

18th October 2019

**Learning in Ghana: Exploring the challenges faced by pupils
and teachers at government and private schools in Central
Region**

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For IDP Foundation

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List of Acronyms

- CAPI - Computer-Assisted Personal Interviewing
- EMIS - Education Management Information System
- EPG - Education Partnerships Group
- GER - Gross Enrolment Rate
- GES - Ghana Education Service
- IDP - Innovation Development Progress
- JHS - Junior High School
- NEA - National Education Assessment
- NEAU - when does this appear first? Check it's spelled out
- NER - Net Enrolment Rate
- PCA - Principal Component Analysis
- PTA - Parent Teacher Association
- SDG - when does this appear first? Check it's spelled out
- SHS - Senior High School
- SMC - School Management Committee

1. Introduction

Ghana has ambition to develop its education system to live up to the country's relatively new middle-income status. To date, several sectors of the economy, as well as the education sector, have not reached the quality expected. In an effort to understand the levels of learning resulting at Ghana's primary schools, the government has been partnering for the last 15 years with USAID to run the National Education Assessment (NEA). The assessment has tested a nationally representative sample of Primary 4 (P4) and Primary 6 (P6) pupils every other year, yielding consistently poor results from one round to the next, with great disparity in achievement between urban and rural pupils; government and private school pupils; and those from deprived districts as compared with those from non-deprived districts. There has not been any research to investigate these findings, to help government to understand what the issues are and how shortcomings in Ghanaian primary schools can be remedied. To know that test scores are poor, and that there is disparity, is just a beginning.

This study was conceived of as an attempt to start to answer the question of what is going on at government and private schools, and in rural and urban areas, that might explain disparity in test scores. This research does not make claims regarding causes of higher or lower learning outcomes, because the study only investigates factors surrounding one discreet NEA testing session, conducted in July 2018. However, the study documents issues correlated with learning that might be explaining different types of outcomes.

The 2018 NEA tested pupils at 550 schools nation-wide, in a nationally representative sample of schools. This research involved visiting all of the schools in Central Region, interviewing Head Teachers, teachers and P4 pupils' parents or guardians to build a picture of the factors potentially shaping pupils' test scores. The results show that living in an urban areas, as well as the socioeconomic profile of the family, and the educational attainment of the head of the household had a significant association with the pupil's test scores, but it is also found that attending a private school had a significant, positive relationship with NEA scores, even after taking these other factors into account.

The report provides some background to the NEA in section 2, before presenting the conceptual framework, research questions and methodology in section 3. The bulk of the report (section 4) is dedicating to presenting the findings in relation to our four main research questions, while section 5 brings out the implications and recommendations, and section 6 concludes.

2. Background

Ghana has entered middle-income status with high projected annual growth of 7 percent¹, from an economy spurred by strong industrial and agricultural sectors. The country's population is approaching 30 million people, 45 percent of whom live in rural areas, and is experiencing population growth of 2.2 percent per year. The population share of children aged 14 years or less is 39 percent; and it is the government's responsibility to provide free education for all children aged 4-14 years.

Ghana has achieved a high rate of participation in schooling, however there is still a considerable challenge of getting all children into school, with 682,596 children and 278,807 adolescents out of school in 2018. In addition, the country has a significant issue with over-age enrolment, which has been found to significantly impact children's likelihood of progression to completion of basic school (pre-primary, primary and junior high school (JHS)) and senior high school (SHS)². At the pre-primary level, the gross enrolment rate (GER)³ was 113 percent in 2018, while the net enrolment rate (NER)⁴ was 72 percent. At the primary level, the GER was 103 percent in 2018 and the NER 84 percent⁵. Overall 81.6 percent of children make it to the final grade of primary school. Of those children completing primary schooling, 93.7 percent make the transition to the secondary level. In 2017, the government spent 4.5 percent of GDP and 20.1 percent of total government expenditure on education⁶.

At the same time as schooling participation has grown in Ghana over the last ten years without improvement in quality, so has enrolment in the private schooling sector. This has been attributed, by World Bank researchers, to significant population growth and migration to urban areas, coupled with the government's failure to keep pace with demand for school places⁷. The World Bank researchers worked in Kasoa, Central Region (just outside of Greater Accra, and part of this study's research area), finding that the government system was slow to expand, with only 10 government schools operating in 2010, while the researchers found that between 2000 and 2012, an average of *14 new private schools per year* were opened in Kasoa⁸. School census data and the NEAU's sample for the NEA show that this private schooling growth has not been even across the country, with richer and more urban areas seeing a greater proliferation of private schools.

Yet growing access to schooling, through this combination of private and government schools, has not led to good quality learning outcomes and equity in learning. The Ministry of

¹ World Bank (2019).

² Lewin (2007).

³ GER is the total enrolment at a specific level of education, regardless of age, expressed as a percentage of the population in the official age group corresponding to the relevant level of education.

⁴ NER is the total enrolment of children within the official age group for a specific level of education, expressed as a percentage of the total population in this official age group.

⁵ UNESCO Institute for Statistics (2019).

⁶ UNESCO Institute for Statistics (2019).

⁷ Abdul-Hamid, H., Baum, D., Lewis, L., Lusk-Stover, O. and Tammi, A. M. (2015).

⁸ Abdul-Hamid, H., Baum, D., Lewis, L., Lusk-Stover, O. and Tammi, A. M. (2015), p.5.

Education in Ghana is currently showing interest in harnessing the power of the private education sector in its quest to achieve SDG4, as evidenced by their interest in partnerships with the private sector.

The National Education Assessment Unit of Ghana Education Service (GES) undertakes the nationally representative NEA every two years to try to measure learning levels in government and private schools. The NEA is a curriculum-based measure of pupil competency in mathematics and English, for P4 and P6 pupils at government and private schools. In 2018, the seventh round was conducted, covering 550 schools across all 10 regions of the country⁹. Over 35,000 children were assessed in July 2018, and the report of results finds that the performance of P4 and P6 pupils was generally low, with only 19-25 percent of pupils (across grades and subject areas) meeting the NEA criterion for proficiency (set at a low bar of 55 percent). The results in 2018 were lower than in 2016, but the difference was found to be statistically (if not practically) significant. Even worse, the results are characterised by glaring disparity as noted above, indicative of severe inequity (except for by sex)¹⁰.

The NEA results were also analysed using multivariate (regression) techniques, but this analysis was restricted to variables at the school level, meaning that any aspects of children's backgrounds that might impact on learning could not be analysed. The analysis did find that teachers having a professional degree, and more access to English textbooks were statistically significant factors in NEA scores. The 2018 report notes that the modelling resulted in much variation still unexplained, and that in the absence of prior achievement results or any measure of pupils' innate abilities, this was to be expected.

With this understanding of the poor learning outcomes documented by successive NEA rounds, the report will now set out the framing of the issues, providing a foundation for the research questions, before elaborating the methodology for data collection and analysis.

3. Conceptual Framework, Research Questions and Methodology

3.1. Framing the study

The purpose of this study was to flesh out and expand on the limited analysis possible using the information contained in Education Management Information System (EMIS) data for a school in conjunction with their NEA scores. While all contexts have very large sets of political

⁹ It was after this assessment that the number of Regions was expanded to 16, so we refer here to the number of regions as it was at that time.

¹⁰ Ministry of Education, Ghana Education Service and the National Education Assessment Unit (2018) *Ghana 2018 National Education Assessment Report of Findings*. Accra, Ministry of Education, Ghana Education Service and the National Education Assessment Unit, p.24.

economy factors that undeniably impact on education systems and should not be ignored (see the outer blue ring in Figure 1) with Ghana being no exception, examining these factors was outside of the scope of this study¹¹. Since the government is especially interested in why test scores are higher at *private schools* as compared with government schools, this study set out to examine differences in the *proximate determinants of learning* in the two school sectors. Figure 1 shows these proximate determinants – the factors or inputs that are closest to the learning process and should ideally result in learning (if they are fit for purpose and working well) – in the inner ring. These include teachers, learners (referred to in this report as pupils), school inputs and school management, and these are all things we could examine through a school-based study that also extended to the household level. These factors are described as ‘those most directly linked to learning outcomes... themselves the result of deeper determinants’¹² (the latter being represented in blue in the figure). While all of the ‘less proximate’ or ‘deeper determinants’ are important, the government is particularly interested in the differences between government and private school, which essentially means seeking an understanding of how the proximate determinants of learning in the two sectors work and how they differ.

Figure 1: Framing the crucial ingredients of a system geared towards learning

¹¹ However, these issues do warrant examination and consideration by policymakers.

¹² World Bank (2018), p.78.



For this reason, the study focused on the outcome evidence available through the biennial NEA exercise – the test scores and how they differ between sectors (research question 1). Then, the four key proximate determinants and how they differ by school type (research question 2); and finally, how they are correlated with the test score evidence (research question 3). To consider these in somewhat more context, after addressing research question 3, the report provides some information on unit costs and the cost to families of accessing the two school types. The end results provide indications of factors that could be established through further research to be causal (or not) of learning outcomes, and indications of things that could be improved in schools, government, private or both sectors.

The three research questions:

- Research Question 1. *How does the literacy and numeracy performance of Primary 4 (P4) pupils compare between government, and private schools, with special focus on low-fee private schools?*
- Research Question 2. *How do pupil, household, teacher and school characteristics (e.g. pupil background, teaching practice, school management, and school fees) vary within and among school types?*
- Research Question 3. *To what extent are household, pupil, teacher, and school- level factors correlated with student achievement?*

To investigate these questions meant to examine ‘learner preparation’ (factor 1 in the framework) which is taken to include the socioeconomic background of the pupils; whether they attended pre-primary schooling; the general state of the child’s health and nutrition. Secondly, with teachers proving ‘the most important determinant of student learning’ at the

school level¹³ the questions mean an examination of teachers' skills and motivation (factor 2 in the framework). Thirdly, the report delves into the degree of effective management of schools, which encompasses leadership skills and abilities, as well as the level of autonomy school managers have in their work (framework factor 3). Lastly, the degree to which school inputs have kept pace, which includes the availability of core resources such as textbooks, teachers and classrooms (factor 4 in the framework)¹⁴.

The section setting out the findings to research question 2 will be structured according to the four factors in this framework. The section answering research question 1 sets out test scores disaggregated by school type, area of residence and wealth. The section addressing research question 3 uses variables or indicators that were found to be associated with test scores through the analysis of research question 2.

3.2. The Research area, sampling and sample size

3.2.1. Determining the study's scope and geographical area

Through discussions with the data collection firm, DataPlas, and in the context of constraints regarding the scope of this study determined by the amount of funding available, the number of schools that it would be possible to include in the study was established to be approximately 50. With the scope established, it was determined that it would be preferable to be able to speak with some depth regarding one region, rather than gathering thinner data from more than one region, which led to the decision to study schools in one of Ghana's ten existing regions. When it was established that all of the regions had NEA samples of 55 schools, it was determined that funding could be provided to include all 55 schools for one region in our study. Choosing the study region was guided by the requirement of a sufficient number of private schools to compare with government schools, which ruled out any of the poorer regions of the country, where deprived districts are found. Central Region (with no officially-designated deprived regions) was selected for being the lowest-performing region in the country with a sufficient number of private schools for our purposes. The NEA's sample for each region is representative at that level (and nationally), but not at the district level.

3.2.2. Selecting individual respondents

The categories of respondents in the study correspond most immediately to one of the four factors: pupils, teachers, management and inputs, however all groups of respondents also provided information and triangulation of information from the other categories of respondents, on all of these *proximate determinants of learning*. All Head Teachers at the 55 schools were interviewed to understand primarily factor 3, school management, but also to understand elements of the other three factors also, and to gain an overall picture of the

¹³ World Bank (2018), p.80.

¹⁴ World Bank (2018), pp.78-83.

school. To understand factor 2, teacher skills and motivation (and others), two teachers were selected for interview and classroom observation. The selection of teachers was complicated somewhat through some schools employing a 'class teacher' approach, where a single, designated teacher teaches most of the subjects to each class. This was described as the norm through p4, with various subject teachers employed from P5 onwards. However, in some schools, subject teaching started in P4. With these circumstances ruling out the simple selection of English and mathematics subject teachers, instead one P4 teacher and one P3 teacher were selected. Wherever possible, these were teachers who had taught the focus (assessed) children in the past. One classroom observation was done during an English period, while the other was during a mathematics period; interviews were conducted at school, but removed from the hearing of any of the teachers' colleagues or pupils.

With regard to factor one, pupil preparation (as well as aspects of all three other factors), parents or guardians of all children assessed during the NEA 2018 were selected for interview. It was initially intended that an upper limit of 25 household interviews per school would be set, however with relatively small class sizes and difficulty in finding some children or their parents, meant that in most schools, most children's parents or guardians were sought but not all were found. Interviews were usually conducted in the home, however in some extremely remote cases interviews had to take place at the school, instead of in the household. Out of 1,474 total P4 pupils from Central Region who took part in the NEA in July 2018, 958 complete parent interviews were conducted (65 percent of the total possible). Informed consent was sought from each respondent, with interviewers prepared to carefully go through the reasons for the study, the anonymisation of their responses, and respondents' right to refuse to participate at all, or to answer any particular questions with which they were not comfortable. The study was reviewed and approved by the Ethics Committee for the Humanities at the University of Ghana on 5th April 2019.

3.2.3. Focusing on low-fee private schools

The main focus, at the request of the Ministry of Education and Ghana Education Service, was on low-fee private schools, as opposed to those serving the well-off. However, the 2018 NEA report recommended that performance in low-fee private, high-fee private and government schools be tracked, as three distinct categories across two school sectors. There was no information in advance as to what fee levels were charged at the 17 sample private schools, and in any case the choice of schools was pre-determined as those having taken part in the NEA.

After the data was collected fee-level categorisation was possible. Based on the P4 tuition fee alone, it was clear that two schools were higher-fee outliers and could not be considered low-fee. Inevitably there is variation in the remaining 15 schools, however the fees are low enough for these to be determined as being 'low fee' (Table 1). The fee levels were also compared

with the fee levels of private schools found in very low-income areas of Greater Accra in a recent study by Härmä¹⁵. In both the Accra study and the present study the fee alone (as detailed in Table 1 below) was found to represent approximately 40 percent of the total cost of sending a child to private school. Innovation Development Progress (IDP) Foundation, based on over a decade of work in Ghana, has classified ‘low fee’ schools as those whose complete costs are 1,604 Cedis per annum or less. If the main tuition fee is 40 percent of this figure, then those charging a fee of 641 Cedis or less are low-fee as per IDP Foundation’s definition. Based on the above experience and research, it is confidently asserted that 15 out of the 17 sample schools are low-fee schools.

Table 1: Primary 4 tuition fees per year for all 17 sample private schools

Fee level	Cedis	US\$	Category
High-fee	2,397	\$468.16	High fee
High-fee	990	\$193.36	High fee
Low-fee	615	\$120.12	Low fee
Low-fee	600	\$117.19	Low fee
Low-fee	540	\$105.47	Low fee
Low-fee	495	\$96.68	Low fee
Low-fee	480	\$93.75	Low fee
Low-fee	420	\$82.03	Low fee
Low-fee	360	\$70.31	Low fee
Low-fee	291	\$56.84	Low fee
Low-fee	270	\$52.73	Low fee
Low-fee	270	\$52.73	Low fee
Low-fee	252	\$49.22	Low fee
Low-fee	216	\$42.19	Low fee
Low-fee	210	\$41.02	Low fee
Low-fee	90	\$17.58	Low fee
Low-fee	81	\$15.82	Low fee

Because there were too few higher-fee schools to create fee bands of schools (and in addition, one did not allow the research teams to interview pupils’ parents), the bulk of the analysis below focuses exclusively on low-fee private (referred to simply as ‘private’) and government schools.

¹⁵ Härmä, J. (2017) *Study of Low-Fee Private Schools in the Slums of Accra, Ghana*. Unpublished report for Capital Plus Exchange, Chicago.

3.3. Instrument development and enumerator training

The four instruments for data collection were developed by the Principal Investigator with collaboration from the Education Partnerships Group (EPG) and IDP teams, both in Ghana and outside (London and Chicago), as well as inputs from the data collection firm, DataPlas in Accra. The instruments were programmed into an electronic format (computer-assisted personal interviewing or CAPI) so that interviews would be conducted using electronic tablets.

Enumerators and field supervisors were trained in Accra for 5 days and training was led by the Principal Investigator with support from IDP, EPG and DataPlas. Training involved group reading and discussion of the questionnaires, role play, and (for classroom observation) repeated practice using videos of lessons and discussion between observers until agreement was reached on observation approach. The instruments developed further through this process. On the sixth day the pilot was conducted in the field at government and private schools (and associated households). Afterwards, the entire team came together to share experiences and information on what aspects or questions might still require some alteration. The Principal Investigator and the DataPlas team then worked together for the next five days to finalise the CAPI for the start of the fieldwork on 16th May 2019. The data collection last for just over three weeks.

3.4. Data collection

The approach to the data collection was agreed between the study partners, with structured interviews with Head Teachers; two teachers per school; and a parent or guardian of all P4 pupils assessed in the 2018 NEA (see Table 2 for numbers of interviews completed).

Table 2: Data collection: numbers of completed interviews, by school type

	Government			Private		
Schools	38			17		
Pupils	1,085			389		
	Girls: 548	Boys: 532		Girls: 199	Boys: 189	
Classroom Observations	75			34		
Head Teacher Interviews	38			17		
Teacher interviews	74			33		
	P3: 37	P4: 32	Other: 5	P3: 16	P4: 11	Other: 6
Guardian interviews	716			243		

*Note, child's sex missing for 5 government school pupils and 1 private school pupil.

The Head Teacher questionnaire gathered basic information on all four of the framework factors in learning. The instrument gathered information about the Head Teacher her- or himself; their teaching staff and the way the school is managed and funded; any fees or costs that parents must pay; and challenges faced. Teacher questionnaires were aimed at understanding the teacher's background in terms of their own education and their preparation for teaching, as well as gathering information on factor 1 (pupil preparation), factor 3 (management) and factor 4 (school inputs). Many questions were aimed at triangulating Head Teachers' reports regarding school management and several questions were aimed at documenting issues that teachers face at school, from their own preparation to teach, to issues they face in their work. Some teacher and Head Teacher questions which may not appear to measure management, were adapted from the World Management Survey to understand factors to do with school leadership. Household interviews were conducted as structured interviews, to investigate factor 1 (pupil preparation) primarily and secondarily factor 4 (school inputs), but also to triangulate information from teachers and Head Teachers regarding the other two factors.

Classroom observations were done using the Stallings approach¹⁶, taking snapshots of teachers' and pupils' activities every three minutes for thirty minutes, recorded on a schedule that lists different types of activities. Data collectors observed the class period from the start to the end, no matter what length of period (some were as short as 40 minutes while other schools would dedicate double periods to one lesson). In addition to the ten snapshots of classroom activity, data collectors filled in, immediately after (or partially during) the lesson, an accompanying questionnaire regarding the types of teaching and learning approaches employed during the lesson, as well as the classroom infrastructure, materials and furniture available for the class. The number of pupils present (and the number of pupils in the class register) was also recorded, along with the numbers of textbooks, exercise books and pens or pencils. Through this questionnaire a wide range of positive and negative practices were recorded. At the same time, qualitative findings were being recorded (via detailed note taking) by senior project staff during these classroom observations.

3.5. Description of the techniques for data analysis

Descriptive statistical tables show relationships between government and private (and/or rural and urban) school attendance and a range of factors to do with our four 'proximate determinants of learning' (the four factors). Parts of the analysis are purely descriptive, to give a picture of government and private schools; other parts look at aspects of schools and households, to examine relationships between factors and pupils' NEA scores. Discussion around these tables will help to build a picture of government and private schools. These

¹⁶ Bruns, Schuh-Moore and Adelman (2017).

sections build a foundation regarding relationships between the various factors in learning and NEA scores, which inform the multivariate analysis.

Principal Component Analysis (PCA) was used for arriving at an asset index score for each household to reflect the family's wealth, and these scores are used to assign focus children to a 'wealth quintile', where quintile 1 is the poorest 20 percent, while quintile 5 is the richest 20 percent. This approach is used because 'assets capture longer term dynamics much better than a measure of income at one or two points in time... as well as representing wealth and status, having a sufficient level of assets also offers security, such that households can insure themselves against shocks, and gain easier access to credit'¹⁷. This approach offers much greater reliability than trying to gather cash income amounts from respondents where various income employment is agricultural or informal, meaning no regular, fixed income. Appendix A provides the details of the assets that were recorded and used for calculating the index. Ordinary least squares regression analysis was used to analyse the relationship of a large number of independent variables with the dependent variable (pupils' NEA test scores).

Elaborate when EPG finishes RQ3 analysis.

4. Research Findings

The following, longest section of the report presents the research findings, arranged in order of the research questions. Due to the volume of material called upon to answer research question 2, the information in that section is arranged by the four factors of the study's framework. Presentation of the analysis and discussion are synthesised around the data tables. The first sub-section answers the first research question.

4.1. Research question 1

How does the literacy and numeracy performance of P4 pupils compare between public and private schools, with special focus on low-fee private schools, and between rural and urban schools?

The sub-section begins by presenting the 2018 NEA results for the sample 55 schools in Central Region, against the backdrop of the national results for all 550 NEA schools. Figure 2 presents the proportions of children scoring in the three achievement levels used by the NEAU. These levels are:

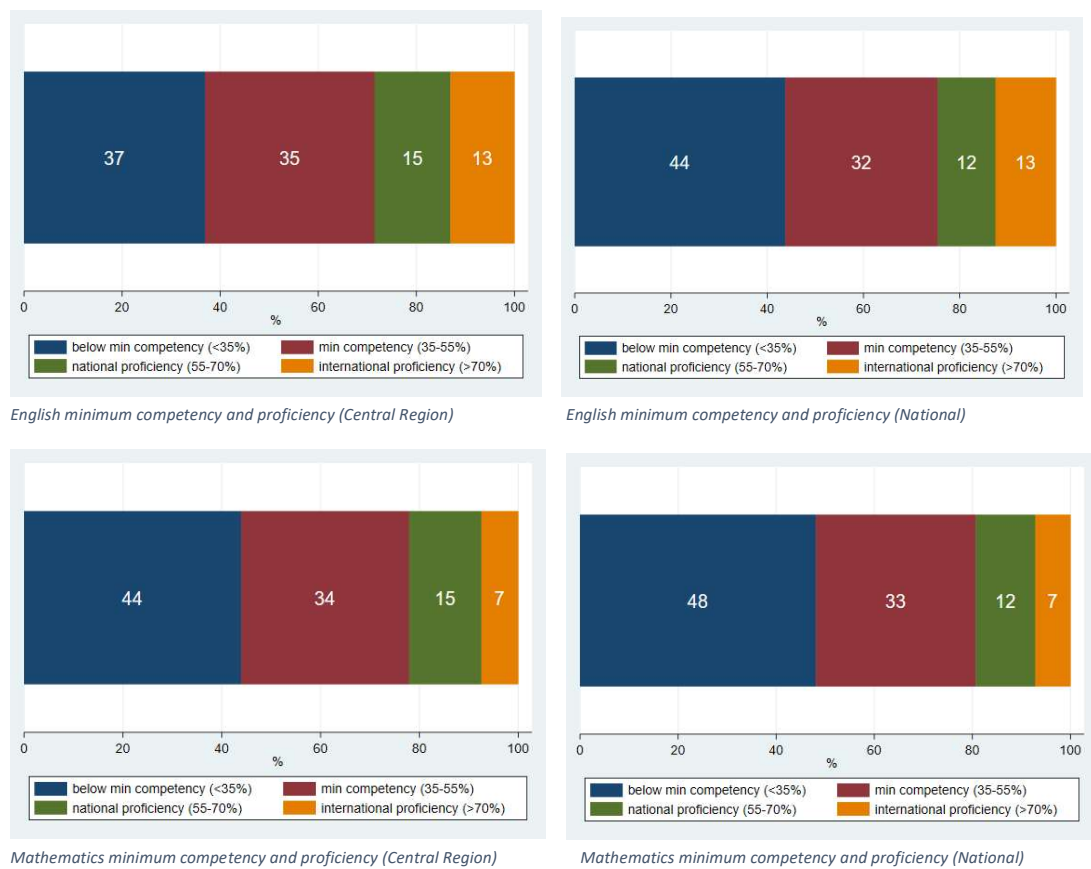
- Up to 35 percent: below minimum competency
- 35 percent up to just below 55 percent: minimum competency
- 55 percent and above: proficiency

¹⁷ Hulme and McKay (2005), p.9.

However, an additional achievement level of 70 percent and above is also presented, being a level more widely viewed as a target achievement level. Four levels are used, for example, in the National Assessment of Educational Progress in the United States, which is comparable to the NEA in being a biennial, nationally-representative, sample-based learning assessment¹⁸.

Figure 2 shows that a worryingly large share of all assessed P4 pupils in Ghana scored in the lowest category, ‘below minimum competency’, in English and mathematics: 44 percent and 48 percent, respectively. Very small shares of pupils scored in the highest category, over 70 percent: 13 percent in English and only 7 percent in mathematics. For Central Region the results are somewhat better, at only 37 percent and 44 percent of pupils failing to reach just 35 percent scores in English and mathematics, respectively. However, these results are a matter of great concern, particularly in light of the fact that none of Central Region’s districts are officially classified as ‘deprived’.

Figure 2: 2018 minimum competency, proficiency and international proficiency results: English and mathematics – national results and for Central Region



¹⁸ National Center for Education Statistics (2019).

Table 3 shows national results in terms of the mean percentages of items correct by core demographic groups, showing that there is little difference between boys and girls at the P4 level. These results show clearly the difference between higher scoring urban pupils versus their rural peers, as well as non-deprived versus deprived pupils. However, by far the largest difference in raw scores is seen between government and private school pupils. Despite this clear advantage for private schools, it should be noted that the private school mean score is still below 70 percent in both subjects, and is even below the nationally designated proficiency level of 55 percent in mathematics. While there is a clear *relative* advantage for private schools in terms of raw test scores, *these scores should still not be regarded as being good enough*.

Table 3: NEA national results: mean percentages of items correct, by core demographic variables

Category		P4		P6	
		Mathematics	English language	Mathematics	English language
Sex	Male	41.25%	43.39%	44.64%	41.86%
	Female	40.87%	45.58%	43.07%	43.13%
	Difference	0.38%	-2.20%***	1.57%***	-1.27%***
Locality	Urban	45.90%	51.14%	47.07%	48.92%
	Rural	37.31%	39.37%	41.41%	37.57%
	Difference	8.60%***	11.77%***	5.67%***	11.35%***
School Type	Public	37.43%	39.71%	41.80%	38.77%
	Private	54.42%	62.15%	52.46%	57.99%
	Difference	-16.99%***	-22.45%***	-10.66%***	-19.22%***
Deprivation Status	Non-deprived	42.96%	47.02%	45.36%	44.98%
	Deprived	34.76%	36.17%	39.04%	34.47%
	Difference	8.20%***	10.85%***	6.32%***	10.51%***
Where * = $p < 0.1$, ** = $p < 0.05$, and *** = $p < 0.001$					

Source: Ministry of Education, Ghana Education Service and the National Education Assessment Unit (2018) *Ghana 2018 National Education Assessment Report of Findings*. Accra, Ministry of Education, Ghana Education Service and the National Education Assessment Unit, p.17.

Looking more closely at our study sample of the 55 NEA schools for Central Region, and breaking these down by sector (Figure 3) and location (Figure 4), we see, as expected and as observed in other areas of the country, that private schools have the highest scores of any school grouping. Also, urban schools do considerably better than rural school. In all cases, pupils score more highly on English than mathematics; this is seen not only in Ghana but internationally, in rich and poor countries alike, on learning assessments.

Figure 3: Average NEA scores in English and mathematics for private and government schools

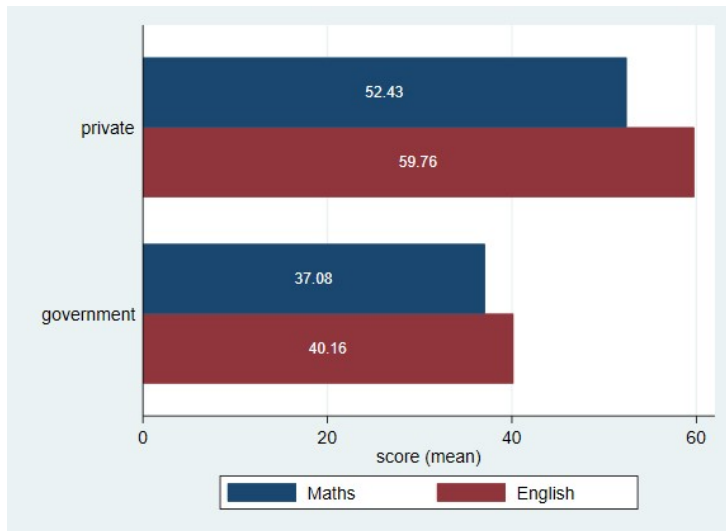


Figure 4: Average NEA scores in English and mathematics for rural and urban schools

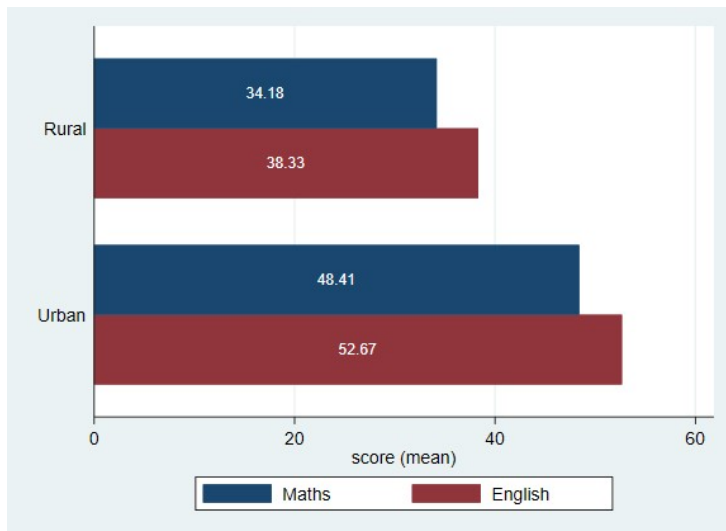


Figure 5 and Figure 6 below provide combined English and mathematics scores by achievement bands, again for government and private, as well as rural and urban schools. From this we see that rural pupils have the largest share, nearly half of all P4 pupils, achieving below 35 percent, twice the share scoring at this level in urban schools. Government school pupils (urban and rural) score marginally better. Of note, despite the imperative to pay fees at private schools, for which parents have high expectations of learning in return, nearly 15 percent of private pupils failed to reach even 35 percent, and nearly 41 percent scored below 55 percent, showing that low levels of learning are a problem across school types and in urban areas. However, private schools have by far the largest share of the highest performers, with nearly 36 percent scoring over 70 percent.

Figure 5: 2018 minimum competency, proficiency and international standard of proficiency results: English and mathematics for P4, Central Region by private and government schools

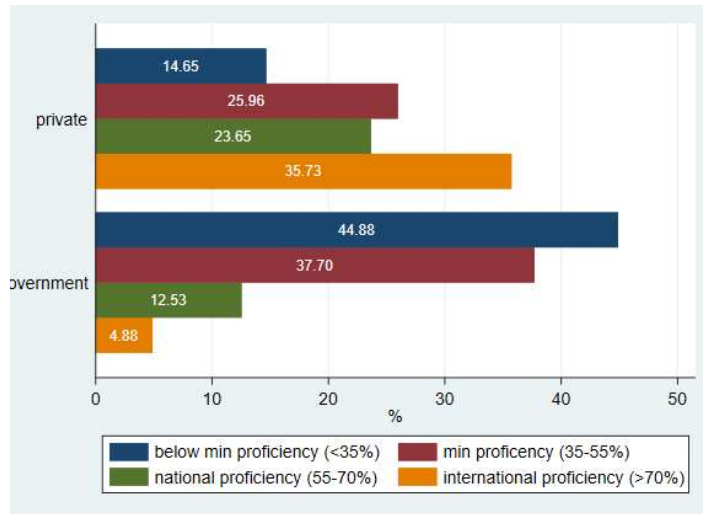
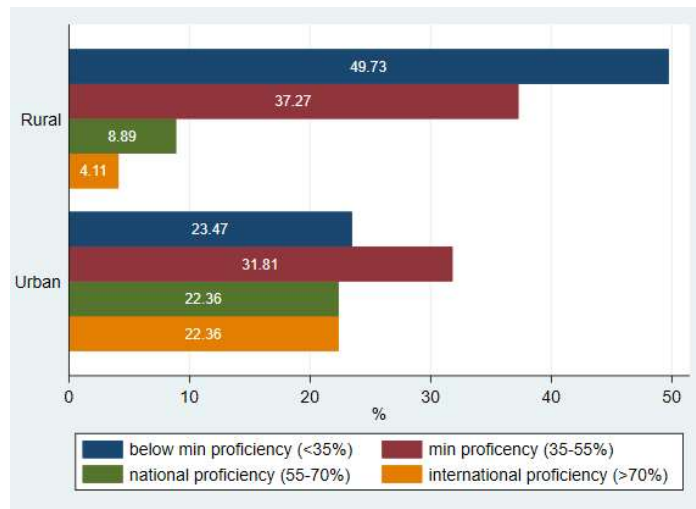


Figure 6: 2018 minimum competency, proficiency and international standard of proficiency results: English and mathematics for P4, Central Region by rural and urban areas



To delve into the data in greater detail, Figure 7 through Figure 10 show the average P4 scores for each of our sample schools, by sector (government or private). The two high-fee private schools are highlighted, showing that these schools have some of the highest average scores, although despite parents' much higher fee payments, achievement in mathematics is not as high as would be desired, indeed the scores are only in the second highest category. However, the private school raw test score advantage is clear, with the majority of government schools scoring below 40 percent in both subjects, while for private schools, all but one scored above this level. The average score for the 15 low-fee private schools only was 57.5 percent in English, and 53.6 percent in mathematics.

Figure 7: Average English NEA scores for all 38 sample government schools

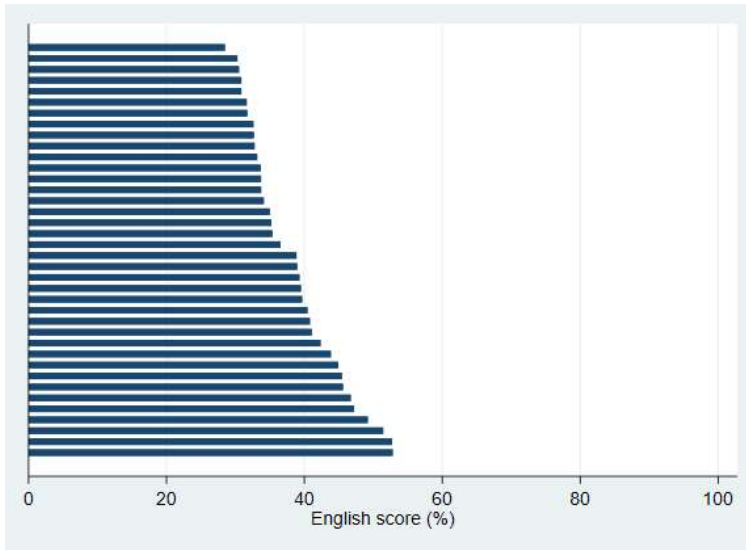


Figure 8: Average English NEA scores for all 17 sample Central Region private schools

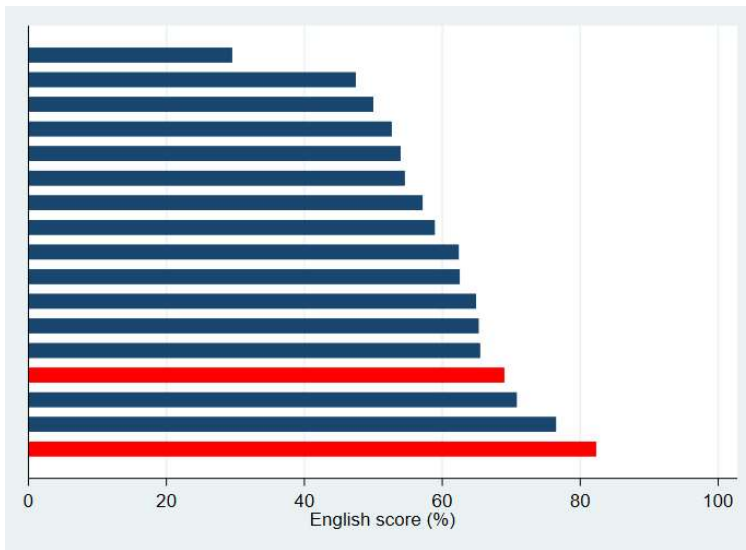


Figure 9: Average mathematics NEA scores for all 38 sample Central Region government schools

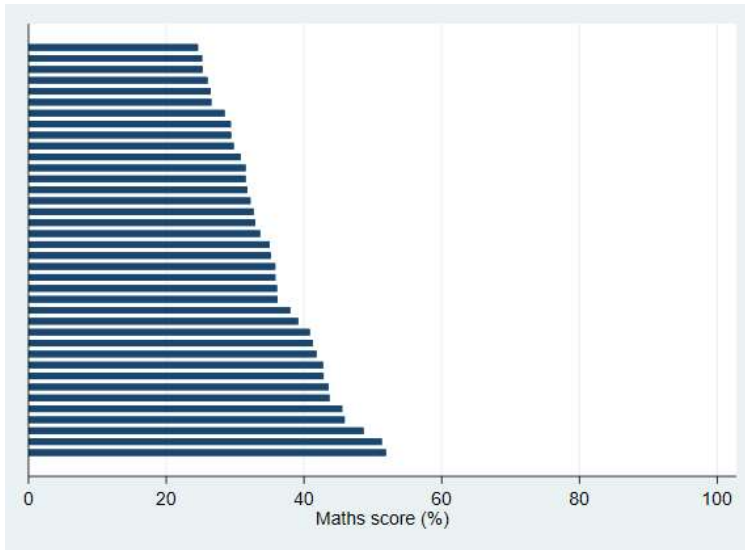
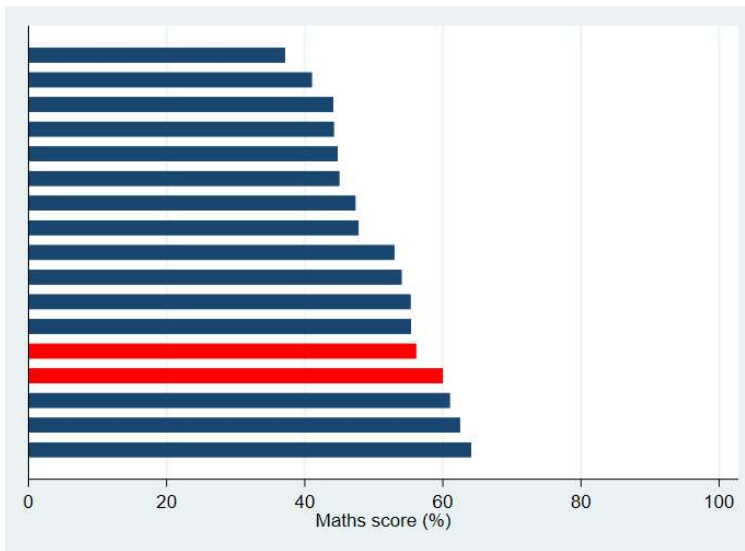


Figure 10: Average mathematics NEA scores for all 17 sample Central Region private schools



Finally, Figure 11 and Figure 12 below show the average scores for government and private schools in urban and rural areas, showing clearly where the greatest disadvantage lies. These figures include the scores for all 1,474 assessed pupils in Central Region, 754 of whom resided in rural areas, and 720 of whom are urban dwellers. Those children attending government schools in rural areas have by far the lowest average scores, much lower than their urban government school peers. Children attending the few rural private schools in our sample perform considerably higher than their urban and rural government school counterparts.

While there are clear and large differences between government and private school scores, it should be noted that scores for private schools are around the 55 percent level (including

the two high-fee schools) – being below this for mathematics and above this for English. While this has been classed as ‘proficient’ in NEA reports, these scores are far from indicating an objectively high level of learning.

Figure 11: Average English NEA scores across urban and rural schools in our sample

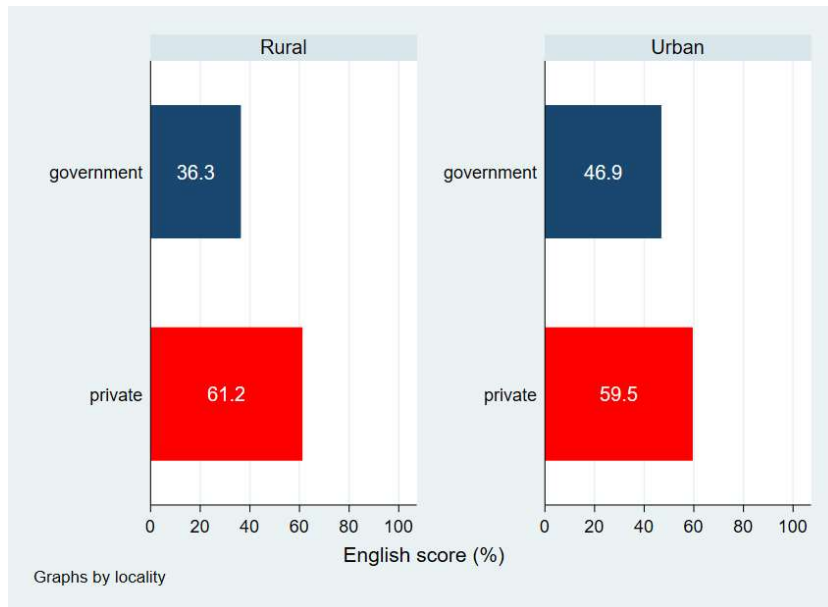
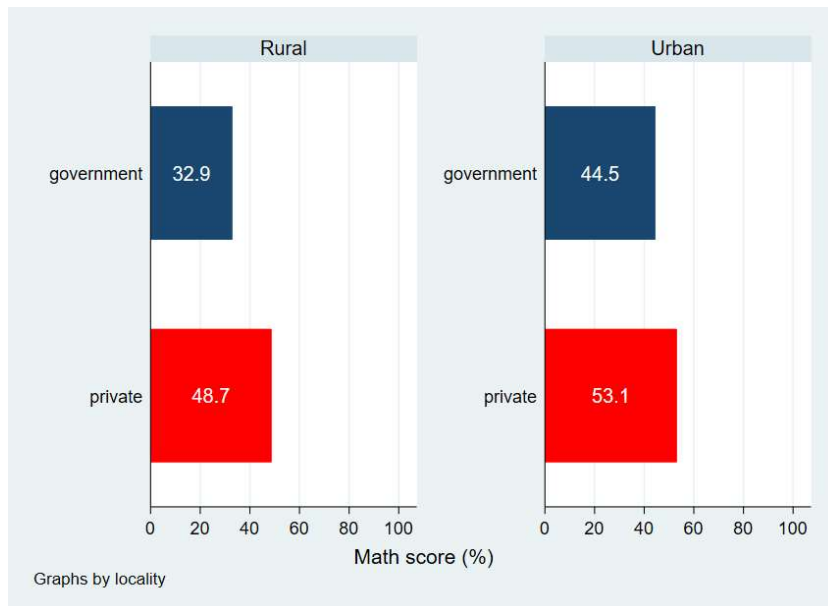


Figure 12: Average mathematics NEA scores across urban and rural schools in our sample



In conclusion, the data provide evidence of a need to improve learning levels *for all children*, in Central Region and more widely in Ghana, but most urgently for rural government school pupils. There is a large difference in the raw test scores of government and private school

pupils, as well as rural and urban school pupils. There is also variation within sector; one private school stands out from the other 16 observations with its very poor average scores, while the best government schools are doing similarly to the 3 or so schools at the lower end of private school range, indicating that a school being government or private does not automatically signal a particular level of quality. Knowing this much about variation in test scores is not enough to suggest policy actions to raise learning for all children, so the report looks into the other factors at play. The next sub-section provides answers to the second and broadest research question.

4.2. Research question 2

How do household, pupil, teacher and school characteristics (e.g. pupil background, teaching practice, school management, and school fees) vary within and among school types?

This research question is extremely broad, and in answering it, the report provides a rich picture of what the sample schools are like, disaggregated by sector. At the outset it was noted that there is a particular interest on the part of the government in low-fee private schools, in relation to higher-fee schools and government schools. Had the sample permitted disaggregation by fee levels, the below analysis would have provided descriptive data on these three categories of schools. However, because data was gathered from only two higher-fee schools, and one of these refused to allow the research team to interview pupils' parents, a complete picture of only one higher-fee school is insufficient for this disaggregation. Therefore, for the rest of the analysis, only the 15 sampled low-fee private schools are included, but are referred to simply as 'private schools'.

To structure a large amount of information, the framework borrowed from the World Development Report is recalled here, the study examining the relationships of the proximate determinants of learning, or four factors in learning (pupils, teachers, management and inputs), with the NEA test scores which are used as a proxy measure of learning in Ghanaian schools. Before moving on to consider these relationships (or correlations) in the discussion of research question 3, the report outlines the four factors by school types: government and low-fee private schools. The messages from the descriptive statistics are used to inform the multivariate analysis that answers research question 3.

4.2.1. Factor 1: Pupil preparation

Here we begin by providing descriptive statistics on the pupils assessed at the end of P4 in the sample government and low-fee private schools. This includes some limited information specific to the child, as well as information regarding the parents and the socioeconomic status of the household. In discussing the preparedness of the child for learning, the report draws not only on data from the parent or guardian interview, but also from teacher and Head

Teacher interviews. Drawing on data from all respondents for all of the four factors provides a more robust, reliable picture, triangulating reports (where appropriate) from each category of respondent.

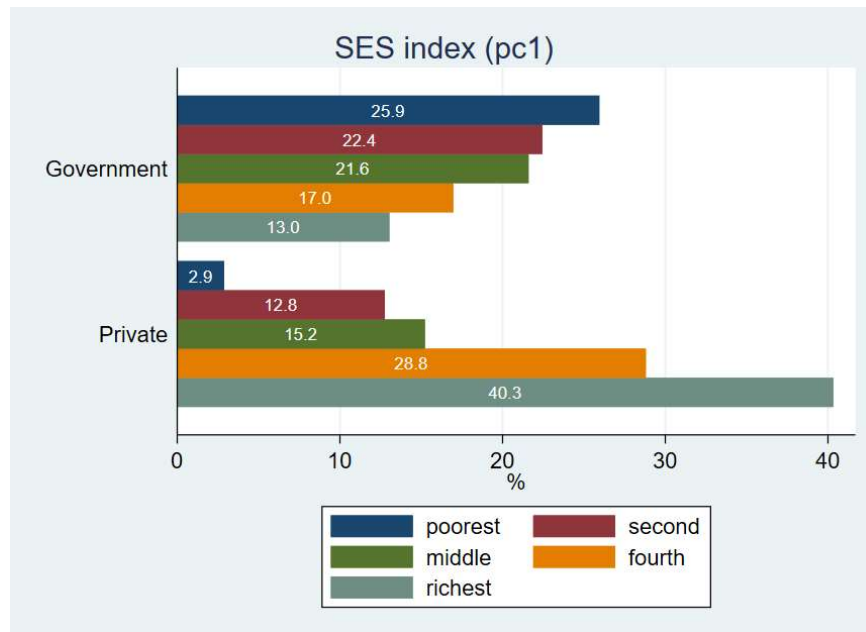
Starting with information about the household, as per the structure of the research question, Table 4 provides details regarding the household head, showing that private school parents tend to be younger, while government school parents are considerably more often female (this may indicate a link between female-headed households, lower wealth and government school enrolment). In terms of education, it is clear that private school children are benefitting far more from the intergenerational effects of their parents' education. Nearly one quarter of government school household heads had never been to school, while another fifth had up to complete primary school only. Private school parents were much more likely to have completed Senior High School and even studied beyond this level. For both sets of households, the most common qualification is complete Junior High School, accounting for 38 percent of government and 47 percent of private school parents. There is no clear pattern regarding the employment types of household heads; government school parents were more likely to be fishermen or farmers, while private school parents were more likely to be skilled or unskilled workers.

Table 4: Household head characteristics, by school type

	Government	Private
Household head's age and education		
Average age	47	39
% who are female	37.9%	28.4%
% with no education	24%	7.9%
% with up to complete primary school	20.5%	4.8%
% with incomplete JHS	6.0%	5.3%
% with complete JHS	38.3%	47.4%
% with incomplete SHS	1.4%	0.4%
% with complete SHS	5.2%	18.4%
% with technical/vocational qualification	3.2%	7.0%
% with BA or higher degree	1.4%	8.8%
Head of the household – sex and employment		
% household heads unemployed	3.4%	6.1%
% household heads unskilled worker	21.8%	30.0%
% household heads small business owner	2.3%	4.7%
% household heads skilled worker	26.6%	39.7%
% household heads civil servant/ manager	4.1%	8.4%
% household heads farmer/ fisherman	37.7%	11.2%

While it is unlikely that any of our sample households would be described as wealthy (having excluded the two high-fee schools from this analysis), private school children come from more advantaged households than government school children and are able to spend much more on education, as indicated by their reported expenditure on the sample child’s primary 4 school year (see discussion of costs in section 4.4 below). Their relative advantage is likely rooted in having greater wealth (as demonstrated through their asset index scores). As expected, a sizeable majority of private school pupils come from the richest two quintiles; indeed 69 percent of private school pupils come from families in the richest 40 percent (Figure 13). Conversely, nearly half of all government school pupils come from families in the poorest 40 percent. What is most striking but as expected is the very small proportion, under 3 percent, of private school pupils falling within the poorest quintile.

Figure 13: Quintiles of SES by school type



There is also a clear relationship between wealth and urban residence (Figure 14). Once again as expected, the data shows that over twice as many richest quintile families are found in urban areas than rural areas, and 2.5 times as many poorest quintile households are found in rural areas. Half of the rural sample households fall within the poorest 40 percent, while the proportion is only 26 percent for urban households. Living in rural areas is closely linked with much lower wealth, and with government school attendance.

Figure 14: Quintiles of SES by rural and urban residence

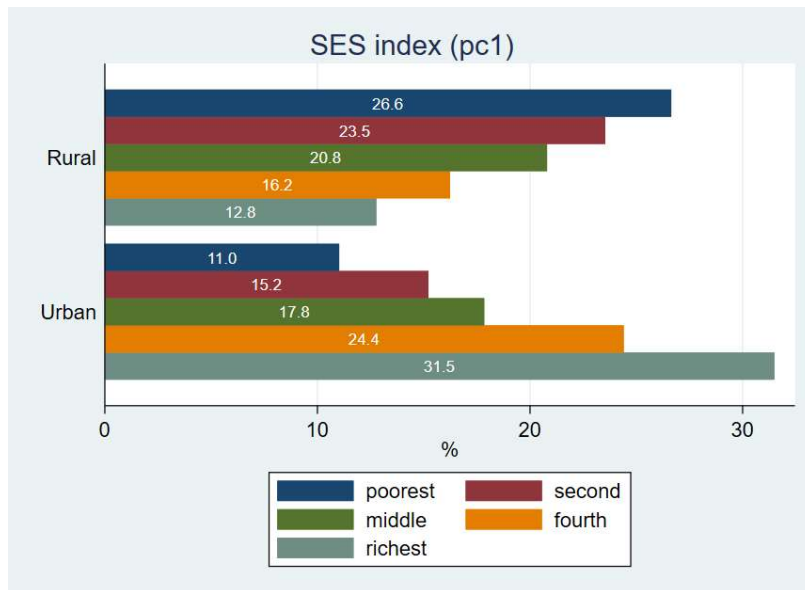


Table 5 provides information on the finances and housing of the family. The number of earners per household is similar across sectors, but government school households are much more likely to need to receive remittances from outside of the household; their average asset index score is much lower and they spent much less than private school parents on the child's P4 year. In terms of their housing, a similar proportion own their own homes, but private school families have fewer people per room. Differences in housing types will often be driven by whether the family is living in an urban area (much more common for private school parents) or rural area.

Table 5: Family finances and housing (household responses), by school type

	Government	Private
Finances		
Number of earners in the household	1.8	1.9
% of families receiving remittances from outside	77.3%	22.7%
Wealth index score	-0.42	1.24
Average total expenditure on focus pupil during primary 4*	498	1,738
Housing		
Average number of rooms in the house	2.2	2.7
Average person to room ratio	3.5	2.0
% families owning their home	44%	41%
Type of housing		
Apartment/ flat – urban or semi-urban	2.8%	9.5%
House – urban or semi-urban	25.4%	53.0%
Uncompleted building	0.8%	0.9%
Room only (rented in larger building or compound)	19.6%	25.4%
House – village/ countryside	51%	11.2%
Kiosk house	0.3%	0%

*This is reported actual expenditure, not the fee levels as reported by Head Teachers. This type of report is nearly universally higher than the figure reported by Head Teachers, meaning that some caution should be exercised in evaluating both reported cost levels.

Having set the scene regarding children’s SES, Table 6 provides information about the sampled pupils’ own characteristics and aspects of their family life. Of note, girls make up a larger share of private school enrolments than at government schools, the data suggesting that there are no sex-specific equity issues with regard to access and use of private schools. During the classroom observation it was noted that there were many over-age children in P3 and P4 classrooms.

The rest of the indicators in Table 6 show private school pupils to be somewhat more advantaged, although the differences are often negligible. Private school pupils are reported more often to be in good health; fewer of them do domestic chores, although this is still common. More significantly, the vast majority of private school pupils live in urban or peri-urban areas, while the majority of government pupils live in rural areas.

Table 6: Pupil characteristics and aspects of home life (household responses), by school type

	Government	Private
Pupil Profile		
% of pupils who are girls	51%	54%
Average age at time of data collection (10 months after the assessment)	11.2	10
Average number of meals eaten per day	2.9	3
% of pupils whose health is good or very good	92.9%	97.4%
% of pupils whose health is poor or very poor	7.1%	2.6%
Pupil's Home Life		
% of pupils doing household chores	88.4%	80.1%
% living in urban areas	11.9%	37.9%
% living in peri-urban areas	34.2%	50.0%
% living in rural areas	53.9%	12.0%
Family size – number of members of the household	5.76	5.4

Table 7 provides some of the pupils' schooling history and current schooling experience. Remarkably, the vast majority of pupils attended pre-primary school, with private school pupils attending, on average, for just under four years, while government school pupils have attended for 3.6 years. Only one-tenth of government school pupils have no experience of pre-primary education, and a very small 2.1 percent of private school pupils. Over two-fifths of pupils have changed schools (which could be from another school of the same sector, or from the opposite sector). Switching is slightly more common amongst private school pupils, but the number of times that children change is virtually the same.

Attending extra classes at school, after the main school day is over, is extremely common, with the vast majority of private school pupils doing this, and 64 percent of government school pupils. Very few take private supplemental tutoring, which may be due to the widespread availability of extra classes at school, but of those who do, they are far more likely to be private school pupils. The parents of the majority of pupils reported their child to be experiencing academic difficulties, more-so at private schools, but it is unclear whether this may be due to the latter being more attuned to their children's educational progress as opposed to private school pupils struggling more with schooling.

Table 7: Pupils' educational experience (household responses), by school type

	Government	Private
Distance to school (travel time in minutes)	17	17
Number of years of pre-primary school attended	3.6	3.9
Pupils who did not attend pre-primary	9.5%	2.2%
Pupils who have repeated a year	38.1%	15.1%
Pupils who have ever changed school	40.1%	44.0%
Number of times pupil has changed schools	1.3	1.4
Number of days homework is assigned per week	3.9	4.5
Pupils attending extra classes at school in the afternoon	63.8%	87.1%
Pupils taking private tutoring	1.7%	9.1%
Pupils experiencing difficulties (academically) at school	55%	60.7%
Number of days missed per month during primary 4	2	1.7

Starting school 'on time' (i.e. meaning starting P1 aged 6 years in Ghana) has been demonstrated to be closely linked with a child's chance of progressing through and completing the schooling levels¹⁹. This research found many over-age children in the observed classes, and the child's age at P1 was asked during the household interview. Urban children were found to be more likely to start P1 on time, or even under-age, as compared with rural children, but those most likely to start under-age or on-time were private school pupils: 61 percent started aged 6 years (Table 8). The full age range for P1 is vast, with some children starting aged 10 to 13 years; only at private schools were there no children starting over age 10. Starting school late and then repeating puts a child at a very high risk of drop-out.

Table 8: Pupils' age of first enrolment in P1 (household responses), by school type

	Urban	Rural	Government	Private
4 years	0.2%	0.0%	0.1%	0.0%
5 years	8.1%	6.5%	5.9%	11.6%
6 years	43.3%	30.7%	30.0%	59.9%
7 years	22.9%	24.4%	25.6%	18.5%
8 years	14.3%	18.8%	19.8%	6.0%
9 years	4.4%	12.3%	10.2%	0.9%
10-13 years	4.9%	2.8%	4.9%	1.3%
unknown	2.0%	4.3%	3.5%	1.7%
Average	6.8 years	7.1 years	7.2 years	6.2 years

¹⁹ Lewin (2007).

Figure 9 shows that while a government school sample child was only 1.2 years (on average) older than the average private school child, the issue of being severely over-age was more pronounced in the government sector, with children as old as 18 years in Primary 5, while the lower bound was age 9 in both sectors.

Table 9: Pupil ages at the time of data collection (Primary 5, household responses), by school type

	Government	Private
Focus pupil: lowest age in P5	9	9
Focus pupil: highest age	18	14
Focus pupil: average age	11.2	10.0

As already noted, grade repetition continues to take place despite the policy of automatic progression in government schools, and this actually proved much more common in government schools (Table 10). Only 15 percent of private school pupils have repeated a year at some point in their P1 to P5 grades, according to their parents, while the figure is 38 percent for government school pupils. Rural children are most likely of all to repeat grades, with 41.3 percent having done so, but only 25.3 percent of urban children. Figure 10 provides the average number of times that these repeaters have repeated, with rural and government school children repeating the most, while private school children have repeated the least. The most privileged children, urban private school-attending pupils, have repeated at least once in 14.4 percent of cases (still remarkably high considering their greater advantages) while rural government school pupils have repeated in 43 percent of cases. High rates of repetition, on top of late enrolment in P1, lead to a serious age-for-grade distortion.

Table 10: Numbers of repetitions for children who have repeated at least one year (household responses)

	Minimum	Maximum	Mean
Rural focus child repeaters	1	5	1.3
Urban focus child repeaters	1	3	1.2
Government school focus child repeaters	1	5	1.2
Private school focus child repeaters	1	2	1.2

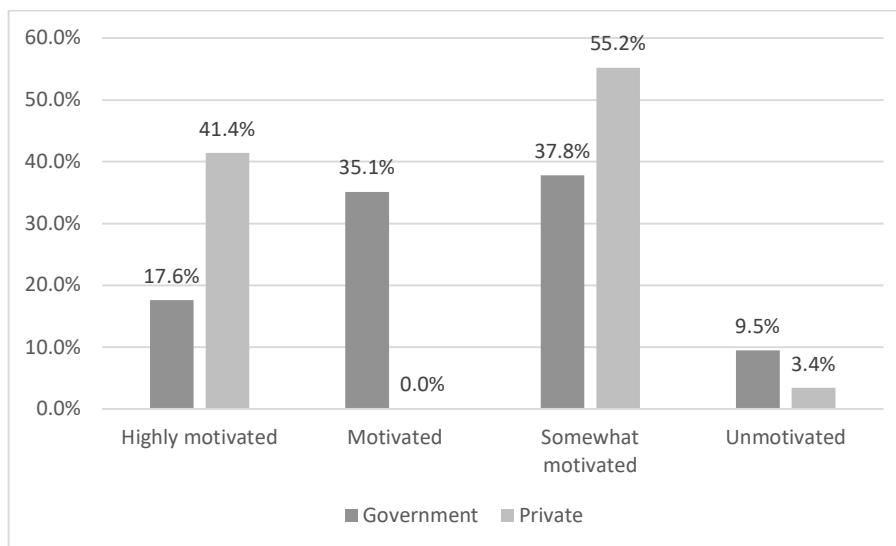
Questions were asked of all respondents regarding the motivation levels of pupils with regard to their schooling, which is related to many factors including the child's own views on education; the nature of the child's schooling experience; and also the extent to which parents support the child's education. Pupils were generally reported to be motivated regarding education, with more parents of private school pupils reported their children to be highly motivated regarding their education, and more government school parents were likely to report their children as being unmotivated (Table 11). In contrast to this, teachers report

much lower levels of perceived motivation amongst their pupils, with government school teachers reporting much higher proportions of unmotivated pupils (Figure 15).

Table 11: Pupil motivation (household responses), by school type

	Government	Private
Pupils who are highly motivated	64.7%	75.4%
Pupils who are motivated	29.3%	22.8%
Pupils who are somewhat demotivated/ reluctant	4.9%	1.7%
Pupils who are very demotivated/ reluctant	0.7%	0%

Figure 15: Pupil motivation as perceived by teachers, by school type



Sometimes related to children’s motivation levels, questions were asked regarding children missing school and the reasons for this. As Table 7 above shows, private school pupils are reported as missing 0.3 days per month fewer than government school pupils. By far the main reason supplied by parents for why a child would miss school was illness (Table 12). The second most common reason for government school children was lack of interest or motivation to study, while problems with paying fees was the second most common reason for private school pupils. For government pupils, lack of any money in the house to buy breakfast; problems with the school uniform (which is at least perceived to be required for attendance) and the need to help in the family’s work (often agriculture) were the next most common reasons for missing school. Some parents reported that the child being asked to bring things to school that they could not afford to buy, meant that the child would miss school (Box 1).

Table 12: Pupil reasons for missing school (household responses), by school type

	Government	Private
illness	80.7%	86.2%
No interest/motivation	6.4%	0.0%
No money for breakfast/lunch	4.2%	3.0%
Uniform - problem with uniform or shoes	3.8%	0.9%
Help with work of family	2.8%	0.0%
Fees - tuition or other fee problem	1.0%	5.6%
Help with household chores	1.1%	0.0%
Illness of family member	0.8%	0.4%
Bullying	0.6%	0.9%
Travel with family	0.7%	0.4%
Heavy rains	0.7%	0.4%
Religious observance	0.3%	0.4%
Corporal punishment	0.3%	0.0%
Death in family	0.3%	0.0%
Textbooks - lack of	0.1%	0.4%
Distance to school	0.1%	0.0%
Late for school	0.0%	0.4%
Asked to bring black soil	0.1%	0.0%

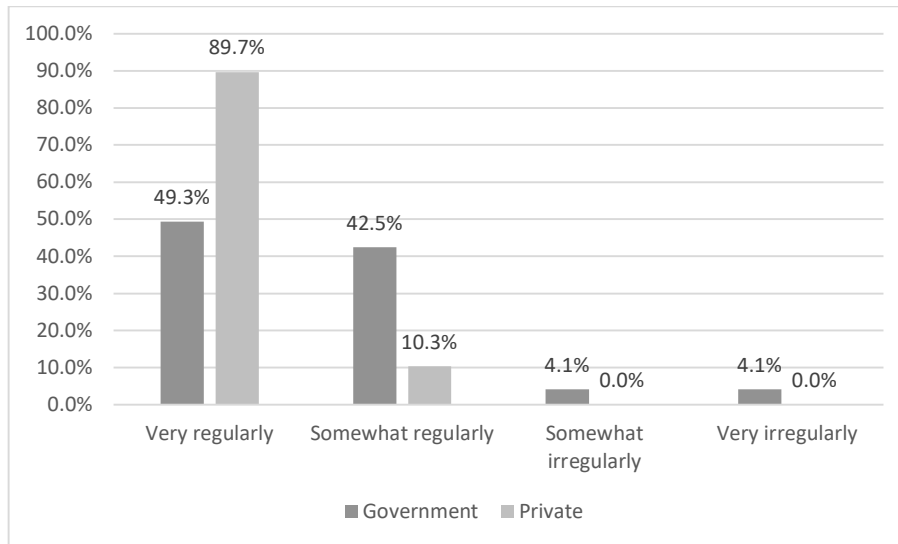
Of note, when teachers were asked why pupils would miss school, while still listing illness as the top reason, they also listed other reasons as being extremely common (Table 13). These included problems with fee payments for private pupils; problems with uniforms for government pupils; as well as the need for the child to help with farming or fishing and the lack of money for food (both being far more common for government school pupils). Teachers also noted lack of interest in, and commitment to their studies, for government school pupils. During interviews, teachers often mentioned uniforms first, as one stated ‘the uniform is a major cause of absence’, and one Head Teacher reported having to sensitise families on the importance of quickly washing the uniform when necessary after the school day to ensure that it is ready for the next day.

Table 13: Percentage of teachers reporting reasons why children miss school, by school type

	Government	Private
Child's own illness	52.7%	82.8%
Illness of family member	2.7%	6.9%
Problem with uniform	56.8%	13.7%
Unable to pay school fees	16.2%	69.0%
Child needed to help with farming/fishing, etc	37.8%	3.4%
Child needed to help with seasonal work	20.3%	6.9%
Child needed to help with market days	10.8%	6.9%
Child needed to do household chores	8.1%	3.4%
Child did not do the homework	2.7%	3.4%
Lack of interest/commitment to education	27.0%	6.9%
No money for food	36.5%	17.3%
Heavy rain	6.8%	13.8%
Lack of writing materials	5.4%	0.0%
Travel with family	2.7%	6.9%

While noting that pupil absence presented a challenge in their work, teachers did for the most part report that pupils were fairly regular in their attendance (Figure 16). The vast majority of private teachers reported that their pupils were very regular, which is often associated with fee-paying parents ensuring that their children attend, in order to gain the maximum benefit from the fees paid. By way of contrast, over two-fifths of government teachers reported that their pupils were only somewhat regular in their attendance, with smaller shares of four percent each being irregular or very irregular. Uniforms for government pupils and fees for private pupils were widely cited by teachers as causing absence from school.

Figure 16: Teachers' perceptions of pupil attendance, by school type



During classroom observations the official class size was recorded from the register, as well as the number of children actually present (Table 14). We found that, taking government schools as an example, parents reported an average absence rate of about 10 percent, while we found that over 18 percent of pupils were absent. Parents may have downplayed children's absenteeism (and over-estimated the child's enthusiasm and motivation), or they may not know if the child has skipped school. Table 14 also shows clearly that private schools have a much lower rate of absenteeism than government schools.

Table 14: Pupil absenteeism as recorded during classroom observations, by school type

	Government	Private
Average class observed – official class size	31.2	25.3
Average class observed – actual attendance	26.4	23.4
Pupils absent	15.4%	7.5%

Box 1: Having to bring school supplies to school might stop children from attending

Part of the hidden fees of government school attendance are made up by the various supplies that children are asked to bring to school. This is a regular occurrence, but additionally, teachers sometimes ask for additional things to be brought, for the class in general as opposed to just for the pupil's own use. Several government school parents reported that at times the child might be asked to bring a certain item to school, and that if she or he does not, then they might be corporally punished (caned). One mother reported that her son was asked to bring 'black soil' to school, and because he had none to bring, he

refused to go to school for a considerable amount of time, because of his experience of having been caned on the last such instance.

Another parent stated that (as part of the regular, yearly request) children were asked to provide soap, cardboard, a cane, markers, toilet paper, a blackboard eraser (duster) and broom, and that the cost for these items amounted to approximately 30 Cedis for the year.

At another school the items as reported by one parent were 2 toilet paper rolls, 2 bars of soap, Dettol (disinfectant cleaner) and a broom. This was estimated to cost 9 Cedis for the year.

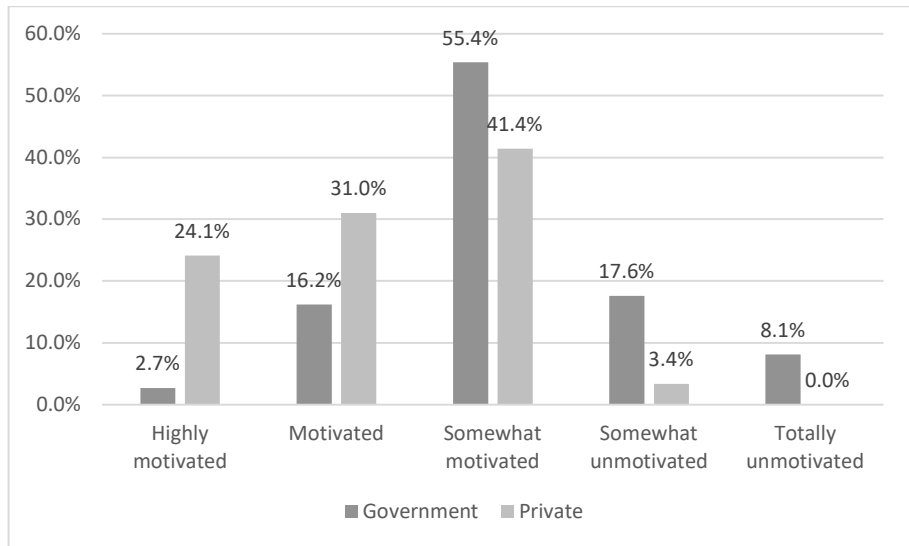
At another school parents were meant to supply markers for the white boards. When the child did not bring them, he was caned. Such instances were reported at other schools also.

Parents knew that government schooling is meant to be free, and they expressed their frustration with having to pay anything to the school, including providing these basic supplies. Conversely, Head Teachers were frustrated that neither government nor parents provide the textbooks and other materials that were needed, and they observed that parents do not buy books ostensibly due to lack of funds, but are often observed with new clothing when there is a funeral or other family event.

Parents have an important role to play in pupil preparation, ideally by providing a supportive home environment which includes the time, space and resources needed to do reading and other homework assignments. Parents also have a role in enabling (and enforcing, where possible) the child's regular attendance. However, it is not always the case that parents are able to provide the time, space, resources and encouragement, in short, to prioritise, schooling. Where children are first-generation school-goers, it is sometimes the case that parents are not aware of how to support the child in her education, even if they feel it is important. Issues raised frequently by teachers and Head Teachers were parents not providing the necessary writing materials or books; parents rising very early to go to the farm and not leaving any money for the child to buy breakfast; as well as some parents taking the child to help them on the farm, particularly at peak farming times.

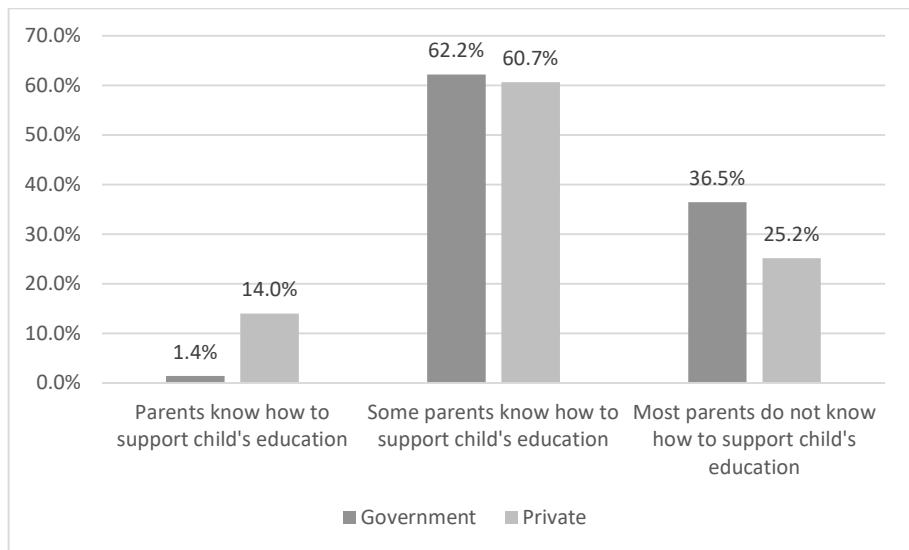
These issues emerged when teachers were asked about their perceptions of the level of parental motivation, and government teachers reported relatively low levels, with 55 percent reporting that parents are only somewhat motivated, while over a quarter reported that parents were not motivated (Figure 17). With regard to private school parents, perceptions of their motivation levels were higher, which is consistent with parents electing to pay user fees.

Figure 17: Teacher perceptions of pupils' parents' motivation levels, by school type



After questions regarding the level of parental motivation, teachers were asked about their perceptions of the level of awareness amongst their pupils' parents, and as might be expected, awareness was judged to be somewhat higher amongst private school parents and lower amongst government school parents (Figure 18). The differences between sectors appears smaller than might have been expected.

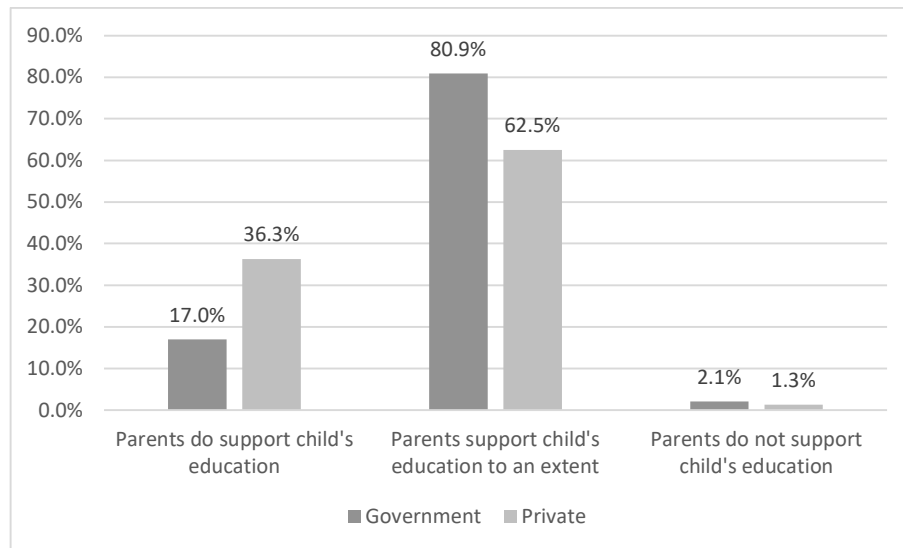
Figure 18: Teacher perceptions of parents' level of understanding of how to support their child's education, by school type



A larger gap is observed with regard to teachers' perceptions of whether parents follow through and actively support the child's education, with considerably more private parents than government parents reported as supportive. Very few teachers reported parents to be totally unsupportive (Figure 19). As one government teacher stated, 'some children are very

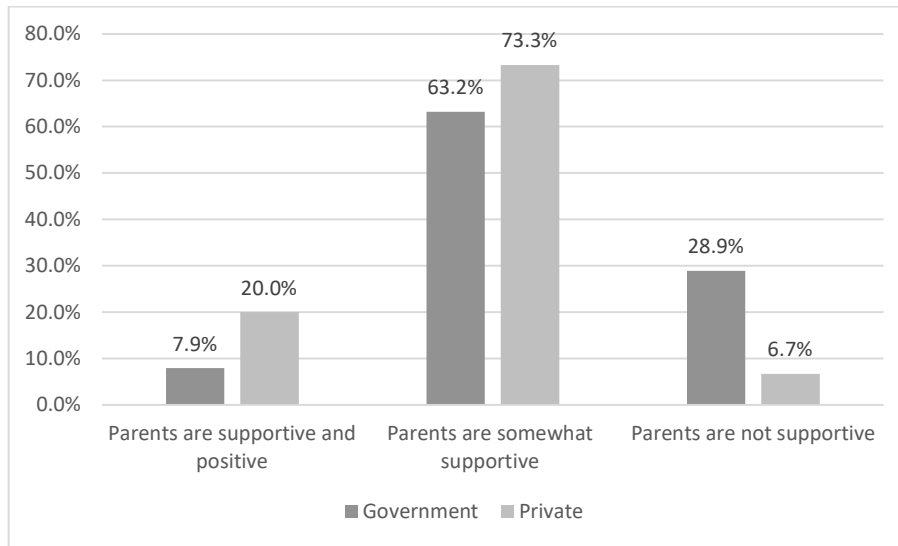
good. Their parents don't support them, but the children are very good... these children can learn well, but the key problem is that they don't learn in the house, this is the biggest challenge... the books are not there'. Another government teacher stated that 'the parents don't provide anything for their education. No pencils, books, uniforms; children are often late, when parents bring the child somewhere else before they come to school'. This same teacher stated that both pupils and parents are highly motivated for learning, and that their issues are due to poverty, not because they are disinterested.

Figure 19: Teacher perceptions of the extent to which parents support their children's education, by school type



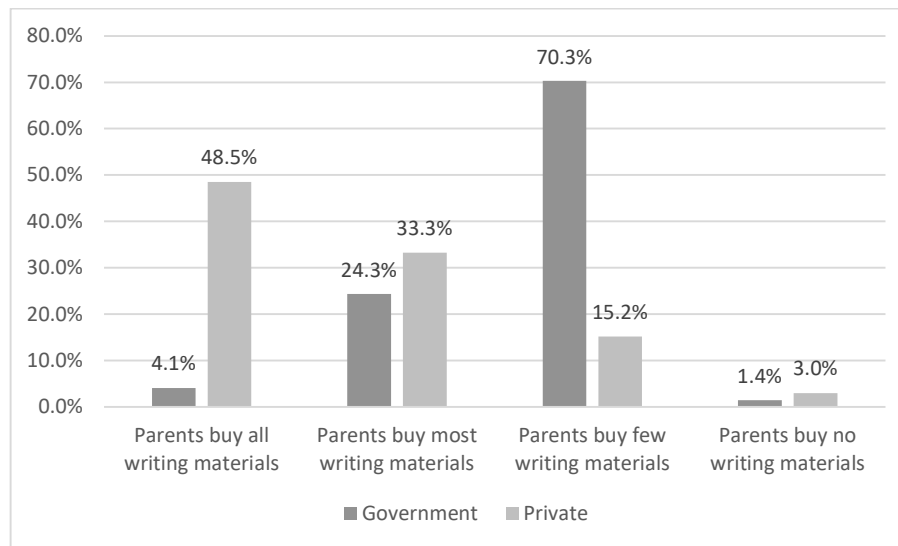
Of note, Head Teachers had a much less positive view of parental support for children's schooling, with 29 percent of government Head Teachers reporting that parents were not at all supportive, as well as 6 percent of private Head Teachers (Figure 20). Still, private school parents were more often reported as providing higher levels of support. Teachers and Head Teachers in some government schools reported parents coming to school to 'fight with teachers' about various issues.

Figure 20: Head Teachers' perceptions of the extent to which parents support their children's education, by school type



One indicator of parents' degree of concrete support to their children's education is whether they buy sufficient writing materials to allow the child to carry out in-class assignments as well as homework. Writing materials are the responsibility of parents irrespective of the school type. These materials are more affordable to parents than textbooks (which will be discussed in the sub-section on factor 4, school inputs) as they can be bought in small quantities across the school year. However, teachers reported that many parents buy an amount that is insufficient for the entire school year, and then will not buy any more, leaving the child without for some part of the year. Nearly half of private school teachers reported that parents buy the materials necessary, although a fairly sizeable share of 18 percent reported parents buying few to none (Figure 21). At government schools, the majority of 70 percent of parents were reported as buying just very few materials, and it was observed that some teachers kept supplies of the most necessary items, such as pencils, in their store cupboards for pupils to use. During classroom observations it was noted that several children in a classroom would sit idle while their peers were practicing what had been taught in the lesson, due to lack of any writing materials whatsoever. After the lesson was observed, children were asked to hold up their exercise book for that subject, and 11 percent of government and 6 percent of private school pupils had no exercise book to show.

Figure 21: Teachers' perceptions of extent to which parents buy sufficient writing materials, by school type



This sub-section has drawn on data from all categories of respondents to show the extent of pupil preparation, in terms of factors in the child's family and SES background, the child's own motivation, and how well the family supports her or him to attend regularly, to have sufficient materials, and to have time to study and do homework. All of these factors are crucial to children's learning, alongside the quality of teachers and teaching at the school, and it is to factor 2, teachers' skill and motivation, that the report now turns.

4.2.2. Factor 2: Teachers' skill and motivation

This section on the second factor in the report's framework, teacher skill and motivation, begins by considering the most commonly used proxy for skill, teachers' qualification levels. Following this, the report addresses issues to do with teacher motivation, which, it should be noted, are often greatly impacted by school management and leadership, meaning that this subsection should be read as also reflecting the quality and efficacy of how the school is managed.

While teacher qualification as a proxy for teacher skill is highly flawed, classroom observation suggests that teacher training in Ghana is likely of higher quality than in some other countries, making pre-service teacher qualifications potentially a reasonable indicator of skill (but not effort). What is crucial is that skill must be married with motivation to result in strong teacher effort. There is a starker divide in terms of teacher qualifications between school sectors in Ghana than in other country contexts. The vast majority of government teachers, over 92 percent, are fully trained or 'qualified'. Government teachers are on the civil service payroll and must be qualified to be given a posting; it is likely that the few unqualified teachers

entered the profession some time ago. Furthermore, of those government teachers who are unqualified, the majority were educated to degree level. At private schools, 94 percent of teachers are unqualified, having no formal pre-service teacher training at all (Figure 22 and Figure 23). For many, the only training they receive is at the school level, with Head Teachers or other senior colleagues telling them how to teach.

Figure 22: Shares of all primary level teachers at the sample schools (Head Teacher responses), by qualification status and by school type

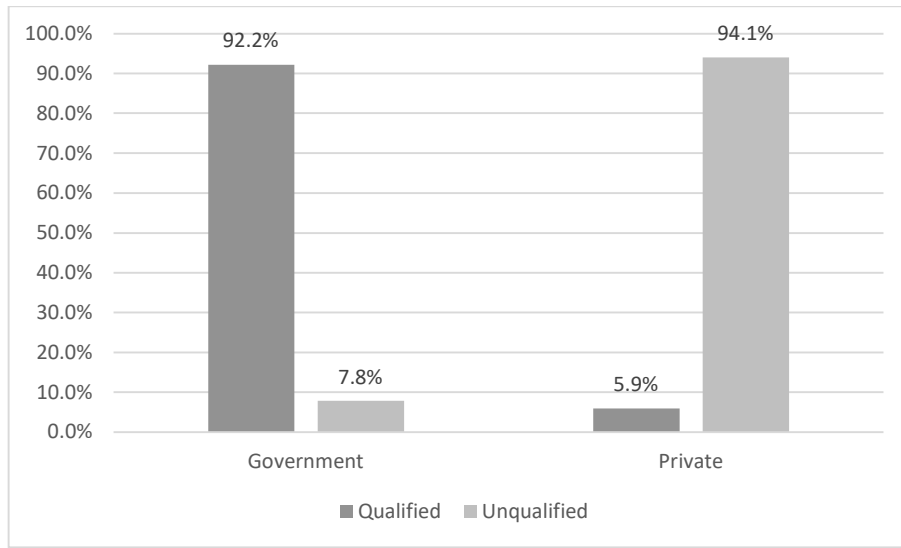
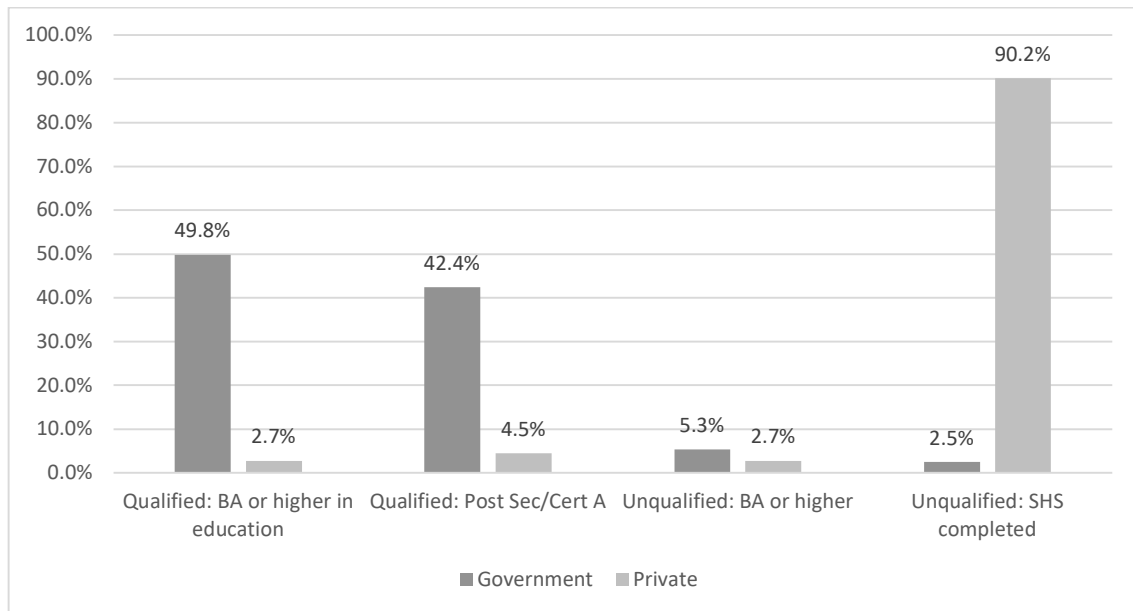


Figure 23: Teaching qualifications held by all primary teachers at sample schools (Head Teacher responses), by school type



In many contexts private school teaching is strongly associated with being female. However, while 34 percent of full-time primary teachers at our sample private schools were women,

this is considerably smaller than the share of female government school teachers, at 54 percent (Table 15). Nearly 37 percent of government teachers had had specific training in teaching English, mathematics, or both, while this share is 3 percent for private teachers. Government teachers were much more likely to receive in-service training, and were considerably more likely to report feeling fully prepared in terms of both the materials and the training required to perform their roles and deliver the syllabus. Of those who did receive some training, the vast majority reported that it was practical and useful in their practice (92% of government and 94% of private school teachers who received training). From interviews with teachers it became clear that what was considered an in-service ‘training’ was a single large-group seminar lasting a few hours, provided by the government. The education research literature does not tend to find such one-off type trainings to make a significant impact, however it is possible that there are some positive effects²⁰. Despite their smaller size, private schools had more full-time primary teachers, having seven on average, while government schools had just six. In terms of qualified teachers, on average just one in two private schools had a single qualified teacher, while every government school had six.

Table 15: Numbers of teachers and various teacher characteristics (Head Teacher responses)

	Government	Private
Number of full-time primary teachers per school	6.4	7.4
Fully qualified teachers per school	5.9	0.5
% teachers who are qualified	92.2%	5.9%
<ul style="list-style-type: none"> • Teachers with BA or higher, in education 	49.8%	2.7%
<ul style="list-style-type: none"> • Teachers with Post-Sec/ Cert A 	42.4%	4.5%
<ul style="list-style-type: none"> • Unqualified teachers with BA/other degree 	5.3%	2.7%
<ul style="list-style-type: none"> • Unqualified teachers with SHS completion 	2.5%	90.2%
Teachers who are female	53.7%	34.2%
Average P4 class size	37	23.2
Teachers specifically trained to teach English, Maths or both*	36.5%	3.4%
Teachers who report receiving in-service training while teaching at this school*	79.7%	55.2%
Teachers who feel prepared (in terms of training and TLMS) to teach the syllabus*	66.2%	37.9%

*The last three variables in the table are as per teacher reports

Head Teachers were found to be more highly qualified than the teachers they were managing; a much lower proportion had just SHS completion (or less) as their highest qualification

²⁰ World Bank (2018); UNESCO (2014).

(Figure 24) – 40 percent, versus 90 percent of the teaching staff. All of the government school Head Teachers were qualified teachers (Figure 25).

Figure 24: Head Teachers' academic qualifications (Head Teacher responses), by school type

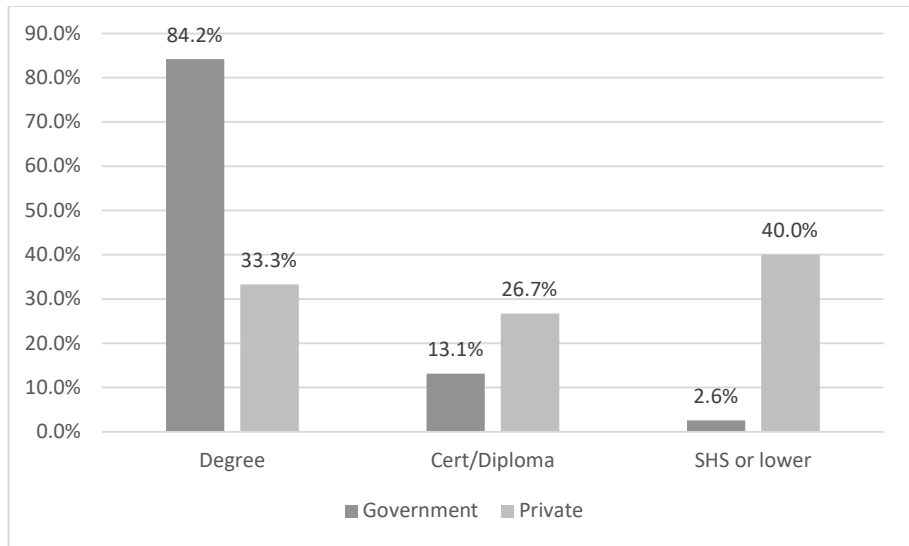
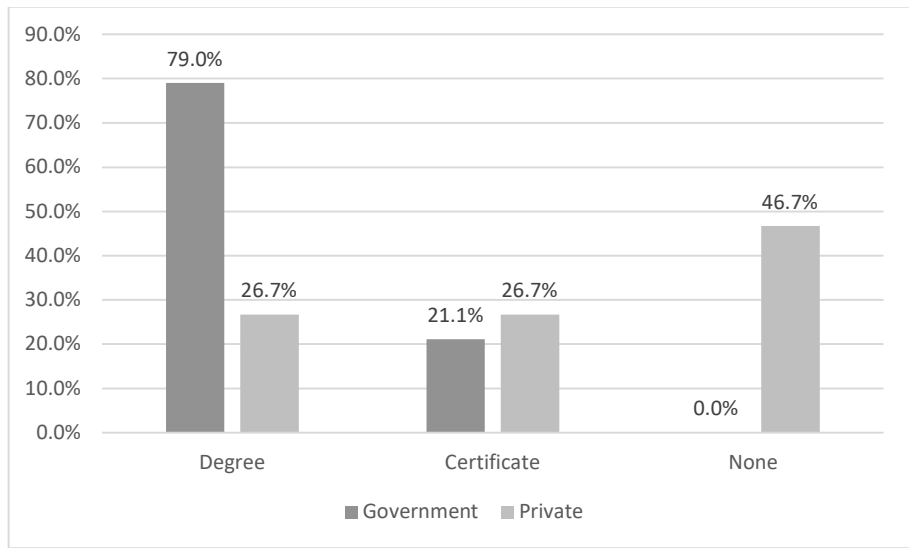


Figure 25: Head Teachers' teaching qualifications (Head Teacher responses), by school type



With regard to Head Teachers' length of experience, it was surprising to find that there was more classroom teaching experience in private schools than at government schools (Table 16). This may be explained by some government teachers and Head Teachers taking the job of Head Teacher at private schools after they have retired from government service. They were found to have longer experience in actual classroom teaching as well, while teachers

who are post-official retirement age may or may not have had pre-service teacher training (because of changes to teacher preparation over decades). With regard to the teaching staff, this pattern is flipped, with government school teachings have much longer experience of teaching (as expected); nine years versus four years at private schools.

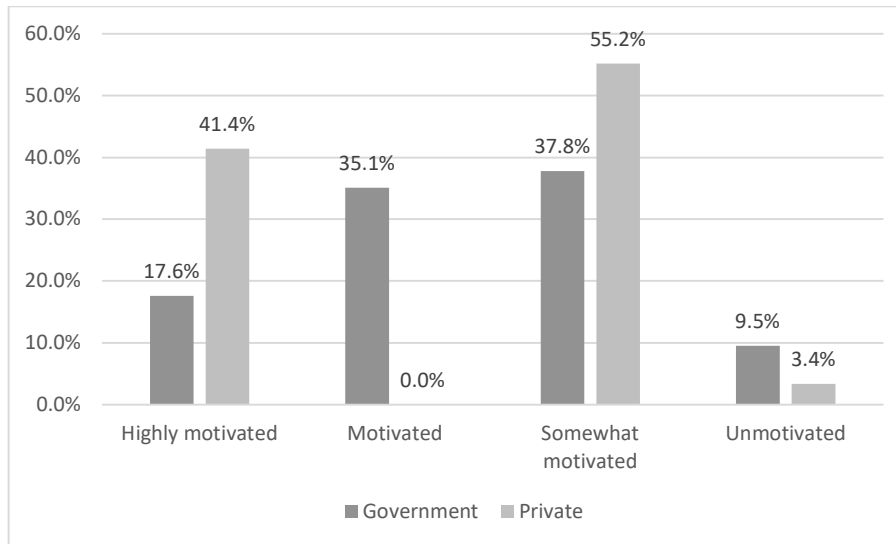
Table 16: Head Teachers' and teachers' experience in education (Head Teacher and teacher responses), by school type

	Government	Private
Average years of classroom teaching experience	14	15
Average years of experience as a Head Teacher	6	11
Teachers' average total teaching experience in years	9	4
Teachers' average service in present job in years	4	2

Teacher preparation is vital for what is a challenging profession, but training and education alone are not enough. In order to facilitate learning effectively, teachers require professional leadership and management of the school in which they teach; acceptable school infrastructure; the requisite teaching-learning materials and (as already discussed), well-prepared and supported pupils. Of note, two-thirds of government teachers reported feeling well-prepared in terms of all of these factors to carry out their work as teachers, while only 38 percent of private school teachers reported feeling similarly prepared and supported (Table 15).

Teachers were asked many questions to probe their feelings regarding their work, the school, and the pupils' families. Teachers were also asked directly about how motivated they are in their work, and over one third of government, and 42 percent of private school teachers reported feeling very motivated. The largest shares of teachers reported being just somewhat motivated, while relatively few admitted to being unmotivated, which was more common amongst government teachers (Figure 26).

Figure 26: Teachers' motivation levels (teacher responses), by school type



Teachers reported feeling motivated by their pupils, both in terms of personality and the progress they were making in their learning; they also valued good colleagues and managers. Table 17 provides the other reasons that teachers supplied for why they are highly motivated.

Table 17: Reasons why teachers are motivated (teacher responses), by school type

	Government	Private
Pupils' personality	48.6%	62.1%
Pupils' learning/ progress	40.5%	27.6%
Great colleagues	29.7%	31.0%
Good Head Teacher/ other managers	23.0%	17.2%
Good proprietor	0.0%	17.2%
Chances to progress in my career	4.1%	6.9%
I receive training/ keep learning	8.1%	3.4%
Challenges of teaching	6.8%	0%
Good pay	1.4%	10.3%
Pay arrives on time	2.7%	10.3%
Good benefits/ conditions	6.8%	3.4%
Good teaching environment	9.5%	24.1%

Motivation is likely to be affected by the extent of challenges faced in their work, and the support they get from school management to address these. The most significant challenge cited by teachers was teaching when there are little to no teaching-learning materials in the classroom (Table 18). Similar shares of government and private teachers reported this as an issue, while three-fifths of government teachers cited a lack of even the most basic writing materials, while even 18 percent of private teachers reported similarly. This lack of textbooks

means wasting much instructional time when teachers must write passages on the blackboard, and allow pupils the time necessary to copy material into their exercise books.

Table 18: Teachers reporting challenges in their work (teacher responses), by school type

	% Govt teachers reporting issue	% Pvt teachers reporting issue
Lack of textbooks	45.9%	44.8%
Pupils do not have writing materials	60.8%	20.7%
Pupils' erratic attendance	45.9%	20.7%
Pupils' lateness	4.1%	6.8%
Pupils do not speak the language of instruction	20.3%	13.8%
Issues with pupil discipline	17.6%	20.7%
Pupils do not pay attention in class	18.9%	17.2%
Pupils do not do their homework	20.3%	17.2%
Pupils' learning is far behind syllabus expectations	2.7%	3.4%
Pupils in my class are at vastly disparate learning levels	10.8%	20.7%
Poverty of pupils is an issue	18.9%	10.3%
Pupils' learning is not supported by their families	29.7%	24.1%
Large class size	12.2%	6.9%
Difficult having to teach two grade levels at once	2.7%	6.1%
Pupils are hungry	10.8%	6.1%
Not enough furniture	20.3%	9.1%

After the issue of the lack of materials, for government teachers the next most significant challenge was the erratic attendance of many pupils, which complicates the task of keeping all pupils on track and covering the syllabus. Relatively large shares of teachers in each sector reported that pupils simply are not supported in their education by their families, while government teachers were twice as likely to report that the poverty of pupils was an issue. One government teacher complained specifically that parents provide no support in getting children to do homework and carry out reading assignments.

To further understand motivation, teachers were asked why they chose to become teachers in the first place, and whether it was their first choice of profession. Nearly four-fifths of government teachers and three-fifths of private teachers reported that it was their first choice of career, and many expressed a real desire to teach and to work with children (Table 19). Less positive answers were more common amongst private school teachers, with one third reporting that they were teaching only as a way to fill a gap in their studies, or when looking for another job. Nine percent of private school teachers reported that the working hours provide the time necessary to study as well, or to work in another job; smaller shares reported

that the job is beneficial in allowing them to work close to home, or because they failed to gain admission for further study in their preferred subject.

Table 19: Why teachers chose teaching (teacher responses), by school type

	Government	Private
Teaching is my first choice of profession	78.4%	60.6%
Passion for teaching	56.8%	51.5%
Teaching is the most important work	17.6%	6.1%
Want to work with children	44.6%	54.5%
Want to teach others	47.3%	51.5%
Like working with other people	12.2%	12.1%
This job is just to fill time before I return to my studies	2.7%	33.3%
Working hours allow me to study/work in another job	1.4%	9.1%
Teaching allows me to work close to home	0.0%	6.1%
My family member or friend owns this school	1.4%	3.0%
Failed to secure my preferred job	2.7%	0.0%
Failed to gain admission to study my preferred subject	2.7%	6.1%

As a result of feelings of demotivation, or simply due to personal necessity, teachers may have to miss school from time to time. Teacher absenteeism was documented in two ways; firstly, Head Teachers were asked how many full-time primary teachers were absent on the day of the data collection, with the result that similar, fairly small proportions of government and private school teachers were absent: 7.7 percent and 7.3 percent respectively (Table 20).

Table 20: Teacher absenteeism, by school type

	Government	Private
HT's report: % teachers absent on day of visit	7.7%	8.1%
Average number of teaching days missed in last 4 teaching weeks (teachers' self-reporting)	1.0	0.1

Teachers were also asked directly how many days they had missed in the last four teaching weeks leading up to the interview, and Table 20 above shows that government school teachers had missed one day, on average, while private school teachers had missed a tenth as many. Looked at another way, 64 percent of government teachers and 85 percent of private teachers reported not having missed a single day of teaching in the last four weeks, while 16.2 and 9.1 percent (respectively) reported having missed just a single day. Most teachers stated that the only reasons that they would miss school were issues outside of their control, such as illness, a family emergency, or a transportation issue; but 19 and 18 percent of government and private school teachers reported missing teaching days for no reason at

all. Nearly one quarter of government teachers and 18 percent of private school teachers reported sometimes being absent from classes they should be teaching, even while they were present at school.

Many teachers do some sort of work additional to their main teaching day. Nearly two-fifths of government school teachers and four-fifths of private school teachers stay after the main school day for extra lessons organized at school, for which they receive extra pay (usually what is collected from parents for this is distributed amongst the teachers). One fifth and a third of government and private teachers (respectively) had some other paid work in addition to their jobs as teachers, and these jobs varied widely from farming to petty trading. One-fifth of all teachers were looking for another full-time job. Despite the much higher pay of civil service appointments, government school teachers were looking for other paid work in addition to teaching at twice the rate that private teachers were looking. Of note, 36 percent of private school teachers reported receiving some other benefits in addition to their usually very low salaries, while only 23 percent of government teachers reported receiving other benefits. For the most part, teachers at government schools were vocal regarding the lack of additional benefits, with many stating that a rural hardship posting allowance and / or housing provided for rural postings would help attract and retain good teachers in rural postings.

Salary levels were cited as insufficient, with pay at low-fee private schools being extremely low. Over 54 percent of government school teachers reported themselves to be financially secure, while the share of private teachers is only 18 percent. Nearly twice as many private teachers (as compared to government teachers) reported themselves to be in a financially precarious situation, or 'barely secure' (Table 21). At the same time, the vast majority of private school teachers live in urban areas, with the extra expense that comes along with this. While private schools pay extremely poorly, many teachers are young and live with family, and they have all the benefits already mentioned of having the option to do other work outside of school hours; they can study; and they have urban amenities.

Table 21: Teachers' personal circumstances (teacher responses), by school type

	Government	Private
% reporting themselves personally to be financially secure/ comfortable	54.1	18.2
% reporting themselves to be financially barely secure	40.5	78.8
% living in urban or peri-urban area	52.7	87.9

While higher pay does not guarantee effective and committed teaching, it is important to teacher motivation, and it is significant in light of the importance of the teaching profession for national development. In Table 22 below, the range of gross teacher salaries per year are detailed, in Cedis and USD. Primary teacher salaries at private schools represent just 13-16

percent of the government equivalents. An average salary at a private school equates to just over US\$39 per month; at just \$1.28 per day, this is a poverty wage for a teacher even if she or he is single and has no dependents.

Table 22: Teacher salaries (gross) per year in Cedis and USD (teacher responses), by school type

	Government		Private	
	Cedis	USD	Cedis	USD
Absolute lowest salary	7,200	\$1,406.25	900	\$175.78
Average salary	16,980	3,316.41	2,394	\$467.66
Absolute highest salary	43,704	\$8,535.94	7,200	\$1,406.25

Note: at the time of data collection in May 2019, US\$1 was equal to 5.12 Ghanaian Cedis.

Note: Yearly salaries are calculated by multiplying the teacher’s monthly salary by the number of months in which they receive salary in the year (this ranges from 9 to 12 months per year for private schools; 12 months per year for government school teachers).

During lesson observations researchers were able to record how teachers’ preparation and motivation translate into their teaching practice in the classroom. Government teachers were clearly well-trained in how to teach, while many private school teachers’ lack of training was equally evident (and there were exceptionally good and bad lessons observed in both sectors). However, there was observed to be greater discipline at private schools, with the entire school day running more closely to schedule, with fewer children observed roaming around the school premises during lessons. Conversely, at government schools, it was not unusual for some pupils to leave after the free lunch was provided. What private schools lack in terms of academically well-prepared teachers, they appear to make up in greater structure and discipline. It was also less likely for private pupils to leave early because many more pupils stay for after-school lessons (87 percent) than at government schools (64 percent).

Turning to the data from our Stallings-style snap shot recording of activity every three minutes, firstly, there was no instance in either government or private schools where the teacher was absent from the classroom with no learning activity going on, or where the teacher was present but not teaching (or no learning activity was going on). During one class in a government school, the teacher was present and engaged in delivering a lesson and answering questions from students for the first 9 minutes, but for the rest of the 30 minute observation, the teacher was out of the room while the class was left to get on with a learning activity that the teacher had set. In all other classroom observations, the teacher was present and doing his or her job for the entire observation period.

The following tables report on aspects of the lessons in the two school types. Firstly, not all teachers had filled in the pupil attendance register, and this was more commonly unfilled in private schools, while private school teachers were more likely to have their pupils’ assessment records to hand (Table 23). It was more common for government teachers to

have lesson notes for the lesson being observed, readily visible during the lesson. However, government and private teachers were nearly equally likely to conduct lessons that seemed to have been planned in advance.

Table 23: Lesson notes and record keeping (observations), by school type

	Government	Private
Share of classes where attendance register completed for today	85.3%	63.0%
Lesson that seemed planned in advance	89.3%	86.7%
Teacher had lesson notes for the lesson	82.7%	56.7%
Teacher referred to written lesson notes during lesson	54.7%	53.3%
Teacher with yesterday's lesson notes	84.0%	66.7%
Teacher with up-to-date assessment info on pupils	44.0%	56.7%

Of note, government teachers were more likely than private teachers to engage in a range of positive practices, such as properly introducing the lesson; asking questions to assess pupils' prior knowledge of the topic; recapping previous material; summarising the lesson at the end; referring to the textbook; using local materials and information to contextualise the subject matter; and encouraging collaborative learning amongst pupils (Table 24). The blackboard was used in every lesson in government and private schools, and in about half of all lessons, pupils also wrote on the board.

Table 24: Positive practices (observations), by school type

	Government	Private
Introduced lesson purpose & intended outcomes	69.3%	46.7%
Asked questions to assess their prior knowledge of the topic	73.3%	63.3%
Recapped material from last lesson	70.7%	43.3%
Summarised material at end of lesson	54.7%	43.3%
Used textbook during the lesson	72.0%	53.3%
Used local materials/ information	61.3%	46.7%
Encouraged collaborative learning	41.3%	20.0%

Table 25 outlines how well-paced lessons were, whether suitable activities were used, and how well all pupils were brought into the lesson or not, with several of these positive practices having been somewhat more common in government schools. Overall, these positive practices were commonly used in both government and private classrooms.

Table 25: Observations on conducting the lesson, by school type

	Government	Private
Classes where activities used were appropriate for target outcomes	92.0%	80.0%
Classes that were well-paced	89.3%	93.3%
Teachers encouraging all pupils to participate, not just volunteers	96.0%	90.0%
Teachers going to speak to individuals/groups	61.3%	63.3%
Teachers calling individual pupils by name	97.3%	86.7%

Teachers in both school types used rote-learning methods (Table 26), with private schools using very simple questioning techniques more often, while government teachers had pupils reciting subject material more often. Government schools were somewhat more likely to ask questions that allowed pupils to demonstrate actual understanding of the material, and they were far more likely to get pupils to engage in activities that allowed them to demonstrate their understanding.

Table 26: Rote learning and questioning techniques (observations), by school type

	Government	Private
Rote learning: % teachers asking questions requiring simple memorisation	57.3%	76.7%
Rote learning: % teachers having pupils reciting materials (reading or from memory), in groups or individually	49.3%	36.7%
% teachers use activities to let pupils show their understanding	86.7%	53.3%
% teachers asked questions to test pupils' understanding	92.0%	90.0%

It is important for pupils to receive feedback in order to learn, and government teachers were more likely to provide feedback in both positive and negative ways than private teachers (Table 27). However, private teachers were more likely to give written feedback on a pupil's exercise book, and it was rare overall that teachers scolded pupils for making a mistake.

Table 27: Types of feedback given (observations), by school type

	Government	Private
Feedback or praise, moral strengthening, encouragement	90.7%	73.3%
Feedback that was correcting a mistake	85.3%	70.0%
Feedback that was scolding a mistake	17.3%	16.7%
Feedback to individual learners	62.7%	46.7%
Written feedback such as by writing on exercise books	49.3%	43.3%

Nearly all teachers used English during their teaching, however there was a significant difference in the shares of teachers using the local language with pupils. The vast majority of government teachers would use the local language, while only half of private teachers did, at any time during the lesson (Table 28). From P4, all children are meant to be taught in English,

while the policy is to use the local language up to P3. It would clearly not be possible, however, for less-advantaged government school pupils to be able to switch entirely to English from P4, while this was far more common in private schools.

Table 28: Language of instruction (observations), by school type

	Government	Private
% teachers using local language during lesson	90.7%	53.3%
% teachers using English language during lesson	96.0%	96.7%

With regard to teachers being actively engaged in teaching during class time, rather than doing other work such as marking, it was rare for teachers in all school types to be disengaged (Table 29). Some private teachers used some part of class time, such as when pupils were engaged in their own work, to mark homework or classwork, while a few government teachers also did the same. Some government teachers were recorded as simply doing nothing.

Table 29: Teachers not actively engaged (observations), by school type

	Government	Private
% teachers using class time to mark homework/other assignments	4.0%	10.0%
% teachers doing their own work (e.g. paperwork, marking, etc)	2.7%	0.0%
% teachers doing nothing (sleeping, talking on phone, etc)	4.0%	0.0%

There was relatively little over-crowding recorded at either school type, and for the most part classrooms were fairly well-maintained. Teachers were at times observed caning or otherwise corporally punishing pupils, and this was observed around the school, not just during classroom observations. Teachers would also remind pupils of classroom rules and expectations in order to maintain discipline, and this was more common at government than private schools (Table 30).

Table 30: Classroom discipline and setting (observations), by school type

	Government	Private
% teachers reminding pupils of classroom rules and expectations	69.3%	50.0%
% teachers spanking, caning or otherwise corporally punishing a pupil	4.0%	6.7%
% classrooms that were over-crowded	16.0%	20.0%
% classrooms badly maintained/ not maintained	6.7%	10.0%

Overall, the classroom observations gleaned that qualified, government teachers were knowledgeable in structuring and conducting lesson plans, drawing on at least a small range of techniques. By way of contrast, private school teachers who were unprepared for their

work, younger and less experienced, tended to draw more on the textbook and presenting content directly from it, with question-and-answer sessions to follow. Considerably more rote learning was observed at private schools, however, there were exceptions in both school types. It is likely that greater accountability at the school level results in more consistent teacher effort, going some way to make up for private school teachers' lesser skills.

4.2.3. Factor 3: School Management

This sub-section considers the third factor from our framework, school management; some questions spoke directly to management techniques and practices, while others were used to probe these issues from different angles. That a school is run well is crucial to its success. As one government teacher put it, in explaining why her current school was better than her previous one, 'there is discipline here. The teachers are all very motivated and work as a team. The Head Teacher is very sincere and motivates the teachers. If the Head Teacher is lax, then the whole school will lack discipline. The Head Teacher must impose discipline without being too hard' (see Box 2).

Box 2: What set apart one government school from the rest: its motivational Head Teacher

In the case of this school, it was immediately clear what the teacher (quoted in the text above this box) had been referring to. The Head Teacher was extremely organised and motivated. She kept her teacher attendance register, in which teachers had to sign in, on her desk, meaning that she knew when every teacher arrived. She kept monitoring charts on her office walls, showing pupil and teacher attendance and timeliness, and while classes began at 8:00, any teacher arriving after 7:40 would be marked as having arrived late. She had charts recording teachers' submissions of lesson notes for checking, and also the academic units that had been covered in each subject for each grade level. Of note, when asked how she motivates her teachers, her own language mirrored the report of the teacher interviewed; she said that she motivates her teachers, treating them like a team, inspiring them to look at themselves as change agents and making them feel that they are all important. She ensured that they knew why it was important to do what she expected of them. She tried to instigate self-reflection with her teachers. She spread workloads fairly, involved teachers in decision making, and used the charts on her walls to monitor her staff. Her teachers also reported how she was rarely sitting in her office, but spent much of her time walking up and down, monitoring what was happening in her classrooms. These interviews indicated a combination of empowerment, support, respect and monitoring of teachers.

This sub-section starts by providing information on the average class and school sizes, along with the proportions of children repeating (at the time of the data collection) in each grade level, which provides a picture of the size of the schooling operation that Head Teachers have to manage. Table 31 shows that government school class sizes were on average larger than at private schools. In the grade in which the NEA is carried out, P4, the enrolment data shows that in government schools class sizes ranged from 8 to 109 pupils, while in private schools the range was 7 to 50. Government school primary sections have over seven times the number of grade repeaters as private schools. Government schools are considerably larger, with poorer pupil intakes than private schools, and they have fewer teachers, meaning a greater challenge for school management.

Table 31: School enrolment and repetition as recorded in official enrolment registers, by school type

	Government	Private
Nursery	37 [^]	44
KG1	47	22
KG2	31	22
P1	32	25
% girls in P1	50.8	48.2
% repeaters in P1	3.5	0
P2	35	21
% girls in P2	47	47.6
% repeaters in P2	5.6	0
P3	35	24
% girls in P3	50.5	49.2
% repeaters in P3	3.5	0.6
P4	37	23
% girls in P4	51	51.8
% repeaters in P4	5.4	1.0
P5	34	23
% girls in P5	47.6	52
% repeaters in P5	4.40	0.9
P6	34	22
% girls in P6	50.1	54.1
% repeaters in P6	3.3	0.8
<i>Total pre-primary – primary enrolment</i>	347	250
<i>% girls in total pre-primary – primary enrolment</i>	46 [^]	46
<i>% repeaters, P1-6</i>	4.3	0.6
JHS1	28	19
JHS2	26	21

JHS3	23	18
<i>Total JHS enrolment</i>	59	58
<i>Total school enrolment</i>	406	308

^ only one observation for government schools

Schools have various management bodies, serving different roles (Table 32). What is common across sectors is the existence of Parent-Teacher Associations (PTAs). At government schools these were reported to be involved or very involved in 78% of cases, while just over two thirds of private schools have similarly involved PTAs. However, while PTAs are involved in supporting schools and are often the forum for school-parent communication, from discussions during the research and around the Head Teacher interviews, PTAs appeared to be less engaged in making concrete decisions regarding the school, than other management bodies. Of note, teachers expressed disappointment in what they perceived to be a low level of interest and support from the wider school community with regard to PTA activities.

Head Teachers and teachers were asked if the school had a management body, such as a Board of Governors (applicable at private schools) or a School Management Committee (SMC, applicable at government schools). Nearly all government schools reported having an SMC, of which four-fifths were reported to be involved or very involved in the actual management of the school. With regard to private schools, only 30 percent of schools have a Board of Governors, of which, similarly, four-fifths were reported to be involved or very involved. The largest share of private schools, nearly half of them, are fully under the control of the proprietor for their management decisions. The rarity of Boards at private schools is likely explained by the fact that many private schools are relatively small, the scale of their operations not seeming to warrant a Board of Governors. Indeed, many private schools are established as projects of the proprietor, with little desire or perceived need on their part to cede any control of the school to others.

Table 32: Types of management bodies (Head Teacher responses), by school type

	Government	Private
Schools having a Parent-Teacher Association (PTA)	100%	93.3%
• % reporting an involved or very involved PTA	78.4%	85.7%
Schools having Board of Governors	0	26.7%
• % reporting Board of Governors to be involved or very involved	N/A	85.7%
Schools having School Management Committee (SMC)	94.7%	0
• % reporting school has involved or very involved SMC	80.6	N/A
Schools fully managed by proprietor only	0	40.0%

Table 33 provides details on the types of management decisions that the school’s management body makes. The most common areas for their involvement was regarding how school funds are used and the overseeing of accounts, followed by the handling of child protection issues at government schools, and teacher management issues at private schools.

Table 33: Types of decisions main management body makes (Head Teacher responses), by school type*

	Government	Private
Deciding how school funds are used	34.2%	20.0%
Managing child protection issues	28.9%	0.0%
Teacher hiring	2.6%	13.3%
Teacher salaries	0.0%	13.3%
Reviewing school accounts	15.8%	13.3%
Academic performance at the school	13.2%	0.0%
Maintenance/ development of infrastructure	13.2%	6.7%
Admissions criteria	13.2%	0%
Which textbooks are used	10.5%	0%
Subjects offered/ curriculum	5.3%	0%
Discipline (staff and pupils)	5.3%	0%
School fundraising	2.6%	0%

*SMC for government schools; Board of Governors or proprietor, for private schools.

Table 34 outlines the self-reported Head Teachers’ responsibilities, which were listed as being many and diverse. The two areas of clear difference between government and private Heads was in the areas of hiring and firing of teachers, because at government school, teachers are posted to schools by the education bureaucracy. Indeed, government Head Teachers complained that when a teacher left, it was often difficult to get another teacher posted to their school, particularly for those schools in rural areas that prove unattractive postings. Another difference between the sectors is that private school Heads also often have the responsibility of making sure that parents pay school fees. Of note, teachers were asked who (or what body) they perceived to be the key decision-maker for the school, and while these bodies were avowed as existing and being functional and even involved, when concrete decisions are concerned, in the vast majority of cases, it was Head Teachers and private school proprietors that were named (Table 35).

Table 34: Responsibilities of Head Teachers (Head Teacher responses), by school type

	Government	Private
Hiring & firing teachers	5.3%	100.0%
Teacher discipline	81.6%	93.3%
Motivating teachers in their work	94.7%	80.0%
Teacher training	73.7%	73.3%
Supporting teachers to improve practice	86.8%	66.7%
Leading school for quality education	78.9%	53.3%
Administration	84.2%	80.0%
Community relations	71.1%	53.3%
Getting new admissions for the school	76.3%	100.0%
Determining whether children should be admitted	44.7%	33.3%
Handling school funds	23.7%	26.7%
Making sure fees are paid	7.9%	46.7%
School maintenance	65.8%	47.1%
Buying teaching-learning materials	44.7%	40.0%

Table 35: Teachers' perceptions of who makes the key management decisions (teacher responses), by school type

	Government	Private
Head Teacher	73.0%	64.5%
PTA	12.2%	9.3%
SMC	9.5%	N/A
Proprietor	N/A	15%
Board of Directors	N/A	0.9%

From who makes decisions, the report turns to the nature of the relationship between teachers and school management. An overwhelming majority of 92 percent and 97 percent of government and private school teachers (respectively) characterised the relationship with school management as positive or very positive. It may be that the positivity is over-reported due to fears that responses might be reported back, despite assurances to the contrary.

In Table 36, school management is looked at through the lens of how teachers are supported in their challenging work as teachers. To begin with, teachers were asked whether they have goals set for them in their teaching, to which all teachers were equally likely to respond positively. When asked to provide an example or examples of goals set, only 67 percent and 64 percent of government and private teachers could describe defined goals, as opposed to more general aims to work and teach well. Even in the latter cases, however, there is the indication that school management was at least in a general way trying to motivate and encourage conscientious work on the part of teachers.

Table 36: Goal setting for, and monitoring of teachers (teacher reports), by school type

	Government	Private
Teachers reporting clear goals are set for their teaching, by school management	70.3%	69.2%
<ul style="list-style-type: none"> Of these, teachers who could describe clearly defined goals 	67.3%	63.6%
Teachers reporting management encourages them to use particular instructional techniques	44.6%	54.2%
Teachers reporting management encourages them to use particular means of assessing pupils' progress	74.3%	80.4%
Teachers reporting Head Teacher, proprietor or other colleague observing at least half a lesson	79.7%	89.6%
Teachers reporting being observed at least once per term	74.3%	89.7%
Teachers who receive in-service training reporting that management checks that teachers apply what they learn	78.0%	62.5%
HTs who report checking that teachers are applying what they learn in training*	89.5%	66.7%
Teachers who always prepare lesson notes	94.6%	75.9%
Teachers reporting their lesson notes being checked at least weekly	94.6%	72.4%
Teachers reporting that their pupils' marked assignments are checked by school management	43.2%	48.3%
Teachers reporting support and monitoring are regular, with follow-up	44.6%	27.6%

*This variable is from the perspective of the Head Teacher

It was more common at private schools for the management (this term is used to include all types of school management, whether the Head Teacher, the proprietor, the SMC or the Board) to ask teachers to use particular types of instructional techniques, which might be related with the unqualified status of private school teachers and their need for guidance. It is also likely to be associated with greater accountability at private schools. They were also more likely to ask teachers to use particular means of assessing pupil progress. It was reportedly common for teachers to be observed in their teaching practice by school management or a senior colleague for at least half of a lesson, at least once per term. This was reported by as many as 91 percent of private school teachers, but somewhat fewer government teachers. One government teacher reported that there was much observation at the school, with observations carried out by the Head Teacher but also by peers, so that teachers would learn from their colleagues. Teachers would also meet together to discuss teaching and learning.

The majority of teachers reported receiving at least some occasional in-service training while teaching at the school. This was the case for 80 percent of government teachers but only 52 percent of private school teachers, which was unsurprising because government teachers receive training organised by Ghana Education Service, while private schools must pay to avail themselves of government training. The majority of training that government teachers reported receiving was delivered by either the Head Teacher or the government, while private teachers reported receiving training from senior colleagues; the proprietor; the Head Teacher; and less frequently from government. Teachers were asked if the school management would check that they applied what they learned during in-service training, in their practice, and nearly four-fifths of government teachers and nearly three-fifths of private teachers answered that this does happen (Table 36). In contrast, Head Teachers reported checking that teachers applied what they learned much more often than teachers reported this. With most classrooms being easily observable from outside, through open windows and doors, it is possible that Head Teachers conduct such checks and observations without teachers realising. At least one Head Teacher reported doing similar observation without this necessarily being realised by the teacher (see Box 4).

Teachers' workloads in terms of hours of teaching per day were the same across sectors: 4.2 hours. Only 24 percent of government teachers but 55 percent of private school teachers reported having free periods at school during the day in which they are able to plan their lessons or do marking. Most teachers report setting homework assignments with regularity, but Table 37 shows clearly that homework is set with greater frequency at private schools than at government schools. Teachers also tend to set written tests in order to ascertain whether children are understanding the material and learning, and this was more frequent at government schools.

Table 37: Teachers' reports of assessments and homework, by school type

	Government	Private
Teachers reporting always setting homework	66.2%	79.3%
Homework assignments given 4-5 times per week	59.5%	75.9%
Homework assignments given 3 times per week	25.7%	13.8%
Homework assignments given 2 times per week	10.8%	10.3%
Homework assignments given once per week	4.1%	0.0%
Written tests given 1 time in 2 weeks	25.7%	24.1%
Written tests given once a month	39.2%	17.2%
Written tests given 1-2 times per term	33.8%	55.2%
Written tests given once a term	1.4%	3.4%
Test at start of school year to establish learning baseline	35.1%	34.5%

The preparation of lesson notes was nearly a universal activity at government schools (Table 36). Teachers were expected to prepare their lesson notes by Monday morning, or Tuesday at the latest, and submit them to the Head Teacher to check. This was witnessed in many schools, where stacks of lesson notes were found in the Head Teacher’s office on Mondays. This practice was also common at private schools, being reported by three-quarters of teachers. With so many lesson notes to check, it may be that feedback to teachers is rare. This was hinted at by one Head Teacher, who reported ‘really looking deeply into the lesson notes’, and writing feedback notes to teachers (see Box 2); she directly implied that at other schools this may likely be more of a formality. It was less common for teachers to report that their pupils’ marked assignments are checked by the Head Teacher or another senior colleague, but this was reported at 52 percent of private and 43 percent of government schools. Teachers were also asked if the support that they receive from school management was regular, with follow-up, and this was less commonly answered in the affirmative: 45 percent of government teachers and one third of private teachers.

Teachers were also asked regarding consequences for teachers who missed school, or who were not in the classroom when they were meant to be teaching, and by far the most common form of sanction was a reprimand, verbal or written (Table 38). For private schools, this was almost always verbal, while at government schools the first action would be a verbal reprimand which would be followed, if necessary, by a written reprimand which would be added to their civil service record. At some private schools, teachers would face some of their pay being withheld, or they might be suspended. Overall however, after those reporting reprimands the single largest share of teachers reported that there were no consequences to missing school and that nothing would be done about this. A surprisingly high 6 percent of private teachers reported similarly, which might be a result of operating in locations where candidates for teaching jobs are few, meaning that schools are less likely to take severe punitive actions against teachers, for fear of losing them.

Table 38: Consequences for teachers for missing school (teacher responses), by school type

	Government	Private
Verbal reprimand	47.3%	75.9%
Written reprimand	31.1%	3.4%
Complaint to District Education Office	1.4%	0.0%
Some pay will be withheld	4.1%	13.8%
Suspension	0.0%	13.8%
Threatened with loss of job	0.0%	3.4%
Loss of job (sacking)	0.0%	3.4%
No consequences - nothing is done	23.0%	6.9%

In addition to teachers being overseen by their own school management, teachers and schools also experience oversight by government inspectors. Teachers were asked whether they were observed in their practice by government inspectors, and for long enough that some degree of judgement of their practice could be made (i.e. not just a walk-by look around the school premises). Many more government (72 percent) than private school (39 percent) teachers reported this taking place, and of these observed teachers, 91 percent of government and 62 percent of private teachers reported that they received feedback to improve their teaching, as a result of this observation. However, it was noted that the quality of the feedback varied, and some rural schools experienced minimal support or oversight (Box 3).

Box 3: What sets a remote rural school apart from the rest: lack of support and oversight

At one remote, rural government school, there was found to be a chaotic air. This was already the case in the morning, and, as with some other government schools, discipline eroded during the day, mostly manifesting through children leaving the classroom at break times and not coming back. This problem was worse after the free lunch that is provided at most schools. During classroom observations (in the morning), pupils came in late, without anyone remarking on this. The most basic rote teaching-learning techniques were used during a class on 'reading comprehension' where there was one tattered textbook for six children. The lack of books meant that the teacher wrote key words on the board and had pupils recite the words over and over; similar unison repetition could be heard coming from other classrooms also. After having gone over key words for some time, the teacher arranged six pupils around each book, but this inevitably meant that some were forced to try to follow and read along, upside down.

Teachers reported that neither PTA nor SMC were very involved at all in school management, and that the Head Teacher was not actively or effectively leading the school, and did not even attempt to instil discipline. It was reported that training was rarely offered by the government, and that the school gets no regular support or monitoring 'we can go a whole term without seeing anyone [from government/ the education bureaucracy]'. Teachers had put in requests for more teaching-learning materials, but these had not been forthcoming. The teacher told of many such remote schools in an even worse position, with teachers who are more involved in farming than teaching and that some of these even take their pupils to work on their farms. 'They are far from town so nobody cares'. At the same time as government was not showing an interest in the school, the community was also not proving supportive, with pupils often missing school to go to the farm with their parents; some arriving late and hungry, and some sleeping in class. The teacher stated that children wanted to learn, but they receive no support from their households for their education.

The circumstances at this school were evidently failing to make up for shortcomings from the home.

Teachers were asked in several different ways about their experiences of being supported and encouraged to keep improving their teaching practice. Table 39 provides several ways in which Head Teachers would keep up with how their teachers were doing, with meetings to discuss proving to be the most common, while some government teachers reported they were sometimes given new teaching-learning materials to work with. These teacher responses did not provide any pattern showing government or private school leadership doing more than the other to ensure teachers keep learning and improving. The positive practices detailed in the table below are shown to be far from universal in either sector.

Table 39: Ways that Head Teachers or other senior colleagues support teachers to improve their practice (teacher responses), by school type

	Government	Private
Regular meetings to discuss teaching	25.7%	17.2%
Give me new teaching materials	24.3%	17.2%
Group staff meetings to discuss quality teaching	18.9%	24.1%
Recommend new teaching methods or materials	14.9%	10.3%
Occasional meetings to discuss teaching	13.5%	10.3%
Discuss pupils' exam results with me	5.4%	3.4%
Look at pupils' work during class time	9.5%	13.8%
Check my files and records	8.1%	6.9%

Table 40 shows that it was common in both sectors, and relatively equally common, for teachers to ask the Head Teacher or other senior colleagues for help or support in their practice. However only 64 percent of government and 55 percent of private school teachers who asked for such support reported having received it as a result of asking. In contrast to the responses in the table below, 84 percent and 71 percent of government and private school Head Teachers (respectively) stated that teachers came to them to ask for advice and support, significantly more than the proportions of teachers reporting asking for support. The vast majority of all teachers, but slightly more private than government school teachers, reported that they have used the internet to find information and advice on teaching; with limited access to any government-provided training, this may be one of the main avenues for private school teachers.

Table 40: Teachers' reports of requests for support, by school type

	Government	Private
Have asked the head teacher for support/help to improve their teaching	62.2%	58.6%
Have asked other colleagues for support/help to improve their teaching	28.3%	37.9%
Received the support/help asked for from management or colleagues	64.2%	44.8%
Looked for advice/ support on-line to improve their practice	87.8%	93.1%

The focus on management now turns to specific policies regarding school management, including regarding interactions between school staff and parents. Firstly, Head Teachers were asked if there was a clear mission or vision for the school, to align operations with; teachers were also asked in order to ascertain whether this mission or vision permeates all areas of school operations. Nearly two-thirds of teachers replied that their school has a mission or vision (Table 41). Of these, 90 percent reported that this was clearly communicated to the school community; however, when asked to explain it to the researcher, only 35 percent of government and 29 percent of private school teachers (out of the two-thirds who reported there was a mission or vision) were able to describe it. It was common for teachers to simply state that the school sought to provide good quality education, or similar, and it might be this general intention that some teachers confused for a clear vision and mission statement. Of note, the over four-fifths of government Head teachers reporting a clear mission or vision was considerably higher than the share of teachers reporting similarly, while at private schools, many more teachers than Head Teachers reported similarly (presumably because of this possible confusion as to what a clear vision or mission is). Fewer Head Teachers (than teachers) reported that it is clearly communicated to the school community. There was often a hard copy of the school mission and vision posted on the wall in the office a government schools, but this was not often observed at private schools.

Table 41: Staff perceptions regarding school mission or vision, by school type

	Government	Private
Teachers reporting their school has a clear vision or mission	64.9%	58.6%
<ul style="list-style-type: none"> • Of these, % reporting this vision/mission is clearly communicated 	89.6%	88.2%
<ul style="list-style-type: none"> • % of those affirming vision exists, who could clearly explain the mission/vision 	35.4%	29.4%
HTs reporting their school has a clear vision or mission	81.6%	40.0%
<ul style="list-style-type: none"> • Of these, % who say this vision/mission is clearly communicated 	83.9%	66.7%

With regard to the important issue of child protection, government school teachers and Head Teachers were in alignment, with approximately one third stating that there was a child protection policy at the school (Table 42). At private schools 35 percent of Head Teachers reported that there was a policy, while just under one quarter of teachers agreed. Very few teachers at either school type reported having received any training around this policy, yet still 57 percent of government and 46 percent of private teachers reported believing that their school does a good job of protecting children and keeping them safe. Of note, no private school Head Teacher and only 8 percent of their government peers could provide a written copy of the school’s policy. Only five to six percent of schools keep a record of child protection incidents when they occur.

Table 42: Teachers’ and Head Teachers’ reporting regarding child protection, by school type

<i>Teachers on child protection</i>	Government	Private
% stating that the school has a child protection policy	32.4%	29.9%
% having received training in child protection	16.2%	12.1%
% stating that the school does well in protecting children and keeping them safe	56.8%	53.3%
<i>Head teachers on child protection</i>		
% stating that the school has a child protection policy	34.2%	33.3%
% reporting a written policy	15.8%	6.7%
% having a copy available to be seen	7.9%	0%
% having a record of child protection incidents available to be seen	5.3%	0%

To probe whether schools were looking after pupils’ wellbeing from the perspective of the household, parents were asked whether their child had ever received help to resolve any non-learning-related issue that the child might be facing at school. These problems could be with another pupil, for example, such as being bullied or harassed. Only 20.1 percent of

government and 36.2 percent of private school parents supplied an answer to this question, with the rest of the respondents not knowing if the child had faced such issues, or not knowing if the child had received any help at school. Of government pupils, 18.3 percent in total had definitely received help or attempts to help from school staff, to solve a non-academic problem. Of private school pupils this proportion is considerably higher at 35.4 percent. It is possible that with teachers having fewer pupils in their charge, it becomes easier to notice such non-academic issues and to make attempts to solve these, at private schools.

More generally, irrespective of particular issues facing some pupils, engagement with families and the community is important for any school, and so teachers were asked whether or not there was a policy for teachers to communicate regularly with parents, and at government school two-thirds replied in the affirmative while 46 percent of private school teachers reported similarly (Figure 27). When Head Teachers were asked, nearly all answered that it was a school policy to communicate with parents (

Figure 28), and the difference between teachers' and Head Teachers' responses may be explained by the difference in the question. Teachers were asked if they themselves were to communicate regularly while Head Teachers were asked more generally about communication between the school (which could be expressed as they themselves in their capacity as the leader of the school, and/or the teachers as well) and the teachers. Irrespective of what policy was believed to exist, the vast majority of teachers reported communicating regularly with parents (Figure 29).

Figure 27: Teachers' reports regarding existence of policy in favour of communication with parents, by school type

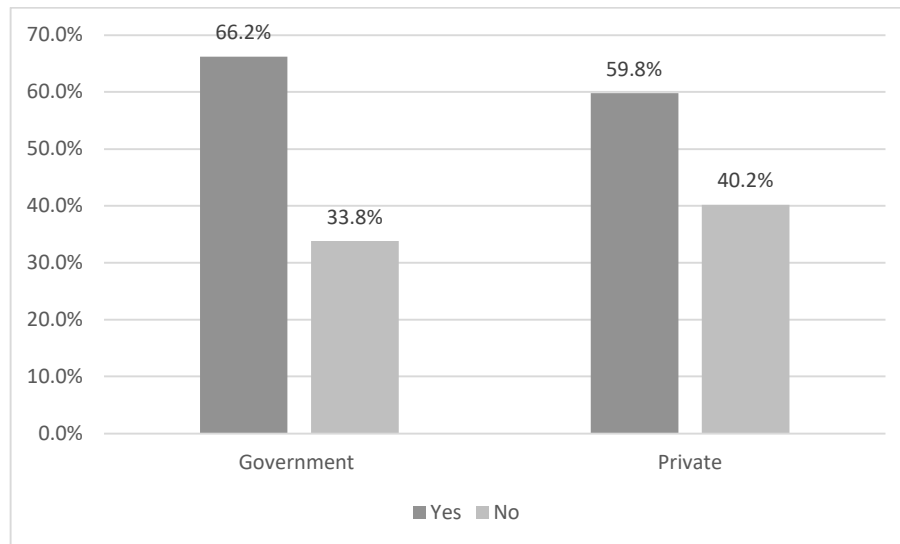


Figure 28: Head Teachers' reports regarding existence of policy in favour of communication with parents, by school type

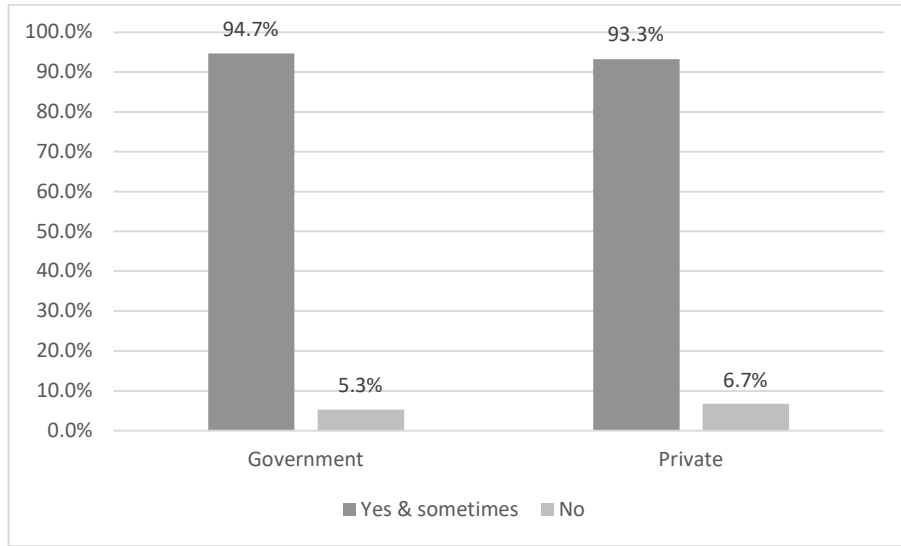
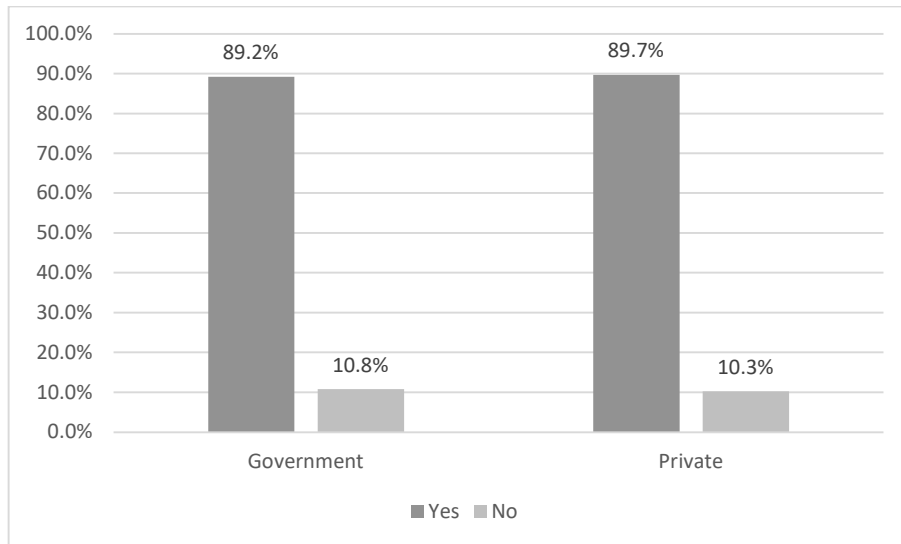


Figure 29: Whether teachers communicate regularly with parents (teacher responses), by school type



It has been noted above that well over half of parents at both types of schools reported that their children were experiencing difficulties with learning. In relation to this, parents were asked whether anyone at school, either the Head Teacher or any teacher, approached the family about the problem, or any other problems, with the intention of helping (Table 43). It was much more common at private schools to be approached in this manner, and it is notable that only 10-11 percent of parents stated that the child had never had any social or learning challenges, indicating that most parents perceived their children to have struggled at some point, in some way, during their education.

Table 43: Parents reporting school approaches re: child’s learning, social, or any other problem, by school type

	Government	Private
Teacher or Head Teacher approached us about child’s problem	21.4%	36.2%
No one approached us about child’s problem	68%	51.3%
Child hasn’t had any problems	10.3%	11.2%
Unknown	0.3%	1.3%

Parents were also asked if they had ever approached the Head Teacher or any teacher about any subject that their child was struggling with, and only 12.6 percent of government school parents and 27.2 percent of private school parents had done so. Of these, half of the government school parents reported that the child was helped very much, and 42 percent stated that the child was helped a bit (Table 44). At private schools nearly three-quarters were helped very much and a quarter were helped somewhat. Only a few pupils at government schools did not receive any help when this was asked for.

Table 44: Parents’ reporting if help was given, when asked for from school, by school type

	Government	Private
Yes, teacher/Head Teacher helped very much	50%	71.7%
Teacher/Head Teacher helped somewhat	42.2%	28.3%
No one helped	4.4%	0%
Unknown	3.3%	0%

1..1. Factor 4: School Inputs

This sub-section outlines school facilities and resourcing, describing government and private schools’ physical infrastructure such as classrooms and toilets; it also considers furniture, blackboards and, crucially, the presence or absence of teaching-learning materials in the classroom.

The sub-section begins by outlining schools’ physical facilities, the basics of which are important in creating a setting that allows for good quality teaching and learning to take place. Private schools have more all-weather classrooms than government schools, although classroom sizes and specifications are not always up to government standards, as indicated by the much lower proportion of private schools having solid partition walls between classrooms (Table 45). Private schools are much more likely to have at least some computers, and to have adequate seating and writing space for pupils. They are also far more likely to have electricity and a functional boundary wall or fence. Private schools have fewer toilets and an 8 percent-higher pupil-toilet ratio than at government schools, but more private

schools have hand washing facilities. Only one school in our study sample had no working toilets, and this was a government school.

In many instances, government school facilities appeared to be in quite good order, however despite having wooden shutters and doors that could be closed, rains still presented a problem due to roofs and windows frequently failing to exclude water penetration. Private school buildings often followed a similar type of classroom layout, with windows often having shutters, and two doors (one on either side of the room, close to the front wall), however these were often less substantial buildings than at government schools; some did not have doors or window shutters but just openings. Some private schools used make-shift buildings using wooden frames and having partial or complete wood boarded walls, with classrooms as small as possible to accommodate the relevant number of desks and benches. In general, government schools had larger compounds and more substantial buildings with larger classrooms, while private schools had much more limited space and often were constructed in a much less permanent manner.

Table 45: School facilities (Head Teacher responses and observations), by school type

	Government	Private
School provides safe drinking water	78.9%	73.3%
Mean number of toilets for pupils to use, per school	5.1	3.6
Proportion of these toilets that are for girls only	49%	50.1%
Pupils per toilet	79.5	85.6
Schools with handwashing facilities with soap	68.4%	73.3%
Mean number of all-weather classrooms	8.1	8.8
Share of schools with solid partition walls between classrooms	84.2%	53.3%
Schools with fewer than 5 classrooms	18.4%	33.3%
Pupils per classroom	50.1	35
Mean number of working computers	2.5	6.6
Number of schools with no working computers	65.8%	33.3%
Schools with at least some available library books	52.6%	46.7%
Classrooms with seating for over 75% of pupils	88%	90.7%
Classrooms with writing space for over 75% of pupils	81.3%	83.2%
Has a source of electricity	68.4%	93.3%
Has a functional boundary wall or fence	5.3%	53.3%

One of the key findings of the research is the lack of teaching-learning materials in schools, particularly the requisite textbooks. These were lacking for all subjects but this posed possibly the most severe challenge for English, mathematics and science subjects. During classroom observations, researchers noted textbook use, and, after the completion of the lesson, they counted the number of books that had been used, finding these to be sorely lacking (Table

46). At private schools there were on average 2.4 children for every book. With regard to government schools, the situation was much worse, with, on average, one book for every 5.4 pupils, but this average masks considerable variation. Research shows that a ratio of 2 pupils to one book is unlikely to hurt learning, but considerable negative impacts are identified from moving from 2:1 to 3:1 (and by implication, the government's ratio of 5.4:1 is likely to have much worse impacts still)²¹. There were many classes observed where no child had the use of a textbook. In some instances, the teacher would use the book²², leading the class through the content, without pupils using a book at all. In other cases, the teacher also did not use any book, but led the class through a pre-prepared lesson, often using the blackboard to write parts of the lesson on the board. In many cases, the teacher had access to a few extremely old, torn, and therefore incomplete, copies of the textbook, that they would use, as far as they were able, having several children share one ragged copy. Some teachers stated that the books in this condition were essentially unusable.

Table 46: Pupil to textbook ratios as recorded during classroom observations, by school type

	Government	Private
Average attendance (class size) during classroom observations	26.4	21.2
Pupils per textbook	5.4	2.4
Pupils per textbook based on 100% attendance	6.4	2.6
Share of classes where all children could see a textbook	37.8%	45.7%

Government is meant to provide government schools with textbooks required for use in class by pupils. These textbooks are to be stored securely at the school and brought out for use in class. While government is meant to provide the books required, it was found that this is not happening, with no Head Teacher in the study having reported receiving any books in several years; the last delivery was usually reported as being between three and six years previously. In the absence of a reliable supply of books, Head Teachers would ask parents to buy at least the books for the key subjects of English, mathematics and science, but in practice this would happen only to an extent; ideally pupils would have textbooks for all seven or eight subjects. At private schools, buying textbooks is unambiguously the responsibility of parents, yet parents were not buying books in the required numbers.

During household interviews, parents were asked how many textbooks they were meant to buy for their children, with government school parents on average reporting nearly four books and private school parents just over six books. The numbers actually bought are substantially lower (Table 47), and fewer than half of parents reported buying the English and mathematics books for their children at the start of the school year, in September, while this figure is around one third of government school parents.

²¹ Fredriksen, B., Brar, S. and Trucano, M. (2015).

²² Usually a complete copy of the relevant textbook, not a teacher's guide.

From classroom observation, it appears likely that parents were over-reporting the numbers of textbooks bought, due to the very small numbers of books observed and counted. During teacher interviews, it was a common complaint that parents do not buy textbooks. Many teachers reported supplying pupils with photocopies for the most important subject matter, and that parents did not pay even for these.

Table 47: Parents' reports regarding textbook buying, by school type

	Government	Private
Mean number of books meant to buy	3.9	6.7
Mean number actually bought	2.3	5.1
% parents who bought the English textbook in September	38.8%	40.1%
% parents who bought the mathematics textbook in September	27%	39.2%

Figure 30 shows that teachers perceive the supply of textbooks by parents to be insufficient even at private schools where this is the responsibility of parents.

Figure 30: Teachers' reports regarding supply of textbooks by parents, by school type

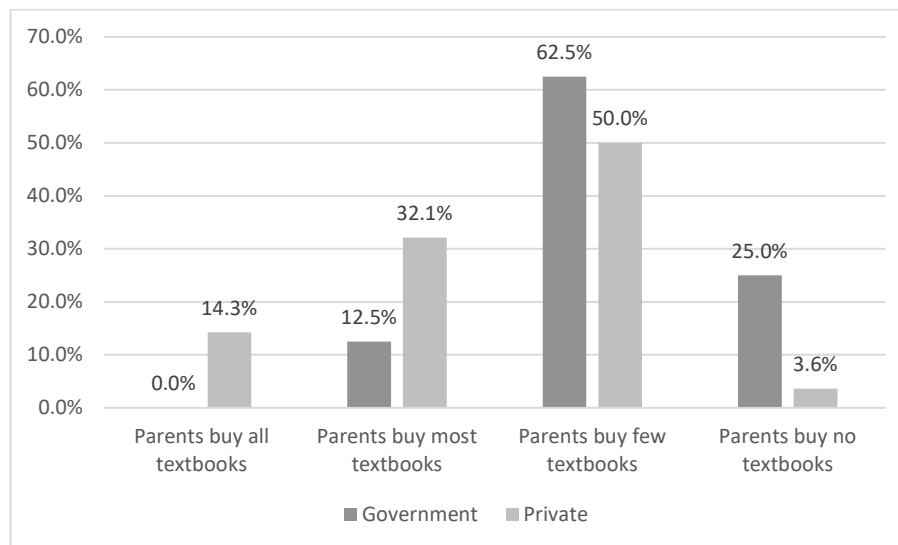


Figure 31 below shows government teachers' perceptions of the insufficient supply of textbooks at government schools, where this is the responsibility of government.

Figure 31: Teachers' reports regarding government supply of textbooks to government schools

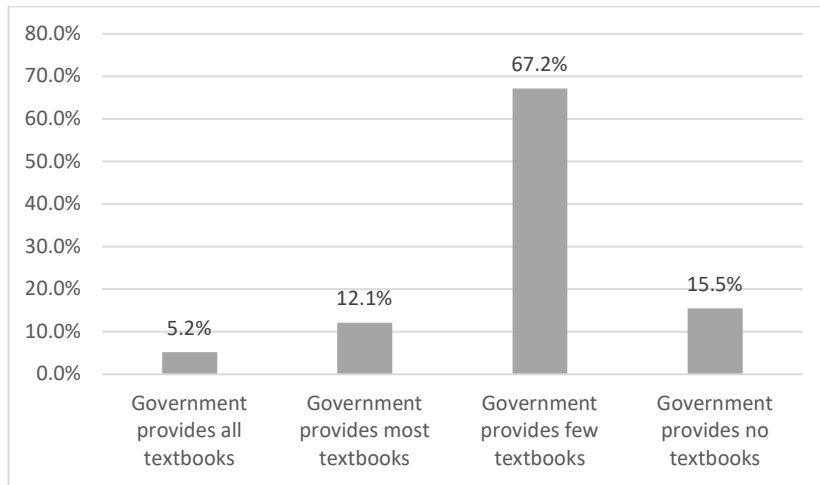
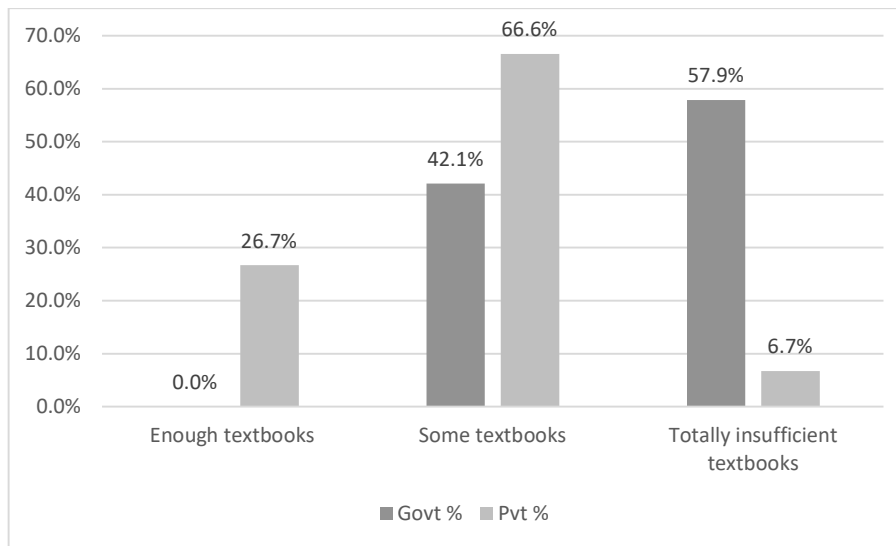


Figure 32 shows that few classrooms, even at private schools, have sufficient textbooks.

Figure 32: Availability of textbooks in classrooms (Head Teacher responses), by school type



Teachers felt the lack of teaching-learning materials keenly, and would make requests to school management to supply more of what was required. Table 48 shows that only 77-79 percent of teachers reporting having a printed copy of the syllabus from which to plan their lessons, and 82 percent of government and 91 percent of private teachers, respectively, asked school management to provide them with materials that they needed. Of those who asked, some teachers got what they asked for, but we do not know in these cases whether the requests were large or small. The largest share of teachers got some of what was asked for. A majority of government school teachers, but just 42 percent of private teachers, asked management to provide materials that pupils needed. Similarly as for teachers' materials, the largest share of teachers reported receiving part of what had been asked for.

Table 48: Teachers' requests for materials (teacher responses), by school type

	Government	Private
School provides printed copy of syllabus to help teachers plan their lessons	77.0%	75.9%
Teacher has asked management to provide TLMs	82.4%	89.7%
School provided what was asked for	21.3%	15.4%
School provided part of what was asked for	34.4%	30.8%
School provided little of what was asked for	27.9%	30.8%
School provided nothing	16.4%	23.1%
Teacher has asked management to provide TLMs for pupils	71.6%	44.8%
School provided what was asked for	15.1%	23.1%
School provided part of what was asked for	35.8%	38.5%
School provided little of what was asked for	24.5%	23.1%
School provided nothing	24.5%	15.4%

While the quality of teachers is arguably the most important factor in the quality of teaching and learning, the lack of resources was stated by teachers and Head Teachers to be a serious issue, which led to much wastage of class time while teachers would write textbook material on the board that pupils would then have to take the time to copy into their exercise books. This was the most serious deficiency of vital school inputs that was found during the research.

4.2.5. Conclusions

This section has provided a picture of both school sectors in terms of the pupils attending these schools and their socioeconomic status; teachers in terms of their skill, motivation, and the challenges they face in their work; school management and its quality; and lastly, the level of resourcing at schools in terms of the vital inputs required by pupils and teachers. The following section of the report addresses the third research question, to examine which factors are correlated with pupils' test scores and the weight or significance of these correlations, to suggest which of the factors discussed here appear to be most related.

4.3. Research question 3

To what extent are household, pupil, teacher and school-level factors correlated with student achievement?

PLACE HOLDER – MULTIVARIATE ANALYSIS TO BE PROVIDED BY EPG

4.4. The Costs of Attending and Providing Government and Private Schooling

The above analysis of private and government schooling in Central Region would be incomplete without a consideration of the costs involved, for children to access these schools, and the cost involved in providing this education.

Complete cost data (including expenditures at the school and outside in the local market) was gathered for sending a child to school in the P4 year. The ‘official’ costs were gathered from Head Teachers. Two sets of figures were gathered from households: firstly, what they understood to be all of the official fees and costs that they were meant to pay and secondly, what parents reported actually having paid. Actual expenditure by households is often less than what they report being meant to spend, while the latter figure is often higher than what Head Teachers report as the official costs.

Both types of respondents (Head Teachers and parents) were asked which fees and costs were mandatory and which were not. As an example of an optional or ‘discretionary’ fee, schools might have ‘Friday wear’ or ‘sports dress’ in addition to the regular school uniform, that may not be considered essential by the school. Figure 33 shows the sum totals of fees and other direct costs, showing no P4 fee at government schools, while at private schools this main school fee accounts for just under half of the total of mandatory fees. The extra discretionary fees are relatively small at both government and private schools.

Figure 33: Costs of attending government and private schools (official costs as reported by Head Teachers)

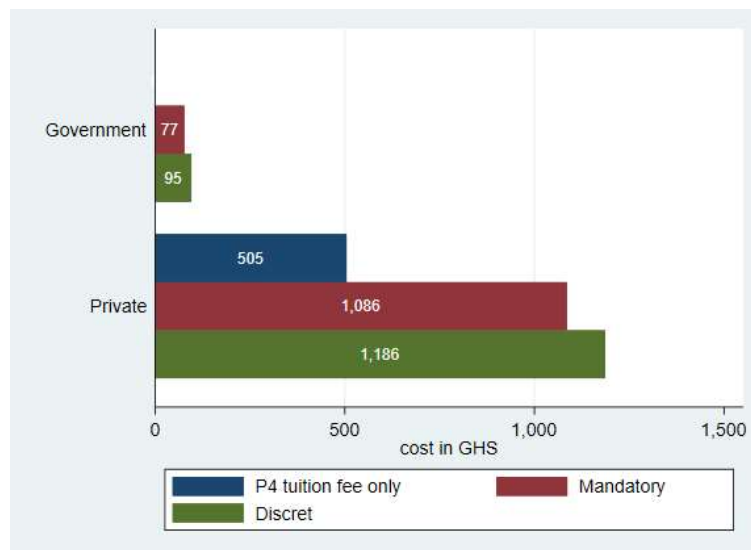


Table 49 provides the three assessments of fees and costs at private schools, while Table 50 provides this information for government schools. While the complete cost to attend a

government school (see Box 4 regarding ‘informal fees’ charged) for a year varies relatively little, and while the costs are much less than at private schools, they are still significantly more than what the word ‘free’ would seem to indicate. Due to the officially ‘fee-free’ status of government schooling, parents are less willing to supply any of the deficiencies (such as buying textbooks in the face of failure in government supply). Conversely at private schools it is expected that all fees and costs must be paid by the parent, and where they do not buy all of the requisite textbooks and other materials, this is ostensibly due to financial difficulty. It is not possible to mark each fee as mandatory or not, as this varied somewhat from one school to another.

Table 49: Cost to attend low-fee private schools

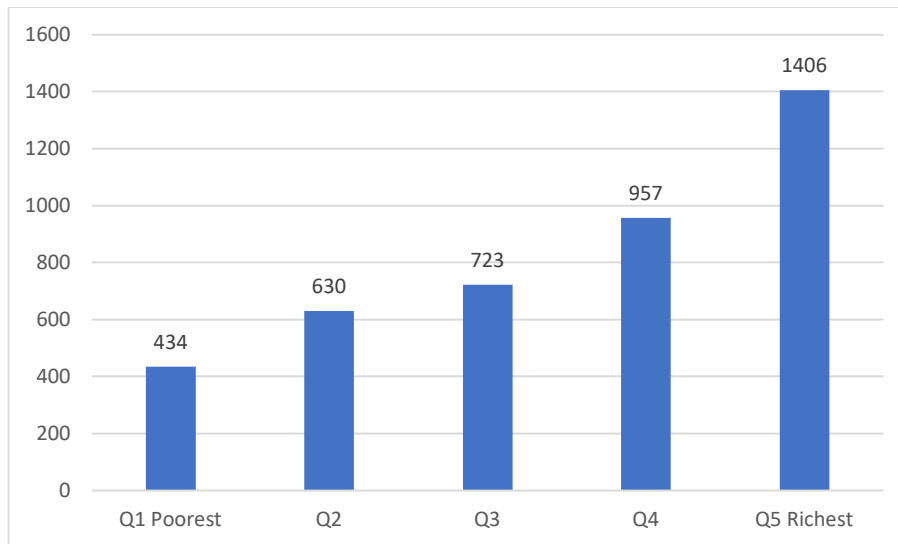
costs	HT’s report	HH’s report – meant to spend	HH’s report – actual expenditure
Primary 4 – school fee per year	346.00	386.44	374.74
Examination fee	25.84	37.93	37.25
PTA contribution	5.25	N/A	7.52
Admission fee (at first enrolment only)	35.00	55.04	N/A
Report card fee	5.28	N/A	5.12
Extra classes	105.23	132.18	123.25
Private supplemental tutoring	N/A	N/A	604.85
Uniform	32.00	N/A	88.91
Textbooks	122.96	152.42	107.70
Extra school supplies (cleaning, etc)	4.40	265.00	223.83
Stationery	63.88	N/A	N/A
Lunch	266.40	N/A	522.34

Table 50 Cost to attend government schools

costs	HT's report	HH's report – meant to spend	HH's report – actual expenditure
Examination fee	16.30	23.38	22.87
PTA contribution	9	N/A	12.70
Admission fee (at first enrolment only)	2.95	6.33	N/A
Report card fee	2.77	N/A	2.94
Extra classes	43.50	65.90	53.79
Private supplemental tutoring	N/A	N/A	603.86
Uniform	44.93	N/A	45.96
Textbooks	98.40	72.09	42.80
Extra school supplies (cleaning, etc)	4.31	112.54	107.11
Stationery	68.85	N/A	N/A
Lunch	67.50	N/A	308.89
Clubs and sports	4.00	12.17	11.61

In terms of total actual expenditure, including all school-related costs whether discretionary or not; including private supplemental tuition and transportation (where families chose to spend on these things), the average low-fee private school family spent 1,726 Cedis for the P4 year, while the average government school family spend 499 Cedis. Figure 34 provides the actual expenditure by wealth quintile for the entire sample of 54 Central Region schools for which household data was gathered. The purpose of this figure is to illustrate how expenditure on education increases with household wealth, serving to further illustrate (adding to Figure 13 which shows the proportions of families by wealth quintile accessing government and private schools) that it is extremely challenging for those in the poorest 40 percent of the population to access private schooling.

Figure 34: Total actual expenditure for P4 by wealth quintile



Box 4: The 'hidden costs' of government schooling

While no school charges an actual 'school fee', which was confirmed through household interviews, there were various reports of other types of fees at government schools. Examination fees were quoted as being at least 5 Cedis per term (consistent with the 16-23 Cedis per year quoted in Table 50 below). Some parents reported having to pay 4 Cedis per term for water, and 3 Cedis per term for ICT (when it was rare for a government school to have working computers). Parents were often expected to pay into the PTA, amounting to at least 5 Cedis per term. One Head Teacher reported charging 5 Cedis for an entrance test paper.

Extra afternoon classes were cited as costing 30-40 pesoes per day, and some Head Teachers reported not charging for this, while parents stated that they do.

Children also have to bring materials to school (see Box 1), such as soap, toilet paper, cleaning products, brooms, white board markers, board erasers (dusters).

As noted in this report, the requirement of wearing a uniform causes many pupils to miss school. This may be compounded by schools having multiple uniforms. Parents at one school reported that they are meant to provide four different sets of clothing for the child: the main school uniform; Friday wear; sportswear; and 'anniversary wear'. This arguably places an unreasonable burden on parents, for whom it would be more practical to try to acquire just two or more full sets of the same uniform, as washing right after school (to allow drying time for the next school day) in contexts where there is not ready access to washing facilities or even water, may not always be possible or practical.

These extra fees are charged because of the insufficiency of the main source of funds at the school level – the capitation grant – for providing vital materials such as chalk, markers, erasers (dusters), reading books, other teaching-learning materials, soap, toilet paper and cleaning products, as well as providing vital textbooks which are meant to be supplied by government separately from capitation grant funding. In addition, as discussed in this chapter, schools find themselves having to supply basic writing materials that parents should be providing. Because capitation grant income is manifestly too small, working out at an average of 5.36 Cedis per child per year (US\$1.05), Head Teachers find themselves having to levy unofficial fees from parents.

This study's finding of 95 Cedis per year to spend for one year at government school in Central Region tallies with Abdul-Hamid et al's (2015) finding that the cost was around 100 Cedis in Kasoa.

With test scores found to be higher at private schools, a natural suggestion might be to support poor children's access to private schools through vouchers or other forms of public-private partnership. The decision to enter into partnership with private schools would need to be based at least partly on the cost of provision (unit costs as opposed to what parents pay) at private and government schools. Therefore, we also outline the cost factors for both types of schools, and present the annual unit costs. It should be noted that there are likely to be political economy-related difficulties in partnering with low-fee private schools based on reasonable objections to the very low salaries paid.

The simplest way of arriving at an estimation of the unit cost at government schools is to first arrive at the total funding coming to schools, before dividing this by the number of pupils. It must be stressed that this provides an estimation only, covering the main cost factors at the school level. It does not cover the cost of government oversight of these schools, or the cost of teacher training (both of which costs should arguably pertain to private schools too, in an ideal education system involving qualified teachers for both school types and schools that are all subject to quality assurance or inspection).

Government schools' income from government revenues comprises of the capitation grant for the year and nominally the amount spent on civil service teacher salaries, although these funds do not arrive at the school but rather, are paid direct to teachers. To this is added income from PTA dues paid by parents, and also the other (informal) fees that parents reported paying: the examination fee; sports fee; extra classes; report card; building levy. There is reportedly no other source of funding to the school, and this covers all of the schools' running costs, including minor maintenance work, but does not cover teacher training, lunch,

major classroom building projects, or the cost of running the government bureaucracy. The school's total funding for the year was then divided by the total enrolment, to arrive at the unit cost per year: 808 Cedis per year for a primary school pupil, on average.

Approaching private schools' total cost factors can be approached in a similar manner, by arriving at the total funding amount per year. In the typical individual proprietor-owned low-fee private school model, the total funds that private schools have to run on are equivalent to the total income from parents. An exception to this rule is where some proprietors put personal funds into their schools because fee income receipts prove insufficient. The household questionnaire gathered rich data on what parents actually spent to send their children to private schools in P4, which is what we take as the unit cost for the primary section, which is then multiplied by the primary level enrolment of the school. With fees above P4 level being higher, and those below being lower, these differences are likely to largely balance each other out, and once again it is stressed that the unit cost is a reasonable estimation only. The calculations exclude costs for items bought outside of the school, such as at book shops or stationers. The lunch fee income and sportswear income are reduced by 50 percent (again an estimation - to account for the supply of food and the sportswear items). The resulting estimated unit cost is 688 Cedis. These comparative unit costs indicate that private schools are performing at least a comparable task at a lower operating cost. The extent to which it can be said that the cost efficiency is actually greater will depend on how much of the raw test score advantage at private schools can be ascribed to the quality of private schools themselves. The basic conclusion of this section is that private schools cost less to produce a year of schooling, while the costs to parents are prohibitively expensive for many of the poorest two quintiles, and the costs of attending government schools may even deter the poorest of the poor.

5. Discussion and conclusions

5.1. Discussion

This study has examined the variation in NEA test scores between government and low-fee private schools, and between rural and urban areas, showing clearly that those residing in rural areas and attending government schools are scoring the lowest and therefore require interventions to raise their outcomes the most. Having seen consistent NEA results showing a raw test score advantage for private schools, the education authorities have become more and more interested in seeing how the power of private schooling might be harnessed to improve learning outcomes (proxied here by NEA test scores). However, it should be noted that private schools are not all achieving objectively high test scores; across the two subject areas their average scores are only around the lowest score that Ghana classifies as 'proficient' – around 55 percent. These schools score on average 57.5 percent in English, and 53.6 percent in mathematics. This should not be considered an objectively high standard to

aim for, and it must be recalled that this average means that many private school pupils achieve much lower test scores and so do not even attain basic proficiency. With scores proving low in both types of schools, the government needs to take urgent action to tackle issues at the school level, and might try to tackle family poverty by, for example, possibly extending school feeding to include breakfast as well.

[Place holder for RQ3 summary....] Certain caveats should be noted, however: our research design was necessarily cross-sectional, with no data on prior achievement or innate ability of pupils, and no element of randomization. We have no indication as to whether parents who sent some children to government and some to private school might be purposefully selecting their more able child to attend private school in the hope that she or he might achieve more. This meant that we were limited to looking at correlations, and not causality, and the amount of variation in test scores we would be able to explain would be limited (as with all such studies).

Considering the results by the four factors or proximate determinants of learning in the framework adopted for this study, it is clear that pupils at government schools come from less-advantaged backgrounds than private school pupils. They are much more likely to be drawn from the lowest two to three quintiles of socioeconomic status as measured using an asset index (Figure 13). The limited spending power of those of lower wealth levels is demonstrated through the average spending per wealth quintile (Figure 34). The first major sub-section under research question 2, addressing pupil preparation, shows a range of other indicators on which private school pupils are seen to be more advantaged, such as having more highly educated parents, and much more often living in urban areas. Pupils attending private schools will benefit from the positive peer effects of going to school with similarly more-advantaged pupils from more motivated households, while it is the case that low-fee private school families, while largely described as lower-middle to middle class within the Central Region context, these families should not be considered to be wealthy. The study shows clearly that there are significant differences between the 'average' low-fee private school pupil and the 'average' government school pupil, and the multivariate analysis finds that... [EPG RQ3 results here: while controlling for this... significant... relationship between test scores and private school attendance still significant??] ... the poorest pupils are the most likely to lack the learning materials that they need, and to go hungry, both of which are issues that government might try to tackle.

With regard to factor two, teachers' skill and motivation, there were found to be stark differences between the teachers employed at government and private schools. The traditional proxy for skill, qualifications, shows a clear split with nearly all government teachers being qualified, while nearly all private school teachers are unqualified, and have mostly just completed SHS (Figure 23). The classroom observation data suggested that pre-service training does provide an advantage to government school teachers in providing them

with pedagogical knowledge and skill as evidenced through the teaching observed. Private school teachers had lower absence rates, and were necessarily more accountable to Head Teachers and proprietors because these school managers have the power and responsibility for staff hiring and firing. Despite being paid extremely poorly (Table 22), private school teachers were more motivated in their work (Figure 26: Teachers' motivation levels (teacher responses), by school type Figure 26), possibly related to the greater degree of classroom resourcing (Figure 30) and support from pupils' homes (Figure 17 and Figure 20). Private school teachers reached out to struggling pupils more than at government schools, which is likely facilitated by having smaller class sizes on average with better pupil attendance, meaning that caution should be taken before instituting any policy to greatly expand class sizes. Government school teachers were less motivated, and in rural areas tended to feel very un-supported by the education authorities. These teachers require the most support in light of the fact that they are catering for the most deprived children who are the most challenging to educate effectively.

With the research finding that government school teachers have been better-prepared for the challenging work of teaching, but private school teachers are more accountable and are less-often absent, the role of school management (factor three) and the level of school inputs (factor four) may play a significant role in the differences between test scores. On a range of indicators of management practices, government schools do somewhat better (for example, Table 36), while private schools have an advantage in terms of factor 4, having a much better availability of school inputs, even if this is because parents provide these. Teachers in government and private schools stressed the great importance of having the necessary textbooks available in the classroom and that pupils need writing materials. A key finding of the study is that these are universally needed, to 'scaffold' the lesser skill of unqualified private school teachers, and to allow the much more resource-starved government school pupils to practice reading and to support their mathematics learning (and, by extension, to learn the other curriculum subjects also). In addition, private school teachers require professional development opportunities to add to their pedagogical knowledge and skill.

There are many ways in which various factors combine in meaningful actions that may be contributing to pupils' learning. For example and as already noted,, private school parents were more likely to report that teachers would notice if their child had a problem at school, learning-related or not, and would make efforts to solve the problem. This suggests greater involvement or motivation on the part of these teachers (factor 2), which may be encouraged by proactive school management (factor 3) and may be more highly appreciated by motivated parents (factor 1), which in turn feeds teacher motivation (factor 2). Conversely, government schools, particularly in rural areas, face the most challenging conditions with under-supported pupils (factor one), without any of the inputs from government that these schools would need to succeed (factor four), which could well mean a reduction in the motivation of teachers and

Head Teachers (factors two and three). Government schools, which are the majority provider in poor, remote, rural areas, require much more support than they currently receive.

In summary, it is suggested that government schools have more highly skilled teachers and some better management strategies, while private school teachers are more accountable and more motivated by teaching in contexts where there are more materials, and pupils come from more supportive backgrounds. Government schools may appear less effective partly due to the larger numbers of more challenging pupils that they teach, while private schools may have some less-effective management practices, but more accountable teachers make more effort to reach pupils both inside and outside the classroom.

More here on multivariate analysis...

5.2. Recommendations

- Government should, as a priority, ensure that government (and progressively low-fee private) schools are fully equipped with inputs:
 - Provide textbooks to ensure a ratio of no more than two pupils per book
 - Consider subsidising basic writing materials for the poorest children (some schools are already doing this, establishing the need)
 - Consider progressively providing materials for the lowest-fee private schools, serving poorer populations, since these children would have similar rights to free materials if they chose to attend government school.
 - Consider providing a basic breakfast as well as lunch at government schools to avoid pupils missing school or being unable to concentrate due to hunger
 - Consider providing uniforms or altering the uniform policy at government schools to ensure that children do not miss school due to an incomplete uniform
- Quality assurance: all schools should be brought under the government's quality assurance system.
 - As a matter of urgency, ensure greater support and monitoring to remote, rural government schools, progressively extending this to rural low-fee private schools. At the present time, prioritise support to rural schools (beginning with the most remote) over urban schools.
- Expand the provision of teacher training. Government teachers and Head Teachers should continue to receive training, but this should also be progressively opened up to staff at low-fee private schools.
 - Extend training opportunities, particularly in school management and pedagogy, to low-fee private school Head Teachers, prioritising those serving rural areas first. Progressively extend training opportunities to low-fee private school teachers.

- Pursuing a public-private partnership model could be considered to extend access where there is overcrowding in government schools, such as in densely populated urban areas. However any partnership model would need to include subsidies to increase private school teacher salaries. It would not be politically or ethically feasible to partner with private schools paying at the lower end of the salary spectrum. However, even taking into account a subsidy to allow for higher teacher salaries, supporting children to attend private schools may still prove a cost-effective option in light of the savings to government of not having to pay for the building and equipping of new schools.

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7. Appendices

Appendix A:

Our researchers did all that they could to collect reliable household income information, however it is inevitable that in many households, a particular respondent will not be able to supply complete earnings information. In addition, the nature of informal work sectors means that collecting accurate earnings information is fraught with difficulty, with many experiencing erratic working lives and earnings that are at the mercy of changing customer whims and demand. For this reason, our main means of assessing household wealth is through an index score for each household which is calculated based on the assets that the household possesses. Asset indices are considered to be a more stable and reliable barometer of household wealth than earnings at any given time. Table 51 shows the assets included in the asset index, with their key values, indicating which factors are most significant in the wealth of our sample households. Certain assets are negatively associated with household wealth, such as livestock ownership, which is associated with less-advantaged rural households.

Table 51: Asset index variables

Variable name	Number obs.	Mean	Std. Dev.	PCA score
Home ownership	956	0.432008	0.495615	0.018
Number of rooms	956	2.279289	1.510324	0.1688
Walls made of bricks	956	0.735356	0.441375	0.254
Radio	956	0.624477	0.484511	0.2144
Television	956	0.642259	0.479586	0.3881
Digital box	956	0.332636	0.471404	0.342
Mobile phone	956	0.883891	0.320523	0.1702

Refrigerator	956	0.327406	0.469512	0.3592
Fan	956	0.491632	0.500192	0.3868
Electric clothes iron/press	956	0.361925	0.480809	0.314
Livestock	956	1.445607	0.497293	0.0474
Cows	956	9.284519	24.0304	0.0273
Piped water	956	0.174686	0.379897	0.2322
Cooking fuel	956	0.153766	0.360913	0.2684
Electric lighting	956	0.893305	0.308886	0.2406

Appendix B – Data Collection Instruments

1. Head Teacher questionnaire
2. Teacher questionnaire
3. Classroom observation instrument
4. Household survey instrument

(this will need to be a separate document due to the number of pages)