years

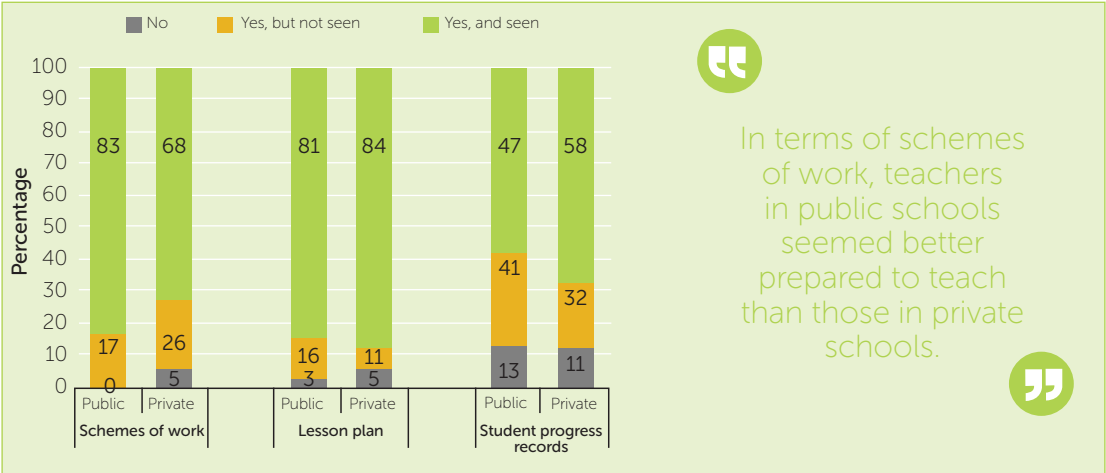


3.3 Teacher preparedness

A classroom observation checklist was used to capture information about teacher lesson preparedness by recording the presence of three documents that reflect best practices in lesson preparation: scheme of work, lesson plan and student progress record.

In general, more teachers in public schools had schemes of work (83%) than teachers in private schools (68%), while almost equal proportion of teachers in public and private schools had lesson plans and student progress records (results in Figure 3.3).

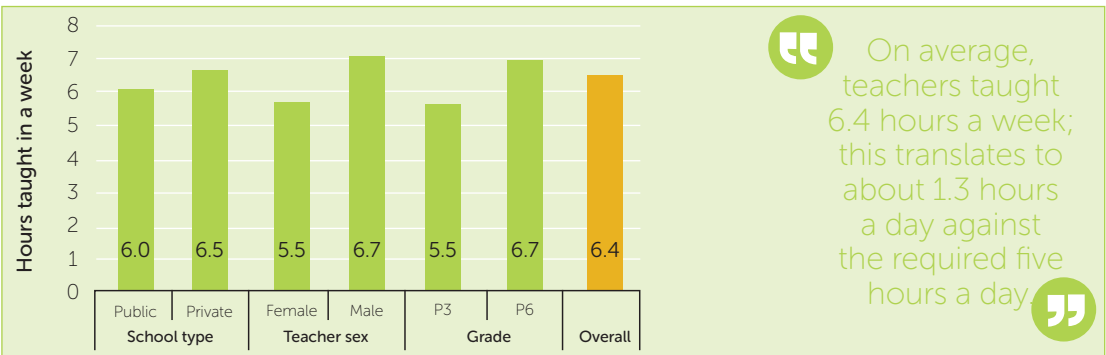
Figure 3.3 → Percentages of P6 mathematics teachers with various teaching documents



3.4 Teacher workload

Figure 3.4 shows the distribution of workload among P3 and P6 teachers in the study sample. The findings showed that, on average, teachers taught for about 6.4 hours a week (or about 1.3 hours a day, which translated to about 11 lessons a week) and this did not differ much by school type. However, P6 teachers taught an average of about one hour more a week than P3 teachers, even after taking into account the fact that some P3 teachers also taught upper classes in the afternoons.

Figure 3.4 → Hours for which teachers taught per week by school type, teacher's sex and grade



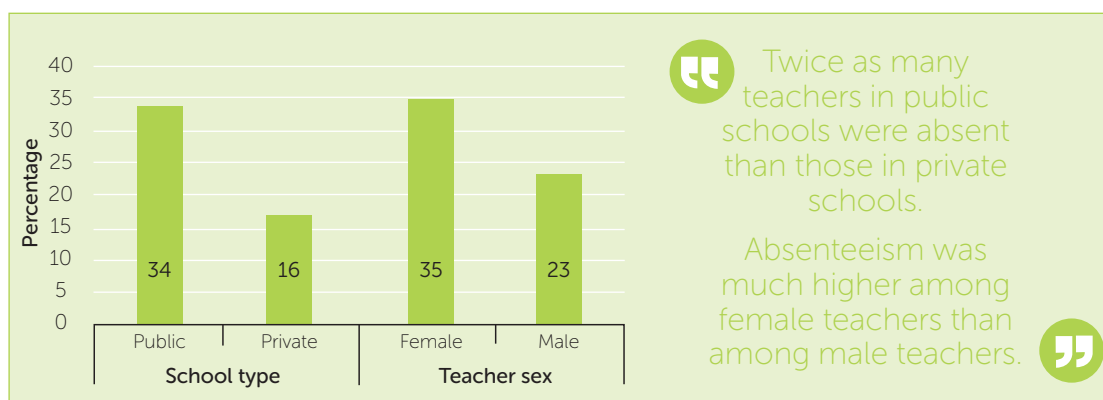
Note: Teachers in Uganda are required to teach about 5 hours a day (UNESCO, 2012).



3.5 Teacher absenteeism

The P3 and P6 teachers interviewed in this study were asked to report on their school attendance in the last school week leading to the interview day. Figure 3.5 shows the percentages of teachers who reported they had been absent for at least one day in the last school week before the interview day. Absenteeism was higher among teachers in public schools than in private schools and higher among female teachers than among males.

Figure 3.5 → Proportion of teachers absent for at least one day in the last school week



3.6 Dominant teaching activity

During the study, 158 P3 and P6 mathematics and English lessons were recorded on video.

Classroom instructional tasks were analyzed using a time analysis video rubric that allowed examination of classroom interactions in five minutes intervals. The tasks were group into five broad activities - individual seatwork, recitation, teacher class activity, group work, and other - based on the amount of time the tasks in that activity used during the lesson.

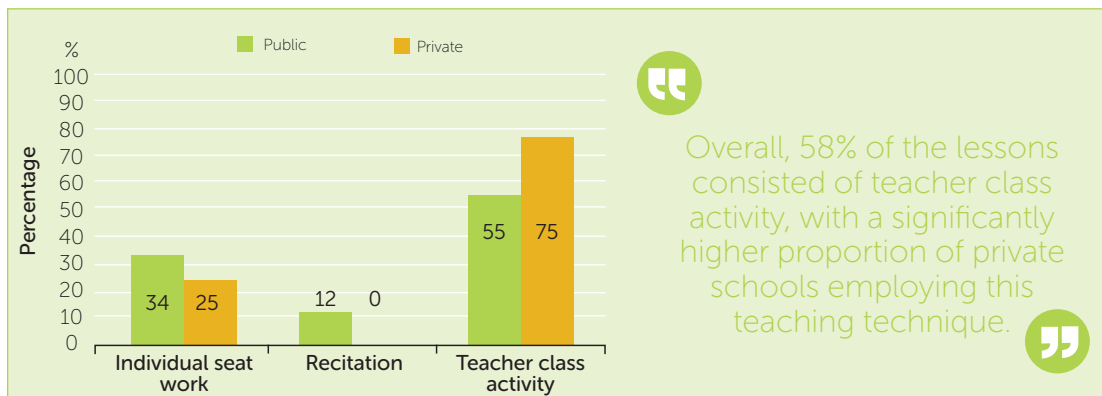
The first three activities dominated: individual seatwork, recitation and teacher class activity¹. A dominant activity takes proportionally more lesson time than other activities within that lesson.

Figure 3.6 shows the proportion of P6 mathematics lessons used in individual seatwork, recitation and teacher class activity. Results show that more than half of the lessons utilized teacher class activity and that this varied by school type.

¹Teacher class activity involves the teacher dominating most of the tasks or a heavily teacher-centered or lecture-like type of a lesson.



Figure 3.6 → Proportion of P6 mathematics lesson time used in three teaching activities, by school type

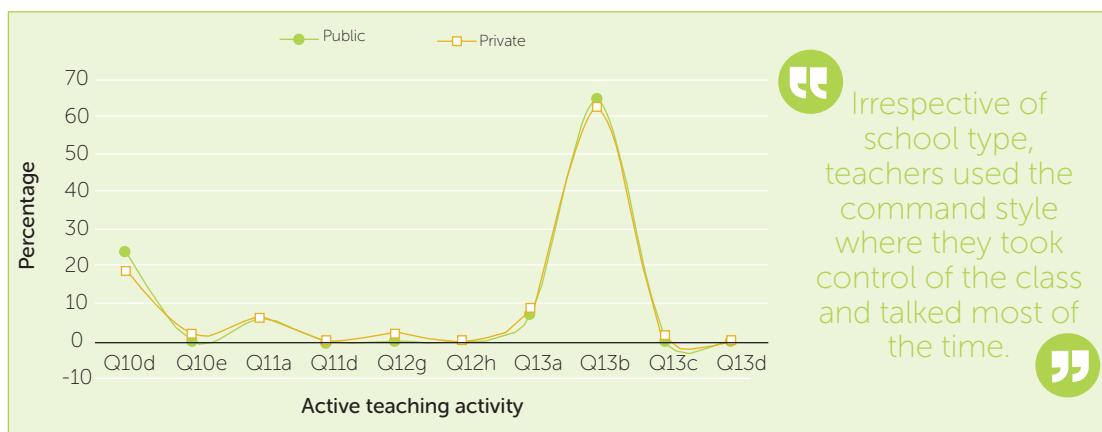


3.7 Active teaching activities

The classroom lesson videos were further examined in terms of time taken on active teaching activities or time taken on tasks that actively engaged the learner (for example, a Q&A task within the broad recitation activity that required the learner either to ask or to answer a question).

Figure 3.7 shows the percentage of time spent on each of the active teaching activities in P6 mathematics lessons, by school type. The following four activities took most of the active teaching time: (a) teacher checking work of individual learners [Q10d], (b) teacher asking questions to individual learners [Q11a], (c) teacher lecturing to the whole class [Q13a] and (d) teacher demonstrating to the whole class [Q13b]. The results show that, irrespective of the type of school, in most of the active part of a lesson, teachers used the command style where they took control of the class and talked most of the time. This involved giving instructions to students, illustrating a concept or providing an example to the students. While the teachers were doing this, the students were passive listeners.

Figure 3.7 → Proportion of mathematics lesson time used in active teaching activities, by school type



From the analysis of dominant activities and active teaching during lesson time, the observed teaching styles in primary schools in the IMHDSS were comparable to the command or task style in the Mosston’s spectrum of teaching styles (McCullick & Byra, 2002; Mueller & Mueller, 1992). This implied a heavily teacher-centered and reproductive style that might not develop critical thinking among learners. This is termed ‘reproductive’ because students tend to reproduce what the teacher has told them.

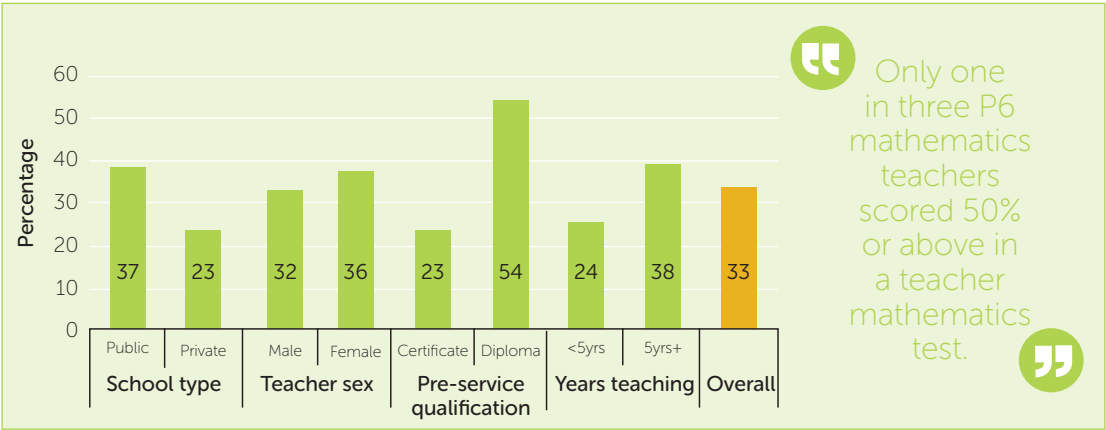
3.8 Teacher subject-matter knowledge

The teachers who were teaching mathematics to the P6 and P3 students in this study were assessed in mathematics to evaluate teacher subject-matter knowledge. The teacher test was designed to be more difficult than the student test but was based on the official primary school curriculum in Uganda.

Figure 3.8 shows the proportion of P6 mathematics teachers who scored 50% or above in the teacher mathematics test. Only one in every three (33%) P6 teachers scored 50% or above. These results were poor, given that the test was based on what they are supposed to be teaching. Performance was better among teachers in public schools than among teachers in private schools, and slightly better among female teachers than among their male counterparts. In addition, the performance of teachers with higher qualifications and more teaching experience was better than less-qualified and less-experienced teachers.

In general, the P6 teachers did better than the P3 teachers, perhaps indicating that schools assigned more knowledgeable teachers to P6.

Figure 3.8 ➔ **Proportion of P6 mathematics teachers who scored at least 50% in a mathematics subject knowledge test**



Note: *Untrained teachers and those with qualifications above diploma are excluded from this analysis because there were only a few teachers in each of these two categories





Image 2 → Students playing during break time.



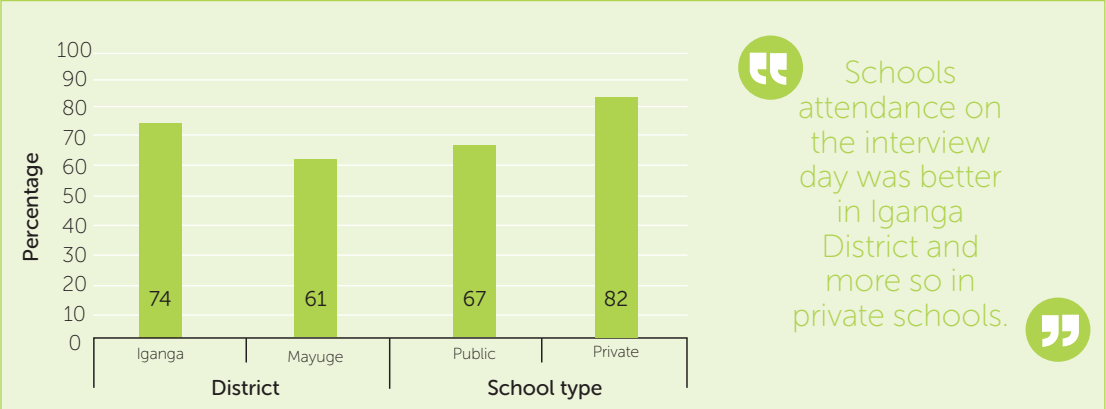


4. CHARACTERISTICS OF STUDENTS

4.1 Student school attendance

The student school attendance rate was measured by the actual count of students who were present on the interview day divided by the total number of students enrolled in the school as reported by the head teachers and confirmed against the class registers (results presented in Figure 4.1). Private schools recorded significantly higher attendance rates than public schools, while schools in Iganga District recorded much better attendance rates than those in Mayuge District.

Figure 4.1 → Percentages of students present on the interview day



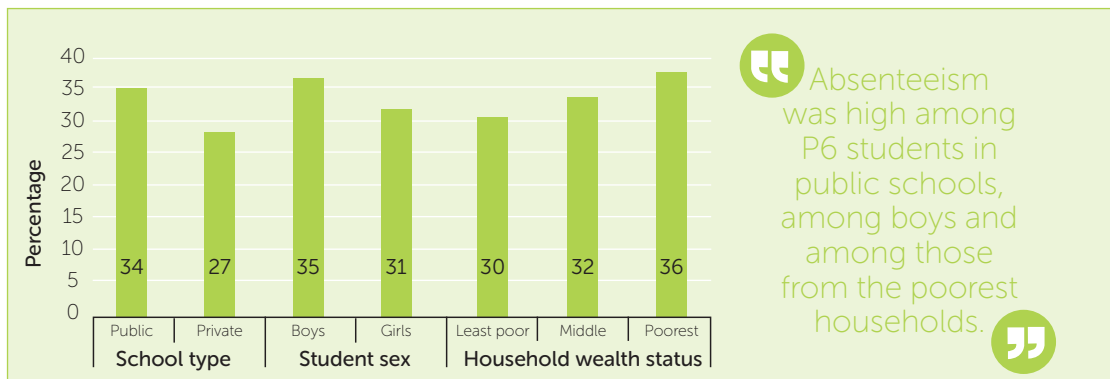
4.2 P6 student absenteeism

Like their teachers, P6 students were asked to report on their school attendance in the school week preceding the day of the interview. Figure 4.2 shows the percentages of P6 students who reported that they had been absent at least one day in the previous school week. Absenteeism was higher among students in public schools, among boys and among those from the poorest households. For example, 34% of students in public schools reported having been absent from school for at least one day in the last school week, compared to 27% of students in private schools.

The correlation coefficient between teacher absenteeism and average student absenteeism was weak but positive (0.15), indicating that schools with higher teacher absenteeism generally tended to have high student absenteeism.



Figure 4.2 → Percentage of P6 students absent for at least one day in the school week prior to the interview day

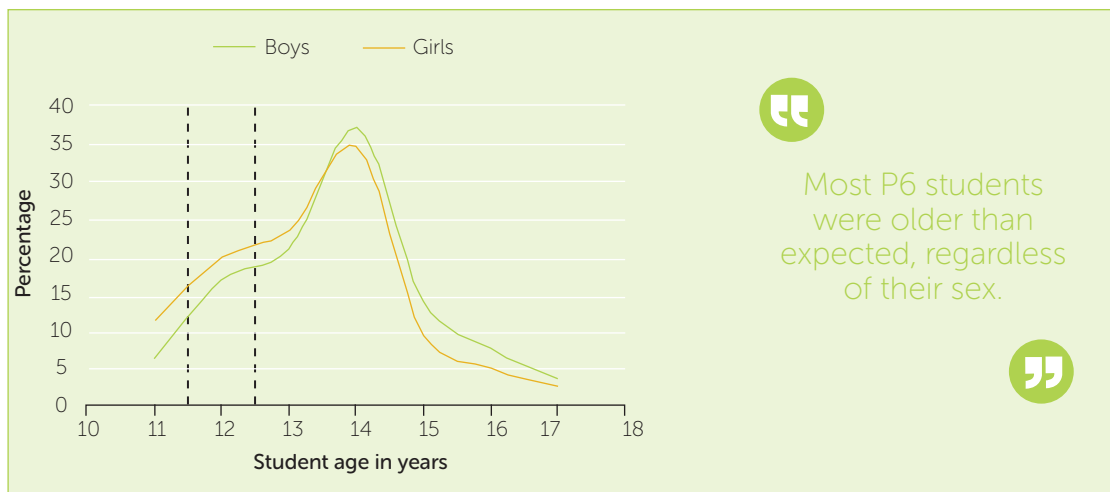


4.3 Student age

The distribution of student age by sex is shown in Figure 4.3. A considerable proportion of students were above the expected maximum age (12.5 years), regardless of their sex.

The expected average age for P6 students at the time of data collection was 11.7 years. However, the observed average age was 13.7 years and 12.9 years in public and private schools respectively. This means that P6 students were generally older than expected, regardless of the type of school they attended.

Figure 4.3 → Distribution of student age by sex



The two dotted lines in Figure 4.3 show the expected age range (about 11.5 to 12.5 years) of P6 students at the interview date, assuming all students had started schooling at the official school entry age (6 years) and had not repeated grades.

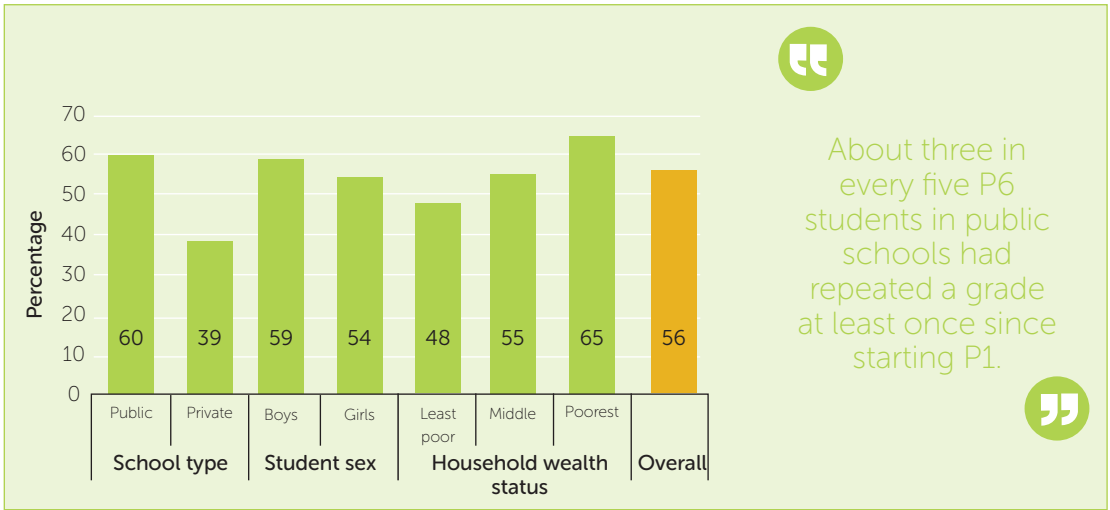


4.4 Grade repetition

P6 students were asked how many times they had repeated a grade, including P6, since they had started school. The grade repetition data for students who had repeated a grade at least once since they had started school at P1 were analyzed, and the results are depicted in Figure 4.4.

On average, grade repetition rates were much higher among P6 students attending public schools (60%) than among their counterparts attending private schools (39%). In addition, the rate for boys was slightly higher than that for girls, while the rate for students from the poorest households was noticeably higher than the rate for students from the least poor households.

Figure 4.4 → Proportion of P6 repeating grades at least once since joining P1



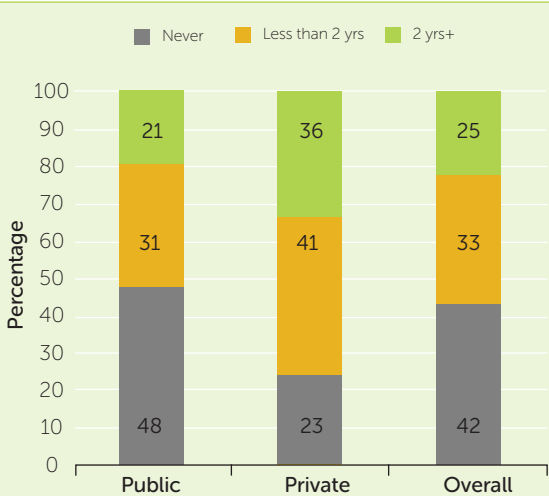
4.5 Pre-primary school attendance

It is generally accepted that attending pre-primary school equips learners with the basic foundation skills required for learning, especially at the lower primary school level. Consequently, P6 students were asked to report on the length of time (if at all) they had attended pre-primary school before starting primary school at grade 1 (results in Figure 4.5).

The results show that overall, about 42% of P6 students had not attended pre-primary school and that most of the students who had not attended pre-primary school were in public schools.



Figure 4.5 → Proportion of P6 who had attended pre-primary school before joining P1



Overall, about 42% of P6 did not attend pre-primary school before starting P1.

Most students who had never attended pre-primary school were in public schools.





5. STUDENT ACHIEVEMENT

5.1 Overall student achievement

The percentages of students who scored 50% and above in the mathematics, English and Lusoga tests are displayed in Table 5.1. P6 students were not assessed in their mother tongue (Lusoga) because, according to the official policy, mother tongue is only supposed to be taught in lower primary school grades (P1 to P3). Information on household wealth was collected only from P6 students and not from P3 students because the latter were considered too young to provide reliable responses to interview questions.

The results show that, overall, only about 8% and 39% of P6 students scored 50% or above in their mathematics and English tests respectively. In addition, results show that only about 50%, 15% and 11% of P3 students scored at least 50% in the mathematics, English and Lusoga tests respectively. In other words, the results indicate the percentage of students who answered correctly about one half of the items in their tests. For both grades, and for all the three subjects considered, these results are unsatisfactory, bearing in mind that the tests were based on the official primary school curriculum for P3 and P6 in Uganda.

Table 5.1 → Percentages of P6 and P3 students who scored at least 50% in their tests

| | | P6 | | P3 | | |
|-------------------------|-------------|------|---------|------|---------|--------|
| | | Math | English | Math | English | Lusoga |
| Overall | | 7.6 | 39.4 | 50.7 | 14.7 | 10.6 |
| School type | Public | 6.1 | 35.2 | 44.0 | 9.1 | 9.7 |
| | Private | 13.3 | 55.3 | 74.6 | 34.4 | 13.7 |
| Student sex | Boy | 8.2 | 40.4 | 52.6 | 13.4 | 10.1 |
| | Girl | 7.2 | 38.6 | 49.0 | 15.9 | 11.0 |
| Household wealth status | Least poor | 12.6 | 46.5 | xxx | xxx | xxx |
| | Middle poor | 6.5 | 39.9 | xxx | xxx | xxx |
| | Poorest | 3.7 | 31.7 | xxx | xxx | xxx |

Note: xxx Household wealth data were not collected for P3 students

Notwithstanding the general scores, P3 and P6 students attending private schools outperformed their counterparts in public schools across all subjects assessed. In addition, P6 students from the least poor households outperformed those from the poorest households, with the proportion of students from the least poor families scoring at least 50% in mathematics being three times that of students from the poorest families. Performance in each of the subjects did not vary much by student sex, regardless of the grade level considered.



The performance of the students on the tests was generally low, more so among students attending public schools and those from the poorest households



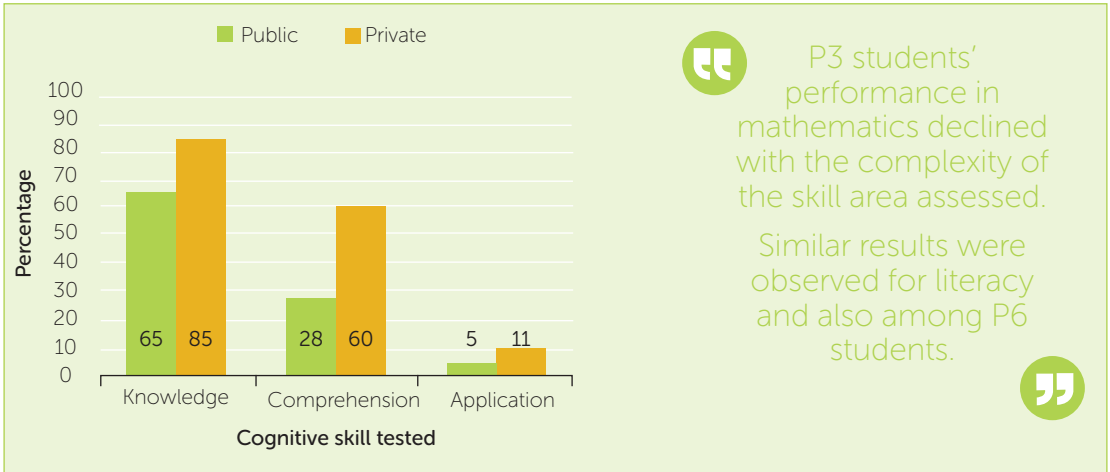
5.2 Student achievement by domain

Apart from the overall test scores reported in the previous section, the P3 and P6 tests were also analyzed based on subtests defined by cognitive and context domains. As an example, the results for P3 students scoring 50% and above in various mathematics cognitive skills are displayed in Figure 5.1.



As expected, student performance generally decreased with the complexity of the cognitive skill involved and this was consistent across public and private schools. Nevertheless, students attending private schools outperformed their counterparts in public schools, especially in the knowledge and comprehension cognitive domains.

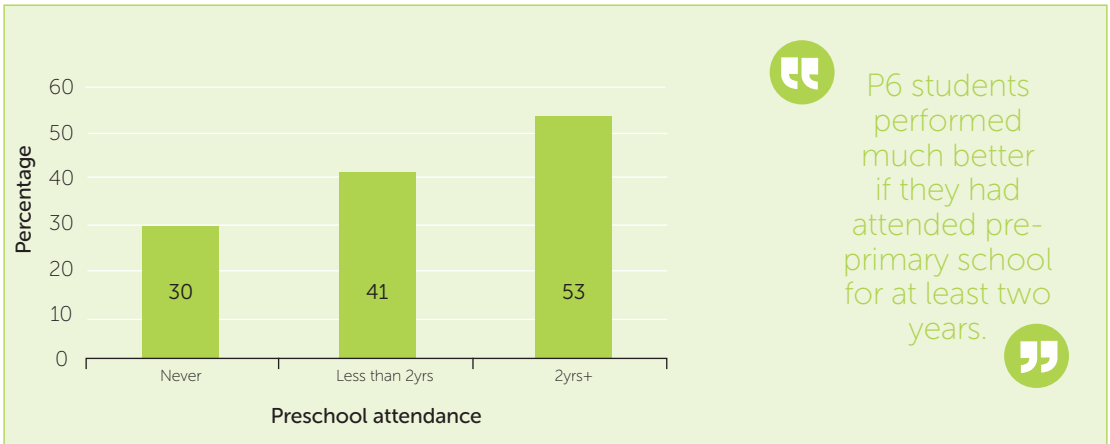
Figure 5.1 → Proportion of P3 students who scored at least 50% in each mathematics cognitive skill area tested



5.3 Student achievement by pre-primary school attendance

From the results in Figure 5.2, it can be seen that student performance in English was positively related to the number of years of pre-primary school attendance for English (results for mathematics followed the same pattern). Students who had attended pre-primary school for a few months to one year outperformed students who had never attended pre-primary school. Importantly, students who had attended pre-primary school for at least two years performed significantly better than those who had never attended pre-primary school. These results implied that pre-primary school attendance for at least two years was advantageous to students in terms of improved academic achievement.

Figure 5.2 → Proportion of P6 students who scored at least 50% in the English test, by pre-primary school attendance



5.4 Student achievement by age

Figure 5.3 shows the distribution of English scores by student age and sex. In general, younger students achieved better results than older students, regardless of their sex (similar results were obtained for mathematics scores).

Figure 5.3 → Proportion of P6 students who scored at least 50% in the English test by age



5.5 P3 Lusoga score versus English score

The relationship between P3 student scores in Lusoga and English is depicted in Figure 5.4.

Figure 5.4 → The relationship between P3 students' Lusoga and English scores

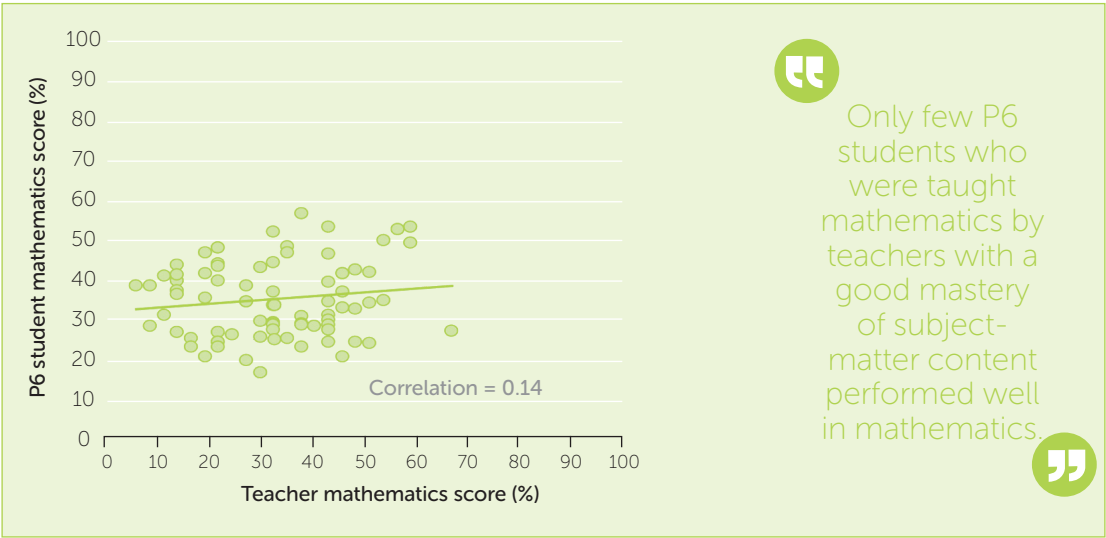


The correlation coefficient between student scores in Lusoga and English was strong (0.80), implying that, by and large, students who performed well in Lusoga also performed well in English and that those who performed poorly in Lusoga also performed poorly in English. The correlation coefficients between these two languages and mathematics were less strong and stood at 0.73 and 0.64 for Lusoga and English respectively. Though these coefficients were less strong they nevertheless indicated that students who did well in both languages also did well in mathematics, and vice versa. Furthermore, the association between Lusoga and mathematics was stronger than that between English and mathematics.

5.6 Teacher score versus student achievement

Figure 5.5 shows the relationship between P6 students' and teachers' mathematics scores. The correlation coefficient between these scores was positive but weak (0.14), meaning that only a few students who were taught mathematics by high-scoring teachers also scored well in mathematics.

Figure 5.5 ➔ The relationship between P6 teacher and student mathematics scores



5.7 Teacher experience versus student achievement

This study also examined the relationship between teachers' years of teaching experience and student scores in mathematics, English and Lusoga at P3 and P6 (see example in Figure 5.6).

In P3, students' mean scores generally declined with the teacher's years of teaching. This was true for mathematics, English and Lusoga. In P6, after removing one outlier teacher who had taught for more than 30 years, a similar pattern to that observed among P3 teachers was found. Thus, teachers' years of teaching, a measure of experience, did not enhance learning. If anything, recently employed teachers had among the highest mean scores.



Figure 5.6 → The relationship between teacher experience and P6 mathematics scores

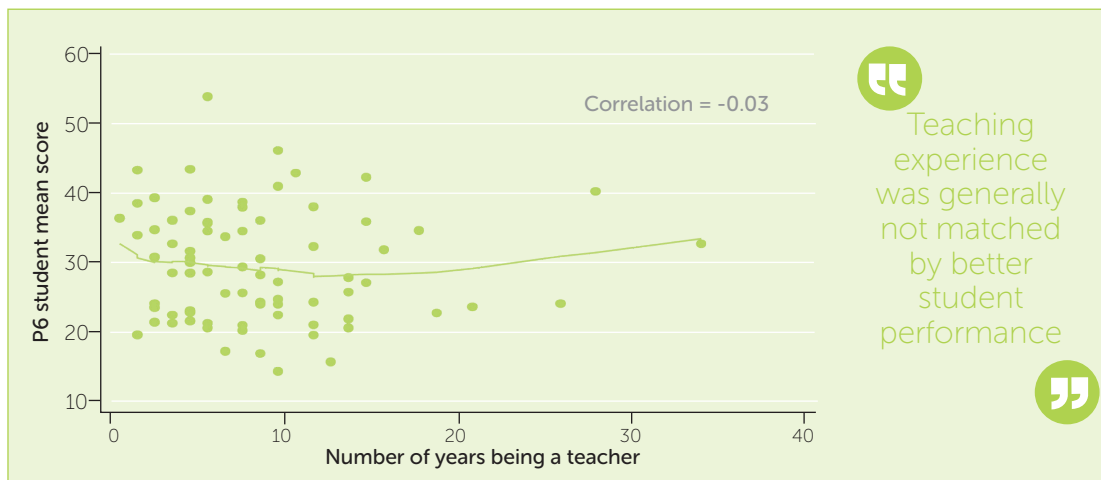



Image 3 → Field interviewers in Iganga town processing completed tools for transportation to APHRC



6. PERCEPTION OF PARENTS AND TEACHERS

6.1 Parents' and teachers' perceptions about key learning barriers

This study also sought to examine the perceptions of parents and teachers with regard to schooling decisions and barriers that affect learning. Table 6.1 summarizes parents' and teachers' narratives about the reasons for parents' choice of schools (whether public or private), the learning barriers that affect children in the respective schools and ways of mitigating these barriers. These narratives are derived from FGDs, which were done separately with parents and teachers from both public and private schools.

The narratives were analytically organized in order to create a dichotomy of perspectives of parents of children attending either public or private schools, and teachers of children in public or private schools. In this way it was possible to highlight the views and perception of parents and teachers affiliated with either public or private schools.

Four main points emerged from the FGD narrations

- The quality of learning was a key concern among parents and teachers in the IMHDSS.
- Overcrowding in classrooms was a major learning barrier, especially in public schools.
- Parents needed to be involved in their children's education.
- Teachers were at the center of implementation, and key actors, but they could not do it alone.



Table 6.1 → **Glimpse into the thoughts of parents and teachers about learning barriers**

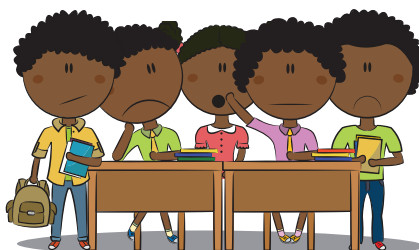
| Thematic areas | Parents | Teachers |
|----------------------------------|---|---|
| Quality of learning | <ul style="list-style-type: none">• Parents did not see quality of learning as a challenge in private schools. However, they perceived the quality of learning to be low in public schools.• Parents associated the better quality of learning with smaller class sizes in private schools. | <ul style="list-style-type: none">• Like parents, teachers thought that the quality of learning was a challenge in public schools but not in private schools.• Teachers associated the better quality in private schools to the commitment of the teachers and smaller class sizes |
| Overcrowding | <ul style="list-style-type: none">• Parents thought that overcrowding was rampant and a key learning barrier, especially in public schools | <ul style="list-style-type: none">• Teachers felt that overcrowding compromised the quality of learning. |
| Inadequate parental support | <ul style="list-style-type: none">• Lack of parental support or parental participation in children's education was noted by parents.• Specifically, parents in public schools said that some among them were not supportive of their children's education in provision of learning materials and ensuring that the children attended school regularly. | <ul style="list-style-type: none">• Teachers complained of lack of parental support.• Teachers mentioned that they were burdened by students' problems that were beyond their control and that should be solved by parents. |
| Child labor | <ul style="list-style-type: none">• Parents said that child labor was common in sugarcane farms.• Parents thought child labor was a key learning barrier, especially among children attending public schools. | <ul style="list-style-type: none">• Teachers also identified child labor as a key learning barrier.• Teachers (especially those in private schools) felt that child labor was perpetuated by parents who did not value education |
| Household poverty | <ul style="list-style-type: none">• Parents (especially those with children in public schools) believed that they were unable to afford learning materials because of poverty. | <ul style="list-style-type: none">• Teachers thought that parents could not afford food and learning materials for children because of poverty, especially in public schools. |
| Distance to school | <ul style="list-style-type: none">• Parents linked distance to school to incidents of overage school enrollment and student absenteeism. | <ul style="list-style-type: none">• Teachers believed that distance to school made both teachers and students tired for effective learning. |
| Poor parent-teacher relationship | <ul style="list-style-type: none">• Parents perceived poor parent-teacher relationships to be a key learning barrier because they led to inadequate parental support for the schools. | <ul style="list-style-type: none">• Poor parent-teacher relationships were also of great concern to the teachers. |



6.2 Some quotes from parents and teachers about learning barriers

“

“...then the other thing is concerning the seating facilities...when you have a large number of pupils and there are inadequate seats, there is no way that children can sit on the few seats and be comfortable...”



A teacher talking about overcrowding



“...in private schools, there is teaching but the parents do not follow up their children's performance but the parent spends the whole year minus coming to school. Then there are parents who come from very far... So tend to rent out houses for their children... So, children have bags where they put clothes and as she reaches on the way, removes the uniform and puts on the leisure clothes...”

”

A parent talking about lack of parental support

“

“...we have big children. These big children as they move long distances to school, they are interfered with and interrupted by a boda-boda who may love to sugar daddy them. If the child is not persistent she may end up being a drop out caused by the boda boda...”



A teacher talking about effects of student age



“...a girl child is the mother and for boys they are fathers in a family. Boys turn into sugarcane shamba boys in search for food, sugar and other basic needs for their families and parents become happy because they are relieved with the burden of taking care of the family. When this continues the child misses school for months, hence, performs poorly at the end of the term...”

”

A parent talking about child labor





7. THE KEY LEARNING BARRIERS

7.1 Hypothesized model of student achievement

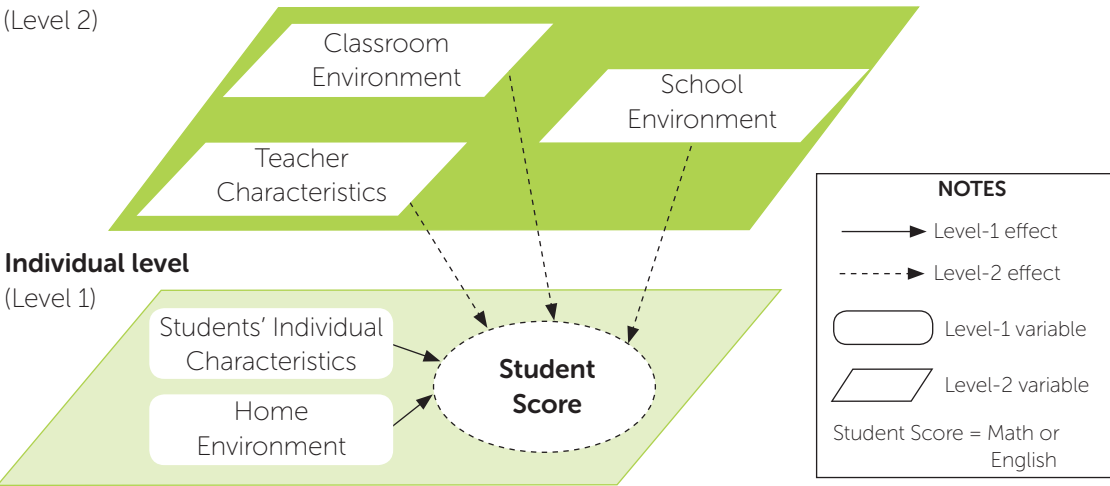
This section reports on the multilevel analyses that were carried out in order to identify what influenced learning outcomes among students in this study. A better understanding of what influences student achievement is essential to understanding learning barriers and, thus, to improving the quality of education.

Figure 7.1 shows the general two-level model that was hypothesized for factors influencing student achievement. The outcome variables of interest in this model were the P6 test scores (by percentage) in mathematics and English. This model was examined separately for mathematics and English data. Similar analyses for P3 data were not considered because P3 students were considered too young to provide reliable information about their backgrounds.

Figure 7.1 ➔ **Hypothesized two-level model of student achievement**

Group level

(Level 2)



The hierarchical structure of the model shown in Figure 7.1 was: individuals (students) at level 1 and groups (schools) at level 2. Two categories of variables were hypothesized to directly influence achievement at the student level: individual characteristics (e.g., sex and age) and home environment (e.g., household wealth index, number of siblings and parents living). Three categories of variables were hypothesized to directly influence achievement at the school level. These were: teacher characteristics (e.g., sex, education and professional qualifications); classroom environment (e.g., class size, classroom resources, textbooks and homework); and school environment (e.g., school resources, type of school, and school mother-tongue use policy). Over 108 different variables were examined in this study, 39 at the student level and 69 at the school level.

7.2 Individual-level barriers

The following individual-level effects on achievement in mathematics and English were recorded among P6 students when other factors were equal.

- Student sex:** Boys achieved better results than girls in both English and mathematics.
- Student age:** Younger students outperformed their older counterparts in both subjects.



- iii. **Grade repetition:** Students who had never repeated classes did better in English and mathematics than students who had repeated classes one or more times.
- iv. **Days absent:** Students who were rarely absent from school or were never absent from school performed better in both English and mathematics than students who were often absent from school.
- v. **Hearing problem:** Students who reported that they had hearing problems achieved lower scores in English and mathematics than students who had no such hearing problems.
- vi. **Reading at home:** Students who reported that, in addition to homework, they often read books at home did much better in English than their counterparts who reported that they rarely or never read books at home.
- vii. **Parents alive:** Students who had both biological parents living performed better in English than students who had lost one or both parents.
- viii. **Mother education:** Students whose mothers (or female guardians) had higher levels of education achieved better scores in English than students whose mothers (or female guardians) had lower levels of education or had not gone to school at all.
- ix. **Pre-primary school attendance:** Students who had attended pre-primary school for longer durations scored better in mathematics than students who had attended pre-primary school for shorter durations or students who had never attended pre-primary school. Pre-primary school attendance was not significant in the English model.
- x. **Homework given and corrected:** Students who were often given homework and had it corrected by their teachers perform better in mathematics than students who were rarely given homework or were given homework that was rarely or never corrected.
- xi. **Number of meals per week:** Students who ate more meals per week were estimated to perform better in mathematics than students who ate fewer meals per week.
- xii. **Learning materials:** Students who had most of the basic learning materials (pencils, pens, rulers, erasers, exercise books and folders) did better in mathematics than students who had limited or no learning materials.

7.3 Group-level barriers

The following group-level effects on achievement in mathematics and English were recorded among P6 students in this study, all other things being equal.

- i. **School location:** Students attending schools located in urban or peri-urban areas outperformed students attending schools in rural areas in both English and mathematics.
- ii. **School feeding program:** For both subjects, students in schools with school feeding programs performed better than students in schools without such programs.
- iii. **School size:** Students attending schools with many students were estimated to perform better in mathematics than students attending schools with fewer students. This effect was not significant in the English model.
- iv. **Teachers' source of lighting:** Students who were taught by teachers who had better sources of lighting at home (gas lamps or electricity) achieved better scores in English than students whose teachers who had poor sources of lighting (fire or candles) or no lighting.
- v. **Teachers' distance to school:** Students taught by teachers who had to travel long distances to school achieved worse results in mathematics than their counterparts whose teachers who travelled shorter distances to school.



- vi. **Teachers' district of origin:** Students taught by teachers who originated from the local district performed better in mathematics than students taught by teachers from other districts.
- vii. **Lesson plans:** Students whose teachers used English lesson plans performed better in English than those taught by teachers who did not use lesson plans.
- viii. **Students' progress reports:** Students who were taught by teachers who kept student progress records for mathematics outperformed those whose teachers did not keep such records.
- ix. **Subject advisor visits:** Students whose teachers were frequently visited by subject advisors in classrooms achieved better scores in mathematics than those whose teachers were rarely visited by subject advisors.
- x. **Lack of parental involvement:** Students whose teachers reported that they frequently faced a lack of parental involvement in their classes were estimated to do worse than those whose teachers said they rarely faced a lack of parental involvement in their classes.
- xi. **Classroom resources:** Students in classrooms with more teaching and learning resources (useable chalkboards, chalk or other markers, wall charts, cupboards or lockers, bookshelves, classroom library or book box, teachers' tables and chairs) performed better in mathematics than students whose classrooms had fewer resources.
- xii. **Mean pre-primary school attendance:** Students in classrooms where a majority of the students had attended pre-primary school before starting P1 were likely to achieve better results in English than students in classrooms where a majority of the students had not attended pre-primary school.
- xiii. **Mean learning materials:** Students in classrooms where most students had basic learning materials, such as pencils, rulers and exercise books, were estimated to achieve better results in mathematics than students in classrooms where most students did not have these learning items.

Predictors with the greatest impact on student achievement

- In mathematics, the most important predictors among P6 students were **school location, subject advisor visits, lack of parental involvement, classroom resources, and average student learning materials, school feeding program, teacher's district of origin, teacher's traveling distance to school, and whether or not the teacher kept student mathematics progress records.**
- The most important predictors of English achievement among P6 students were **school location, school feeding program, mean pre-primary school attendance, teachers' source of lighting, grade repetition, student age and use of lesson plans.**

It is interesting to note that many of the predictors identified as important using multilevel analyses were also identified by teachers and parents in the FGDs as important learning barriers, which shows consistency in results across qualitative and quantitative methods. For example, at the individual level, student age and learning materials were identified as important in the FGDs and also in the study results. At the school level, teachers' distance to school, lack of parental involvement and inadequate preparation of lesson plans by teachers featured in the FGDs and also here.





8. POLICY SUGGESTIONS

A summary of the policy suggestions for the key factors influencing student achievement in this study has been given in Table 8.1. Proposed actions to be taken appear next to each policy suggestion. The relative cost and implementation time for each suggestion has also been indicated. For example, it is suggested that incidences of grade repetition should be reduced. For student at risk, specific actions such as remedial teaching and collaboration with parents are needed. Reduction of grade repetition is a long-term objective but the cost is low.



Image 4 ➔ A group discussions of community leaders during the report validation workshop in Iganga Town

Table 8.1 ➔ Summary of policy suggestions for mitigating learning barriers

| Factor/ barrier | Policy suggestion | Suggested specific actions | Time frame | Cost |
|------------------------------|---|--|---------------|------|
| School location | Improve level of material and human resources in rural schools | <ul style="list-style-type: none"> MoES should conduct an audit in all rural schools to identify shortfalls in school resources (human and material) and rectify shortfalls. | Medium | High |
| Grade repetition | Reduce grade repetition | <ul style="list-style-type: none"> Schools should intervene early, collaborate with parents and provide remedial instruction for students at risk. | Long | Low |
| School feeding program | Introduce school feeding programs in needy schools without these programs | <ul style="list-style-type: none"> Schools should sensitize parents about the importance of school meals in improving learning achievement. Government should work out mechanisms for providing subsidies for parents who cannot otherwise afford these meals. | Medium | High |



| Factor/ barrier | Policy suggestion | Suggested specific actions | Time frame | Cost |
|--|---|--|---------------|--------|
| Pre-primary school attendance | Improve pre- primary school attendance among 3-5 year- old children | <ul style="list-style-type: none"> Government should encourage parents to enroll their 3-5 year-old children in early childhood education (ECD) centers. This can be achieved by educating parents about the importance of ECD for easy transition to school and success in primary school; and increased private sector investment. Ministry of Education should start ECD centers to serve areas with shortages of these centers; and should also attach ECD centers to all primary schools. | Long | High |
| Student age | Reduce incidence of overage students in schools | <ul style="list-style-type: none"> Government should encourage parents to enroll their children at the official school entry age (6 years). Government should discourage grade repetition. | Long | Low |
| Teacher source of lighting | Improve teachers' sources of lighting | <ul style="list-style-type: none"> Government should consider building teacher housing within school compounds, and installing electricity or providing teachers in remote rural schools with gas and/or solar lamps. | Long | High |
| Teacher distance to school | Reduce teachers' traveling distance to school | <ul style="list-style-type: none"> Encourage private sector to build decent rental houses within school neighborhoods. | | |
| Teacher performance not measured | Introduce measurable teaching performance goals | <ul style="list-style-type: none"> Schools should set annual performance goals that are linked to learning outcomes and not to syllabus coverage | Short | Low |
| Low teaching load and lesson attendance | Enhance monitoring of lesson attendance and delivery | <ul style="list-style-type: none"> Students and parents, in addition to school management and DEOs office, should monitor teachers' workload and assignments. | Short | Low |
| Ineffective classroom teaching styles | Enhance professional support for teachers | <ul style="list-style-type: none"> MoES should institutionalize school-based and classroom-based teacher mentoring and coaching | Medium | Medium |
| Subject advisor visits | Increase subject teacher visits to classrooms | <ul style="list-style-type: none"> Ministry of Education should encourage and facilitate subject advisors to visit all classrooms more often to assist teacher in improving school attendance, lesson attendance and, ultimately, learning outcomes. | Medium | Medium |



| Factor/ barrier | Policy suggestion | Suggested specific actions | Time frame | Cost |
|---|--|--|---------------|--------|
| Lesson plans | Improve teachers' lesson preparedness, especially in schools in rural areas | <ul style="list-style-type: none"> Head teachers and subject advisors from the Ministry of Education should mentor and coach teachers on use of lesson plans and student progress records in schools. | Short | Low |
| Student progress records | | | | |
| Lack of parental involvement | Reduce incidence of lack of parental involvement in schools | <ul style="list-style-type: none"> MoES should train teachers to deal with lack of parental involvement. MoES should conduct a trial of intervention programs in selected areas for improving parental involvement and interest in children's school work. If successful, implement these programs across the IMHDSS and across Uganda in general. | Long | Medium |
| Classroom resources | Improve levels of classroom resources in schools | <ul style="list-style-type: none"> MoES should conduct an audit in all classrooms, especially in public schools, and fix shortages. Involve parents in procurement and delivery mechanisms. | Medium | High |
| Learning materials | Improve levels of learning materials among students | <ul style="list-style-type: none"> Schools should encourage parents to provide all children with at least one of each of the following basic learning materials: pencil, pen, eraser, ruler and folder; and replace them regularly. The ministry should provide each child with at least one exercise book for each key subject in the curriculum, in a timely manner. | Short | Medium |
| Teacher originating from outside local district | Improve the performance of teachers from outside the local district | <ul style="list-style-type: none"> MoES should conduct a survey to identify the teaching challenges faced by teachers from outside the local district. When challenges are identified, the [ministry/ government] should brief newly appointed and existing teachers on dealing with them. | Medium | Low |
| Language of instruction in lower grades | Promote the use of local language as a medium of instruction in lower grades | <ul style="list-style-type: none"> DEO should regularly monitor and report on the uptake of the language of instruction policy | Short | Low |





9. COMMUNITY FEEDBACK

As part of validating the study findings and to obtain feedback from the study community, APHRC, in collaboration with the IMHDSS, held a one-day workshop involving education stakeholders at Mum Resort in Iganga Town on 04 June 2015. In attendance were 40 participants, including the resident district commissioner (RDC) of Mayuge, the county administration officers (CAOs) of Iganga and Mayuge, and the district education officer (DEO) of Iganga. The local Member of Parliament was represented by his personal assistant. Other senior officials who sent representatives to this meeting included the DEO of Mayuge and the RDC of Iganga. The meeting was also attended by four head teachers, seven teachers, three religious leaders (two Christians and one Muslim) and parents’ representatives, including four members of School Management Committees.

Sections 9.1 to 9.3 present the discussion points that came out of the feedback sessions with workshop participants on the key findings that were presented. The participants identified and discussed three key issues, which, they argued, could explain the poor learning results:

- i. Low student-teacher contact time
- ii. Teacher unpreparedness to teach
- iii. Lack of parental involvement



Image 5 ➔ Students move from one learning space to another between lessons

Table 9.1 Key issue ➔ **Low student-teacher contact time**

| How can student-teacher contact time be improved? | Why is this not happening currently? | What are the specific actions that can be taken? |
|---|---|---|
| i) Increase school attendance among students (that is, reduce student absenteeism) | Parents are ignorant about their children’s education and therefore engaging them in income-generating activities like sand and sugarcane harvesting. | <ul style="list-style-type: none"> Schools should make parents aware of the importance of schooling (some parents believe that school is for the rich or is a waste of time). The government should take a hard stand on parents who fail to enroll their children in school (e.g., enforcing bylaws on child labor; make them aware of the outcome of not enrolling their children in school). |
| | Poor monitoring of attendance by schools and teachers | <ul style="list-style-type: none"> Teachers should improve follow-up on student attendance (e.g., by keeping proper students registers; following up with parents and coming up with solutions together with parents in case of absenteeism). |



| How can student-teacher contact time be improved? | Why is this not happening currently? | What are the specific actions that can be taken? |
|---|--|---|
| | | <ul style="list-style-type: none"> Schools should keep parents' contacts to enable follow-up on educational matters relating to their children, such as attendance. |
| | Lack of meals in schools | <ul style="list-style-type: none"> Schools should provide meals to students to avoid absenteeism in the afternoons caused by students going home for lunch and not returning. |
| | High rates of teacher absenteeism adversely influence students | <ul style="list-style-type: none"> Schools should reduce teacher absenteeism in order for teachers to be good role models to students. |
| | Poor teacher-student relationships (use of corporal punishment, for example, keeps students away from school). | <ul style="list-style-type: none"> Schools should improve teacher-student relationships to reduce student absenteeism caused by fear of teachers. |
| | Negative peer influence among students | <ul style="list-style-type: none"> Teachers and parents should empower students to reject negative influences from their friends |
| | Lack of interest in education on the part of students | <ul style="list-style-type: none"> The ministry should improve teaching and learning resources, such as charts and chalkboards to increase student interest and thus attendance. Head teachers and subject advisors should encourage teaching methodologies that increase student participation and, as a result, interest in learning. Schools should engage students and motivate them to attend school from the first day, thus keeping them in school for the rest of the year |
| | Students are often suspended from school for failing to fulfil school requirements like school fees and uniforms | <ul style="list-style-type: none"> Schools should find more fruitful ways of dealing with students who fail to fulfil school requirements. |
| ii) Reduce teacher absenteeism | Demotivated teachers due to poor pay and delayed salaries. | <ul style="list-style-type: none"> MoES should increase teachers' pay based on the performance of the teachers Government should pay teachers' salaries promptly. |
| | Poor working conditions, such as poor head teacher-teacher relationships and lack of lunch. | <ul style="list-style-type: none"> Head teachers should ensure good working relationships with their teachers in order to motivate them. |
| | Lack of teaching materials | <ul style="list-style-type: none"> Schools should provide teachers with the requisite teaching materials in order to motivate them to teach |
| | Ineffective financial management by teachers leads to low living standards and, as a result, demotivation | <ul style="list-style-type: none"> Schools should educate teachers how to manage personal finances (e.g., how to access and use loans and other credit facilities). |



| How can student-teacher contact time be improved? | Why is this not happening currently? | What are the specific actions that can be taken? |
|---|--|---|
| | Long traveling distance to school | <ul style="list-style-type: none"> Government should consider building teacher housing near schools to lessen the distance they have to cover each day. Teachers should be encouraged to rent houses close to schools. |
| | Poor supervision of teachers | <ul style="list-style-type: none"> Improve monitoring and supervision of teachers by School Management Committees, head teachers, District Education Officers, school inspectors and community. |
| | Head teacher absenteeism | <ul style="list-style-type: none"> Tackle head teacher absenteeism through supervision by school inspectors and DEO. (Currently, head teachers are often absent. This leads to teachers also skipping school, followed by students.) |
| iii) Reduce time wastage in class | Some teachers not prepared for the lessons while some unwittingly wasting substantial lesson time on non-learning activities | <ul style="list-style-type: none"> Teachers should prepare better for lessons and improve time management in class to avoid wasting time on non-learning activities. |
| iv) Reduce overcrowding in classrooms | Understaffing and overcrowding in schools leads to teacher exhaustion, thus fewer teaching hours than recommended. | <ul style="list-style-type: none"> Government should ensure that all schools have sufficient classes and teachers to increase teacher-student contact and reduce the burden on teachers. Family planning could be a long-term and indirect solution to improving the quality of education by reducing overcrowding in classrooms. |

Table 9.2 Key issue → Teachers unprepared to teach

| How can teacher preparedness be improved? | Why is this not happening currently? | What are the specific actions that can be taken? |
|---|---|---|
| i) Support teachers to teach better | Poor knowledge of subject-matter content among teachers | <ul style="list-style-type: none"> MoES should offer regular refresher courses to update teachers' content knowledge |
| | Frequent changes in the curriculum | <ul style="list-style-type: none"> The government should avoid frequent curriculum changes. |
| | Inadequate supply of teaching and learning materials | <ul style="list-style-type: none"> Government should ensure that all schools are supplied with adequate teaching and learning materials Government should increase the capitation grant, which is part of the UPE policy, to enable efficiently run schools and ensure quality education. |



| How can teacher preparedness be improved? | Why is this not happening currently? | What are the specific actions that can be taken? |
|--|--|--|
| ii) Improve use of schemes of work and lesson plans | <p>Ineffective implementation of schemes of work and lesson plans by teachers</p> <p>Some teachers do not follow schemes of work, concentrating on certain subjects or topics while neglecting others, thus causing an imbalance in teaching and learning.</p> | <ul style="list-style-type: none"> Head teachers should ensure that teachers have schemes of work and lesson plans and that they implement them. |
| iii) Remove unqualified teachers from the system | <p>Because of corruption, there are many cases of unqualified teachers and even impersonators (unqualified teachers).</p> <p>Some head teachers collude with unqualified teachers.</p> | <ul style="list-style-type: none"> MoES/ School boards should put mechanisms in place to identify and punish unqualified teachers, together with corrupt head teachers in the system. |
| iv) Encourage teachers to use their own classroom tests to assess students. | <p>Unproductive student evaluation methods, such as buying of tests to assess students, is common</p> | <ul style="list-style-type: none"> Head teachers should encourage teachers to evaluate their students effectively by, for example, setting examinations with relevant content. |

Table 9.3 Key issue → **Lack of parental involvement**

| How can parental involvement be improved? | Why is this not happening currently? | What are the specific actions that can be taken? |
|--|--|--|
| i) Encourage parents to provide children with basic learning materials (e.g. pencils, rulers and erasers) | <p>Poverty in households.</p> <p>Some parents think that learning materials are government responsibility.</p> | <ul style="list-style-type: none"> Schools should sensitize parents on the importance of providing their children with basic learning materials. |
| ii) Encourage parents to show interest in their children's schoolwork | <p>Some parents believe that education is for the rich and that it will not make a difference in their children's lives.</p> | <ul style="list-style-type: none"> Schools should encourage parents to check homework and to attend school meetings to discuss their children's performance with teachers. Schools should encourage parents to monitor their children's whereabouts to ensure that the children attend school every day. Schools should discourage parents from involving their children in income-generating activities (e.g., harvesting sugarcane) during school days. |



| How can parental involvement be improved? | Why is this not happening currently? | What are the specific actions that can be taken? |
|---|--|---|
| | | <ul style="list-style-type: none"> Schools should hold frequent parent-teacher meeting to update parents on their children's progress. Schools should involve parents and guardians in school activities to gain their interest and ownership. |
| iii) Encourage parents to take their children to pre-primary schools | There is no policy in place requiring children to attend pre-primary school. | <ul style="list-style-type: none"> Government education policy should focus on the importance of early childhood education as a good foundation for future education. |
| | Primary schools and pre-primary schools are not allowed to be under the same management or in the same compound. | <ul style="list-style-type: none"> Allow pre-primary schools to be under the same management as existing primary schools that already have the infrastructure. (The meeting was informed that the government is in the process of creating a policy on pre-primary school education) |
| | Communities do not value pre-primary school education. | <ul style="list-style-type: none"> Government should educate the community on the importance of pre-primary school education. |
| | The long distances to school discourage parents from enrolling their children in pre-primary school. | <ul style="list-style-type: none"> Build more pre-primary schools to improve accessibility |
| | Too few pre-primary school teachers | <ul style="list-style-type: none"> Train more pre-primary schoolteachers and refresh existing pre-primary school teachers' knowledge. |



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ABBREVIATIONS

| | |
|---------------|---|
| ACS | Average Class Size |
| APHRC | African Population and Health Research Center |
| DEO | District Education Officer |
| EFA | Education For All |
| FGD | Focus Group Discussions |
| IMHDSS | Iganga Mayuge Health and Demographic Surveillance System |
| MoES | Ministry of Education and Sports |
| SACMEQ | Southern and Eastern Africa Consortium for Monitoring Educational Quality |
| STR | Student-Teacher Ratio |
| UNCST | Uganda National Council of Science and Technology |
| UNEB | Uganda National Examinations Board |
| UPE | Universal Primary Education |



