Leh Wi Lan
Sierra Leone Secondary Grade Learning Assessment 2018

UKaid from the British people

Briefing note 1
Status of pupil learning outcomes in junior and senior secondary schools of Sierra Leone

December 2018

> *"**Learning outcomes won't change unless education systems take learning seriously and use learning as a guide and metrics.** Lack of measurement makes it hard to know where things are, where they are going, and what actions are making any difference. The first step to improving system-wide learning is to put in place good metrics for monitoring whether our education system is delivering learning."*
>
> World Development Report, Learning to Realise Education's Promise, 2018.

On the 20th of August 2018, Sierra Leone saw a historic moment with the launch of the Free Quality School Education Programme (FQSEP). By focussing on 'quality' in the FQSEP, this ambitious programme proposes to go beyond simply filling classrooms through increased enrolment. It aims to gear Sierra Leonean schools towards delivering sustained learning for all pupils. Ultimately, the FQSEP will succeed if children in all parts of Sierra Leone are learning useful skills, whether they are girls, boys, poor or rich.

In 2017, the first Secondary Grade Learning Assessment (SGLA) measured English and mathematics skills of JSS2 and SSS2 students in Sierra Leonean schools. The results showed that most pupils only show basic English and maths skills despite completing eight (JSS2) to 11 (SSS2) years of formal education and passing various exams like the NPSE and BECE. This is possible because the exams mostly test memory but the SGLA tests skills and ability to apply knowledge to real-life situations. Girls, poorer pupils and those in remote schools tended to do worse.[1]

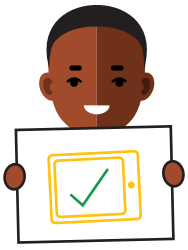
In 2018, the second SGLA repeated the 2017 assessment.[2,3] It addresses three key questions:

- What are the English and maths skills typically demonstrated by JSS2 and SSS2 pupils in 2018? Are these skills in line with what they should have acquired by these grades, according to the national curriculum?
- Are there any major differences in pupils' skills compared to 2017?
- Are there still major differences in pupils' skills by gender and other background characteristics?

About the Secondary Grade Learning Assessment

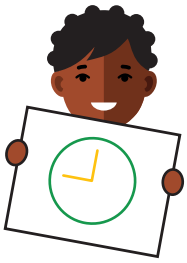
5,600

JSS2 and SSS2 pupils tested on English and maths.



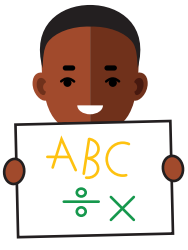
One-on-one

test administration: each pupil is tested individually by a data collector using a handheld computer device.



45 minutes

approximately per pupil.



40

questions per test covering both English and maths.

Background

included questions on pupils' age, language spoken at home and assets at home.

1 Interested readers can access the baseline SGLA report on http://www.education.gov.sl/. MEST (2017). Sierra Leone Secondary Grade Learning Assessment (SGLA) Technical Report. New England, Freetown: Ministry of Education, Science and Technology.

2 Please refer to companion briefing note #2 on the 'Current teaching and school management practices in junior and senior secondary schools'.

3 The SGLA tests focus on pupils' learning outcomes in JSS2 and SSS2, and are designed with reference to the curriculum in these grades. Some of the items are also referenced to the primary grades 4 to 6 curriculum. While the test is linked to the curriculum in P4-6, JSS and SSS, it does not focus on curriculum content coverage per se, which is already the focus of the examination system. In other words, the SGLA tests are not content tests based on prescribed texts for BECE or WASSCE, say Shakespeare's Merchant of Venice, but rather focus on knowledge and skills acquired by pupils in these grades and pupils' ability to apply these skills in everyday life. The SGLA contained questions that pupils would be expected to encounter and comprehend in both school and "real life".

What is the level of English and maths skills typically demonstrated by JSS2 and SSS2 pupils?

The SGLA II reiterates findings from last year's survey: pupil learning levels in secondary grades are generally low. There is a wide gulf between **pupils' actual skills and competencies compared to national curriculum expectations**.[4,5] Moreover, results this year suggest a small but real drop in English scores. Maths scores have remained largely unchanged compared to 2017.

For English, as shown below, 55 per cent of JSS2 pupils and 40 per cent of SSS2 pupils are able to demonstrate English language skills expected from a pupil in P6 or below, but very unlikely to demonstrate skills expected from any higher grades than P6. In other words, these JSS2 and SSS2 pupils have fallen behind curriculum expectations by two and five grades respectively. Around 12 per cent of JSS2 pupils showed English language skills as expected from a JSS2 pupil and a small percentage (4 per cent) showed skills exceeding expectations. Though a larger proportion of SSS2 pupils (versus JSS2 pupils) appear in the higher performance bands, ultimately a majority of these pupils have fallen behind by up to four grades – they are operating somewhere between JSS1 and SSS1.

Almost no SSS2 pupil is able to show skills expected at the end of SSS1 in the SGLA.

Figure 1: Distribution of JSS2 and SSS2 pupils across English grade-level performance bands

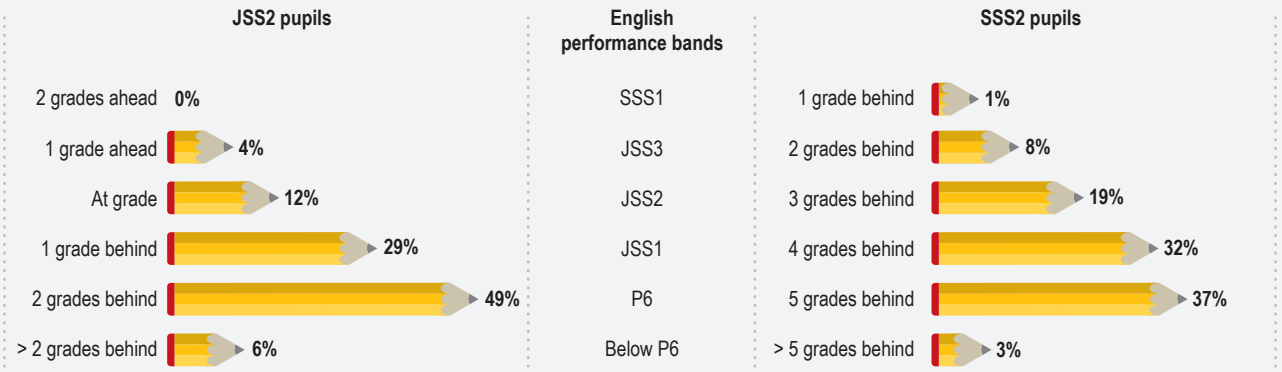
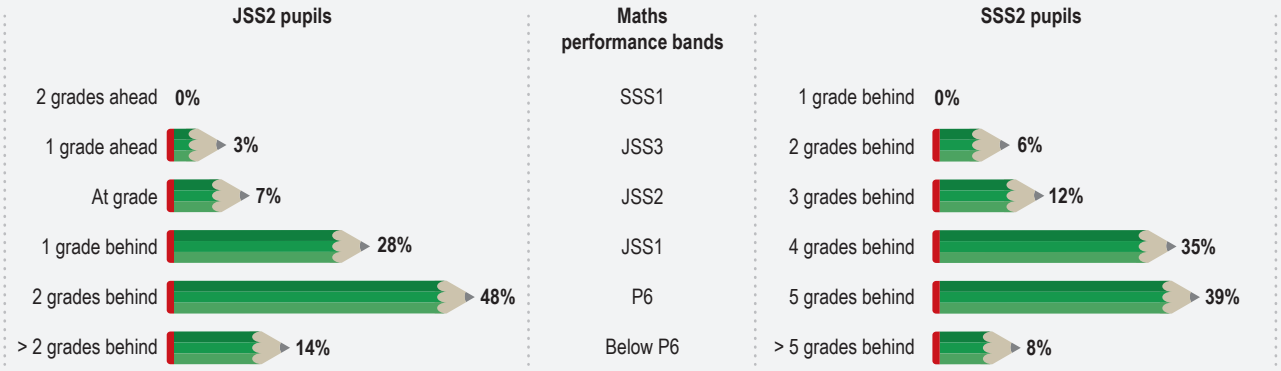


Figure 2: Distribution of JSS2 and SSS2 pupils across maths grade-level performance bands



A similar picture emerges for maths. As shown above, over 60 per cent of JSS2 pupils and almost 50 per cent of SSS2 pupils are able to demonstrate maths skills expected at P6 or below, having fallen behind by two and five grades respectively. There is thus a higher proportion of pupils in the lowest bands in maths compared to English. Only 7 per cent of JSS2 pupils show maths skills as expected from a JSS2 pupil and a small percentage (3 per cent) showed skills exceeding expectations. Once again, though a larger proportion of SSS2 pupils (versus JSS2 pupils) appear in the higher performance bands, ultimately more than half of these SSS2 pupils have fallen behind by up to four years. In the SGLA test, only 6 per cent SSS2 pupils are able to show skills expected at the end of JSS3 and none show maths skills at SSS1 level.

4 The process of aligning the learning assessment questions with curriculum expectations was carried out by a panel of experienced Sierra Leonean English and maths teachers, principals, examiners, curriculum specialists, and lesson plans developers. It was facilitated through technical assistance from the *Leh Wi Lan* programme, under the auspices of the Executive Secretary (Basic Education).

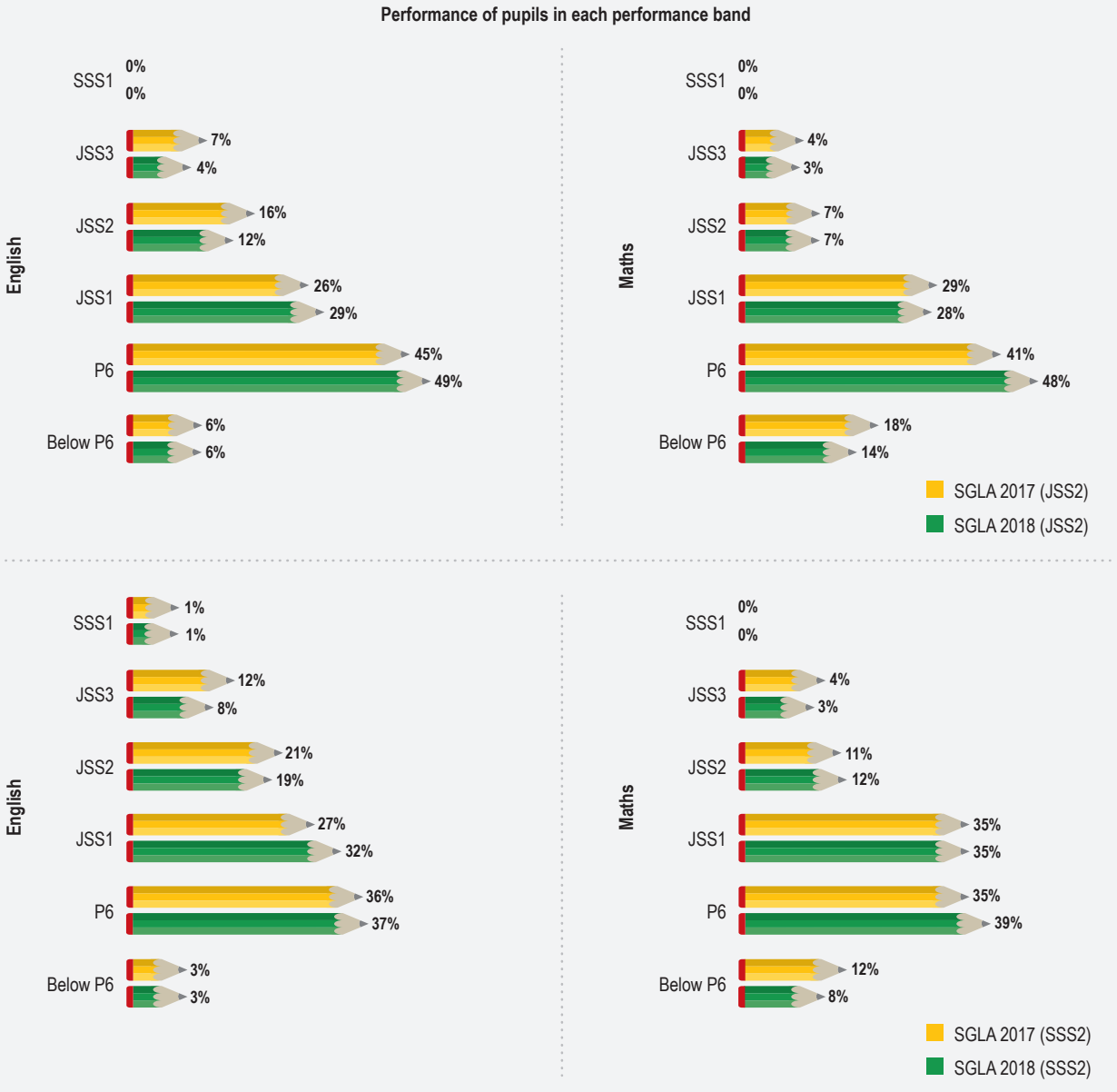
5 The attending experts took each SGLA test question and discussed and debated the most important skills being tested by each question and its placement in the national curriculum, ranging from below P6, P6, JSS1, JSS2, JSS3 and SSS1. The experts provided a grade level allocation for each item in the SGLA II test. Their discussions were supported with data about the occurrence of key terms in the outcomes stated in teachers' lesson plans.

Are there any notable shifts in pupil performance since SGLA I?

There was a small but statistically significant drop in English scores between 2017 and 2018. Indeed, we find a larger fraction of pupils falling within bands JSS1 and below for English in 2018 than 2017, and consequently less pupils in the higher bands (JSS2 and above) in 2018 than 2017. This is true across both JSS2 and SSS2 grade, but differences in performance over time are larger for JSS2 pupils. While significant shifts are not expected within a single year and long-term trends cannot be inferred from just two years' data, the real drop in English scores needs to be thoroughly understood and further rounds of SGLA will confirm if this drop continues.[6]

For maths, there is a small improvement in lower bands, with more pupils now able to show at least P6-level skills in 2018. However, this small improvement finds its ceiling at P6-level knowledge, and the rest of the distribution is largely unchanged since SGLA I. This year-on-year pattern is observed in both JSS2 and SSS2.

Figure 3: Comparing pupil performance between SGLA I and II results



Source: Secondary Grade Learning Assessment survey (May-June 2018), pupil learning assessment.

6 This is discussed further in the full SGLA II report. Robustness checks show that this decline is not caused by any changes to survey design, sampling, test design or administration.

Comparing results across SGLA I and II for specific questions

It is useful to provide examples of questions where significantly fewer pupils gave correct answers in 2018 than they did in 2017. For English, the examples provided refer to questions testing pupils' ability to extract and use information from a table and knowledge of basic grammar rules. For math, the examples report questions on the use of addition and multiplication. The full text of the questions is reported below, together with graphs showing the percentage of pupils who answered correctly, in JSS and SSS grade and for 2017 and 2018 separately.

Box 1: Comparing results across SGLA I and II for specific questions – examples of English items

District	Headquarter town	Area (km²)	Province	Population in 2004	Population in 2015
Bombali	Makeni	7,985	Northern Province	408,390	606,183
Koinadugu	Kabala	12,121		265,758	408,097
Port Loko	Port Loko	5,719		453,746	614,063
Tonkolili	Magburaka	7,003		347,197	530,776
Kambia	Kambia	3,108		270,462	343,686
Kenema	Kenema	6,053	Eastern Province	497,948	609,873
Kono	Koidu Town	5,641		335,401	505,767
Kailahun	Kailahun	3,859		358,190	525,372
Bo	Bo	5,219	Southern Province	463,668	574,201
Bonthe	Mattru Jong	3,468		139,687	200,730
Pujehun	Pujehun	4,105		228,392	345,577
Moyamba	Moyamba	6,902		260,910	318,064

Item 1: The name of the head quarter town of some districts is different from the name of the district. How many districts are like this?

A. 5 **B.** 7 **C.** 9 **D.** 12

Item 2: The districts in the eastern province are:

A. Kambia, Kenema and Kono.

B. Kailahun, Kenema and Kono.

C. Kenema, Koinadugu and Kono.

D. Kailahun, Kambia and Kenema.

Item 3: Choose the sentence that is written correctly.

A. Me, Abu and Kai plan to go to the movies.

B. Jenneh and I collected bottles to take home.

C. My teacher gave the homework to Hawa and I.

D. Marie and me walked up the hill with our bags.

Box 2: Comparing results across SGLA I and II for specific questions – examples of Maths items

Item 1: Add

$$\begin{array}{r} 6{,}259 \\ +4{,}653 \\ \hline \\ \hline \end{array}$$

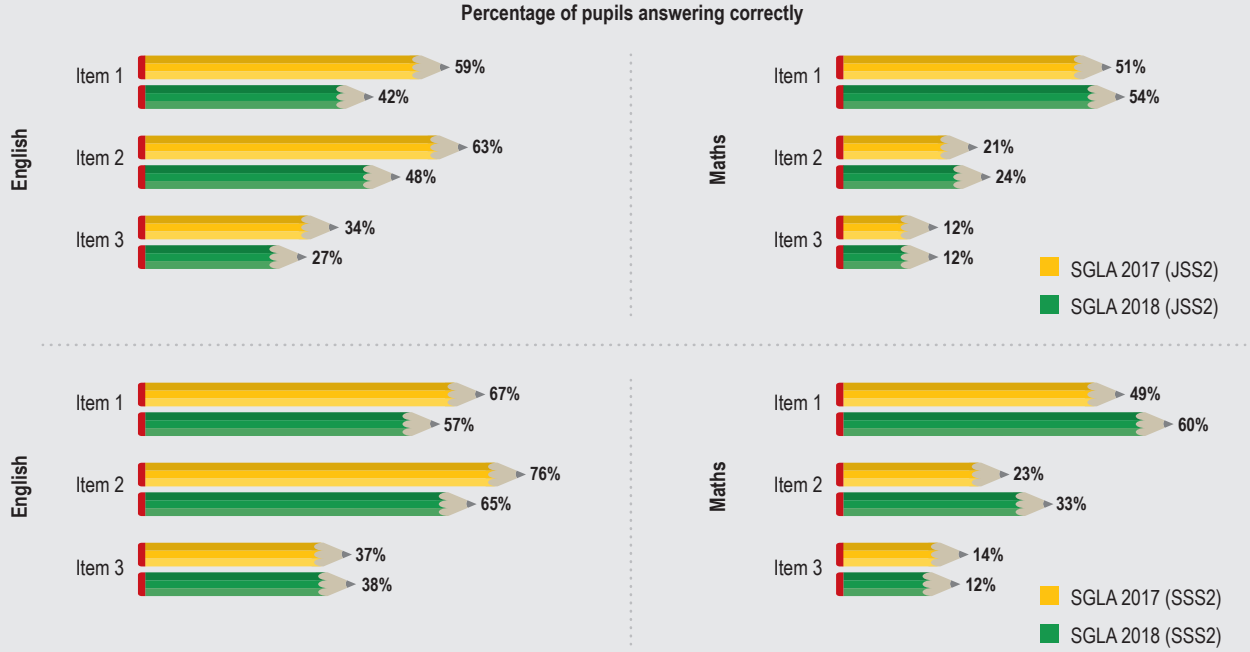
Item 2: Write three hundred and twenty-one thousand, five hundred and fifty-four in figures.

Item 3: The figure below represents a rectangular garden bed 8 metres long and 3 metres wide. Answer the next two questions about this garden bed.

What is the perimeter of the garden bed?

A. 8m **B.** 11m **C.** 22m **D.** 24m

Figure 4: Notable differences in pupil performance for specific questions



Source: Secondary Grade Learning Assessment survey (May-June 2018), pupil learning assessment.

There are notable differences in the percentage of students answering the English questions correctly across SGLA I and II, for both JSS2 and SSS2 students. However, performance differences on these three questions are larger at JSS grade. For example, on item 2, which tested students' ability to extract information from a table, 63 and 76 per cent of students from JSS2 and SSS2 grade respectively answered the question correctly in 2017, but only 48 and 65 percent of pupils could answer correctly in 2018. Similarly, for item 1, only around 40 per cent of JSS2 students in 2018 could correctly identify the districts that have a different name from the name of the headquarter town, against a figure of 59 per cent in 2017. For the maths questions, the performance of JSS2 students in SGLA II is comparable to results from SGLA I, and there is a small improvement from SGLA I to II in the percentage of SSS2 students answering correctly the questions related to items 1 and 2, which tested students' ability to perform simple additions and to understand a number written in words.

How does pupil learning vary by gender?

Across both grades, on average boys perform better in these tests than girls. This gap appears to widen as girls move from JSS2 to SSS2. Girls are more likely to have skills limited to those expected at P6 or below.

Compared to boys, significantly fewer girls reach P6-level knowledge or above, neither for English nor maths. These results are similar to gender differences seen in the first SGLA last year.

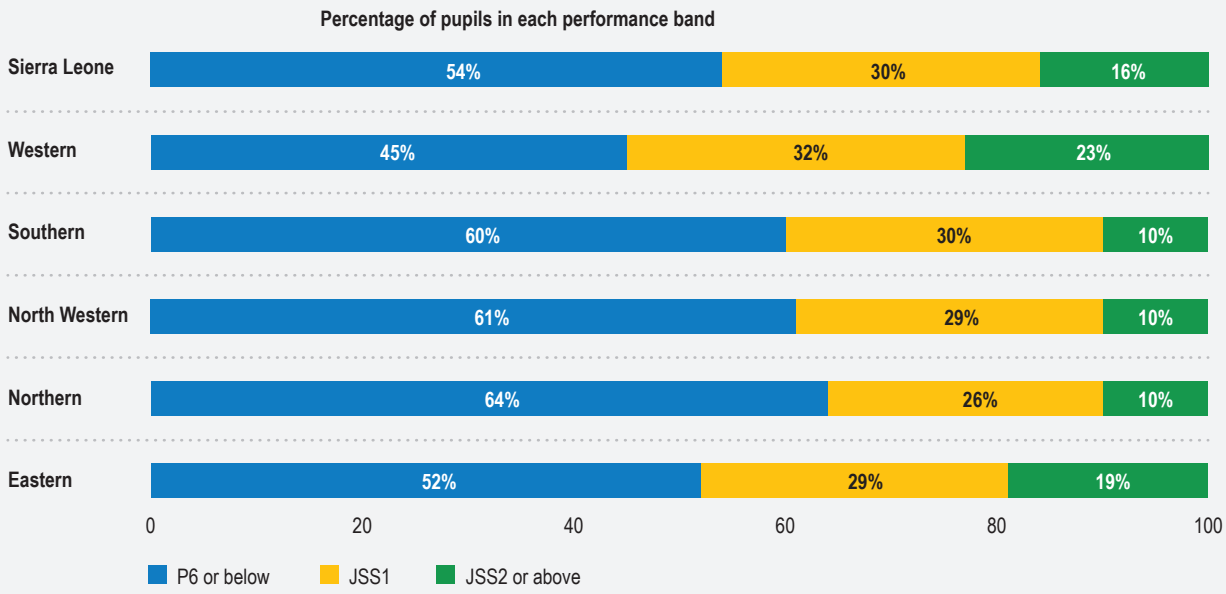
There could be a number of factors driving this difference. Results from this survey in both years have shown that female teachers constitute a very small percentage of the teaching workforce in secondary grades; and girls reported various instances of harassment while commuting to or from school; school toilets being unsafe and far from the main school building; absence during menstruation; sex-for-grades and sexual harassment by staff and male students.

Boys' scores are higher than girls' scores in both subjects – this disparity widens as they move to higher grades.

How does pupil learning vary across provinces and districts?

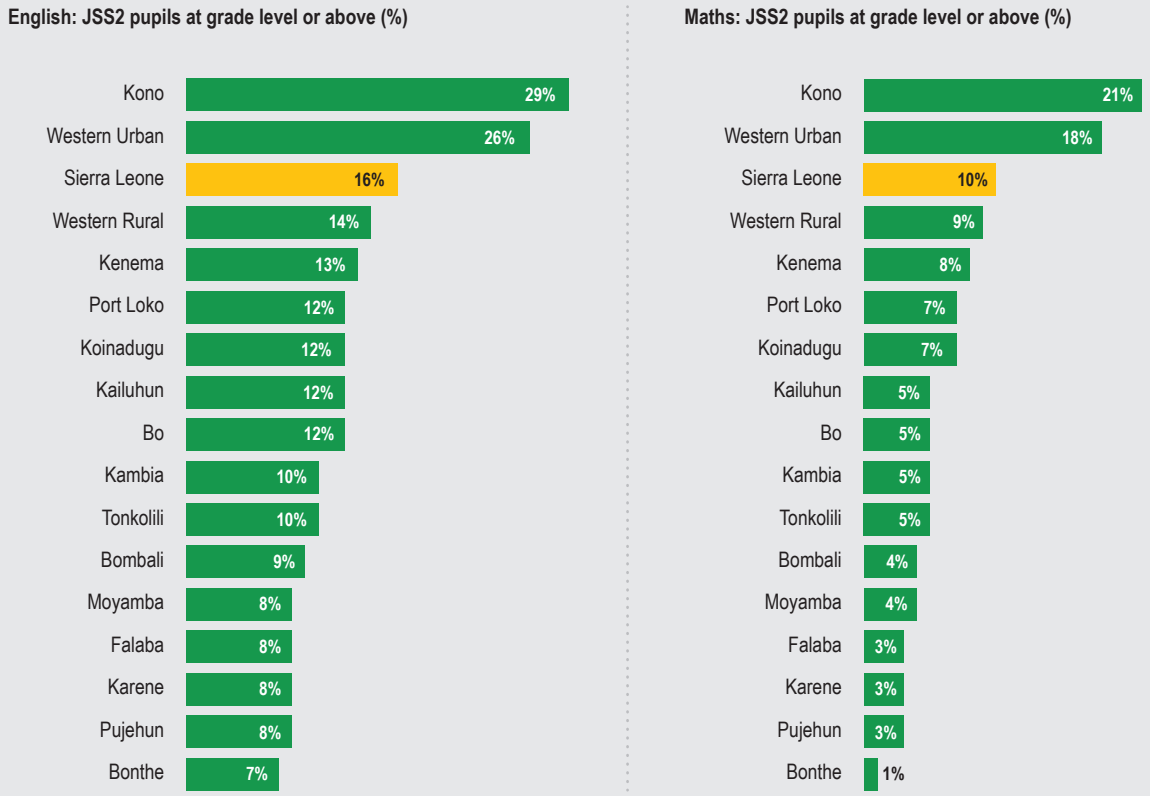
There are significant regional differences in pupils' performance – pupils in the Western and much of Eastern region score significantly higher than the national average. For instance, in JSS2 English, 23 per cent of pupils from the Western region and 19 per cent of pupils from the Eastern region are at grade or above, against a national average of 16 per cent. Eastern and Western provinces in general tend to have less pupils in the P6 or below bands and more in the bands associated with higher grades; this is true for both subjects, but differences are less pronounced in maths.

Figure 5: Regional disparities in pupils' performance (JSS2 English)



The larger sample of 700 schools in the 2018 SGLA gives us the opportunity to examine district level pupil performance more closely than what was possible at baseline in 2017. Focusing on the performance of JSS2 pupils in English, Kono and Western Urban districts both have higher proportions of JSS2 pupils performing "at grade" (29 and 26 per cent respectively), compared to the national average of 12 per cent, whereas pupils from Falaba, Karene, Pujehun and Bonthe are falling behind, with less than 10 per cent of pupils at grade or above. A similar picture emerges for maths, with around 20 per cent of JSS2 pupils in Kono and Western Urban performing at grade or above, against a figure of 3 per cent or less in Falaba, Karene, Pujehun and Bonthe.

Figure 6: District disparities in pupil performance (JSS2 English and maths)

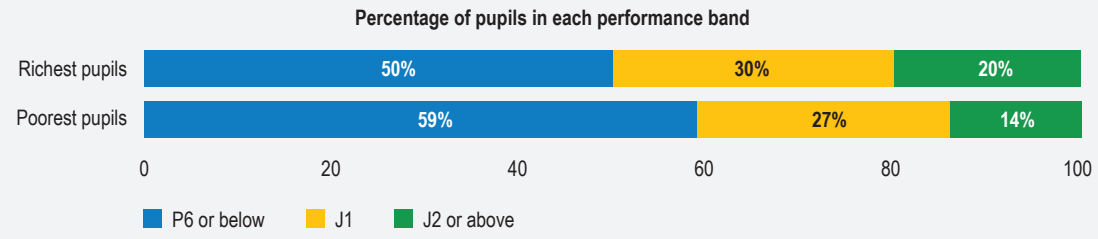


When looking at performance differences by gender, the story is more complex and varies substantially across the country. At the district level, it is worth mentioning that the gender gap in JSS2 is fairly muted for almost all district, and in fact in some districts girls perform better than boys (e.g. Kono and Kenema). However, in Bonthe, Falaba and Bombali gender gaps are large: among JSS2 students in Falaba, 12 per cent of boys is at grade or above in English, against 3 per cent of girls. Gender disparities grow much larger in SSS2 than in JSS2.

What is the relationship between pupils' test scores and family background?

Pupils' own family background is one of the biggest determinants of their learning level. Across both grades, pupils from the richest households (i.e. top 20 per cent pupils based on a household asset index) perform significantly better than pupils from the poorest 20 per cent of households.

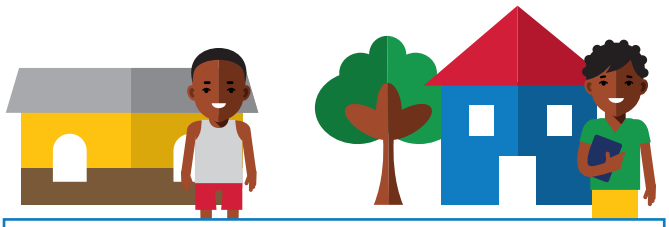
Figure 7: Differences in JSS2 English performance by household wealth



Can school location predict pupil learning?

In both English and maths, there is a significant negative relationship between remoteness of school and pupils' performance. In other words, pupils' learning levels drop as we travel away from schools that are located near the district headquarter town, towards more remote schools. Pupils from remote schools, across both JSS2 and SSS2 grades, are more likely to feature in the lower performance bands (P6 or below).

This result is consistent with baseline findings from 2017.



Pupils from remote schools are more likely to feature in the lower performance bands

A number of factors could contribute to this relationship. For instance, this survey provides indicative evidence that schools farther away from district headquarter towns are generally not as well-managed as those near the district headquarter towns. The remoter schools are significantly worse in terms of their learning environment and overall school management indices. In terms of administration and planning, schools near district capitals are the strongest.

Concluding remarks

The main overarching observation from both rounds of SGLAs is that secondary grade learning levels in Sierra Leone are low. Large proportions of pupils do not demonstrate more than basic English and maths skills despite completing eight (JSS2) to 11 (SSS2) years of formal education and passing the NPSE and BECE. In fact, this year in SGLA II, there is a small but real drop in English language skills – we thoroughly need to understand why.

There is very little progression in pupils' learning outcomes from lower to higher bands as they move up the grades. Starting with a weak foundation in JSS, pupils are understandably unable to capitalise on previous knowledge and therefore progression in learning from JSS to SSS grades is minimal. Despite 8-11 years of schooling and having officially passed the NPSE, a large proportion of pupils in both grades are demonstrating no more than some very basic English and maths skills and will most likely find it very difficult to respond to the pace of the BECE or WASSCE curriculum which makes much more ambitious demands from its exam-takers.

Those who demonstrate some of the more demanding skills are more likely to be male pupils, from wealthier households, whose schools are less remotely located and are typically from the Western or Eastern regions, while those who perform lower on average are more likely to be female pupils, from less wealthy households and remote schools – a combination of these is likely to imply a multiple burden of disadvantage for the pupil. The causes and underlying driving mechanisms for this difference in performance should be important areas for further investigation.

About the project and contact details

Leh Wi Lan/Sierra Leone Secondary Education Improvement Programme (SSEIP) is a five-year (2016-2021) UKaid-funded programme aimed at improving English and maths learning achievement in all secondary schools, especially for girls. This briefing note was produced under *Leh Wi Lan's* monitoring, evidence and research workstream as part of the annual secondary grade learning assessment. Any views and opinions expressed do not necessarily reflect those of UK Department for International Development, Sierra Leone Ministry of Basic and Senior Secondary Education, Mott MacDonald or Oxford Policy Management.

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