



Leh Wi Learn Sierra Leone Secondary Grade Learning Assessment 2017



Baseline briefing note 1

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

December 2017

Introduction

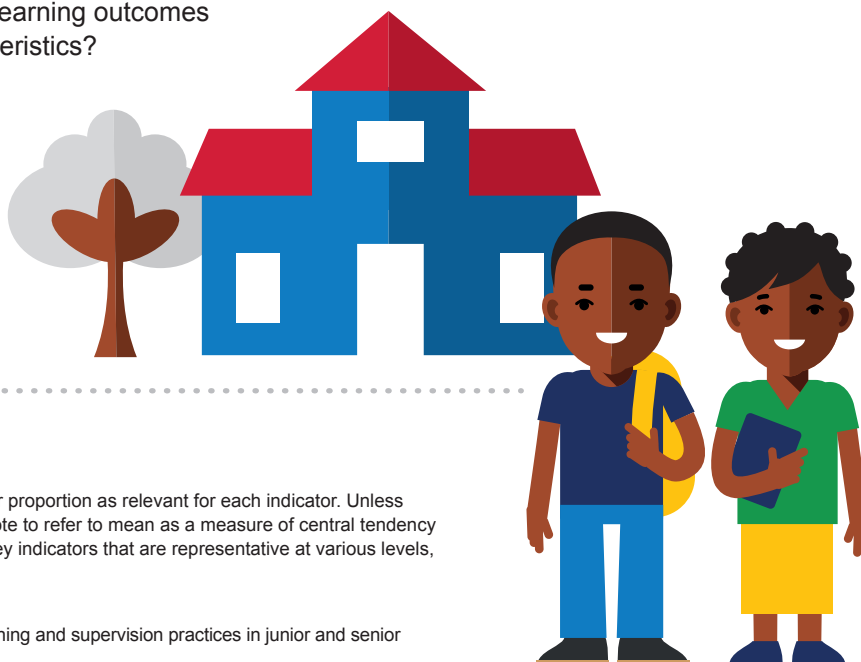
The UKaid-funded *Leh wi Learn* programme will support Sierra Leone's Ministry of Education, Science and Technology (MEST) to achieve sustained improvements in girls' education and secondary grade learning outcomes. To bring about meaningful improvements, it is important to establish the current state of learning achievement. One of the channels through which *Leh wi Learn* proposes to do so is through improved monitoring, research, and evidence. Towards this end, the first annual secondary grade learning assessment survey was conducted in all four regions of Sierra Leone in the months of May and June 2017. Its objective is to provide MEST and other education sector stakeholders with robust nationally- and regionally-representative data on the status of learning and teaching in secondary grades, and track these annually for progress.

The learning assessments covered both English language and maths questions, and were administered to 3,200 pupils in JSS2 and SSS2 grades.¹ Each pupil was administered a test of 40 questions covering both English and maths, and some background questions (e.g. pupil age, main language spoken at home, household assets, etc.). The tests took around 45 minutes per pupil, and were administered on a one-on-one basis by data collectors to individual pupils. This assessment provides evidence complementary to information from Sierra Leone's extensive school examination system. While the test is linked to the curriculum it does not focus on curriculum content coverage *per se*, which is already the focus of the examination system. The test rather focusses on learning outcomes and skills linked to the curriculum.

This briefing note discusses pupil learning in junior and senior secondary schools of Sierra Leone.² It addresses two key questions, namely:

- What are the current levels of learning for JSS2 and SSS2 pupils in English and maths? What are the English and maths skills typically demonstrated by pupils in these grades?
- Are there significant differences in pupil learning outcomes by gender and other background characteristics?

The learning assessments were administered to 3,200 pupils



1

All quantitative results in this note show the mean estimate or proportion as relevant for each indicator. Unless otherwise stated, the word 'average' has been used in this note to refer to mean as a measure of central tendency or typical values in the distribution. To provide estimates of key indicators that are representative at various levels, the observed values were analysed using survey weights.

2

Please refer to briefing note #2 for results on the 'Current teaching and supervision practices in junior and senior secondary schools'.

Performance bands in English and maths

In a workshop with JSS and SSS curriculum specialists in English language and maths; we grouped English language skills tested in the assessment into four categories or performance bands. These range from band 1 which is characterised by basic skills (e.g. pupil can name some common objects in English like 'hat' or 'computer') up to band 4 which is linked to more demanding skills that require inference and reasoning. Similarly, we categorised maths skills tested in the assessment into broad categories or performance bands with band 1 linked to fairly basic skills (e.g. can extract values from a barplot) and band 4 linked to more demanding skills, like simultaneously applying several mathematical operations.

The English and maths performance bands are shown in tables 1 and 2 below. In the analysis and reporting, pupils are sorted into these four performance bands, each described by a set of skills in English language and maths. This gives insights into the distribution of skills that pupils possess at baseline, and can help identify relative strengths and areas for development. Additionally, it indicates differences in learning outcomes, if any, between groups of pupils (boys and girls, poorer and richer, by remoteness of school, etc.).

Table 1: Performance bands for English assessment

Performance bands	Band descriptors: the typical student in this band shows the skills for lower bands and also...
Performance band 1	can name some common objects and understand a simple English sentence
Performance band 2	can locate and extract explicitly stated information and infer meaning from simple short continuous and non-continuous texts
Performance band 3	locate, extract and interpret immediate and overall meaning and information from 1-6 sentences of continuous or short non-continuous texts (e.g. advertisement billboards)
	understand the immediate impact on meaning of quantifier words (e.g. some, most, all, only.)
	apply basic grammar conventions
Performance band 4	identify meaning and locate and extract information from various sources such as short continuous (2-3 paragraphs) and non-continuous texts including pictures and tables using, where necessary, inductive reasoning and low level inferences to reach an overall understanding
	infer the meaning of unfamiliar words from their context
	use technical language for the function of a word in a sentence

Table 2: Performance bands for Maths assessment

Performance bands	Band descriptors: the typical student in this band shows the skills for lower bands and also...
Performance band 1	extracts values shown in a barplot and visualises changes shown graphically
Performance band 2	recalls and applies learned procedures for addition and subtraction of numbers set out in column form and for procedures such as highest common factor of 2-digit numbers; recalls and applies basic shapes to real objects; extracts numerical information from text and barplots to make simple comparisons
Performance band 3	extracts information from textual and visual representations to apply a one or two step procedure using simple arithmetic, comparisons, estimations and approximations; applies addition operations on clock time; understands place value; recalls and applies learned procedures for multiplication, addition and subtraction of multiple-digit numbers set out in column form
Performance band 4	extracts information from textual and visual representations to develop and apply a multi-step procedure using simple arithmetic, estimations and approximations; understands the concepts of fractions, decimals and percentages and applies basic operations to these correctly and appropriately; understands the basic properties of simple geometric figures

Pupil learning outcomes in English and maths

Figure 1 shows that 7 per cent of JSS2 and 13 per cent of SSS2 pupils typically demonstrate English language skills linked to performance band 4. Pupils in this band are also very likely to demonstrate skills associated with lower performance bands. A vast majority of pupils in both grades fall within performance bands 2 and 3 for English. Around 8 per cent of JSS2 and 4 per cent of SSS2 pupils typically demonstrate skills linked to performance band 1, i.e. they can locate and extract explicitly-stated information and infer meaning from simple short texts but are unlikely to demonstrate more advanced skills.

Figure 1: Percentage of JSS2 and SSS2 pupils across performance bands in English

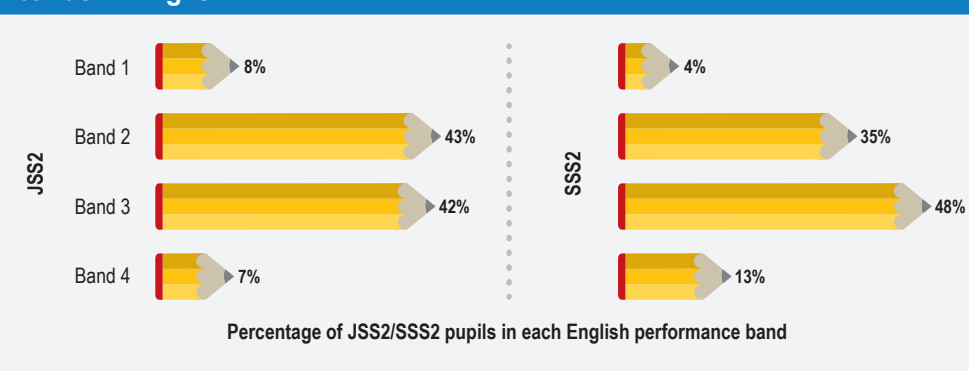
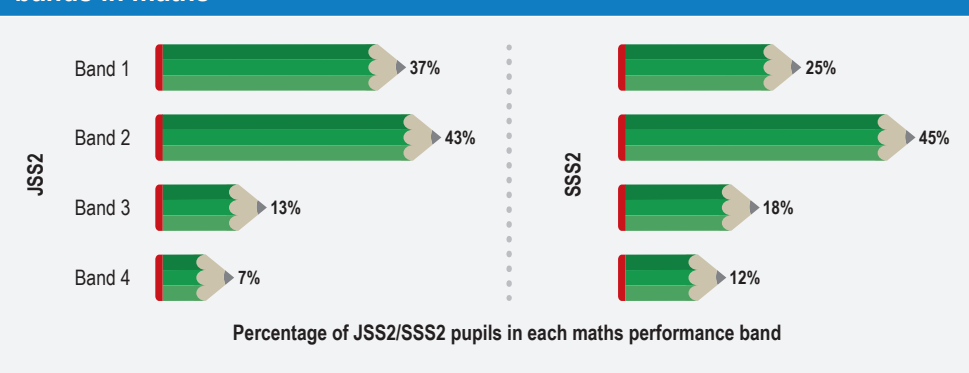


Figure 2: Percentage of JSS2 and SSS2 pupils across performance bands in maths



For maths, 7 per cent of JSS2 and 12 per cent of SSS2 pupils typically demonstrate the advanced maths skills linked to performance band 4 and are very likely to demonstrate skills associated with lower bands as well. A vast majority of pupils in both grades fall within the lower performance bands 1 and 2. More specifically, around 37 per cent of JSS2 and 25 per cent of SSS2 pupils typically demonstrate skills linked to performance band 1, i.e. they can extract values shown in a barplot and visualise changes shown graphically but are unlikely to demonstrate skills linked to any higher performance bands.

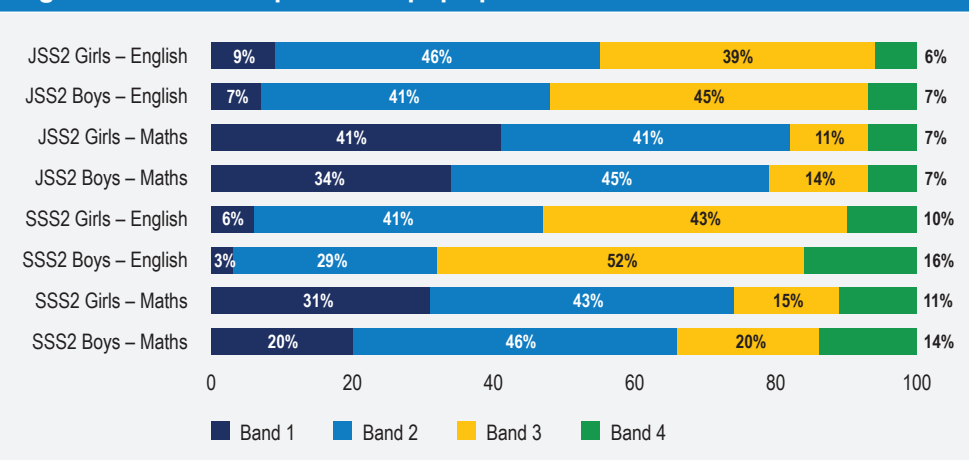
Gender disparities in pupil performance

Boys generally perform significantly better than girls across both grades and subjects. Figures 3 and 4 also suggest that this learning gap appears to widen as they move from JSS2 to SSS2.

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



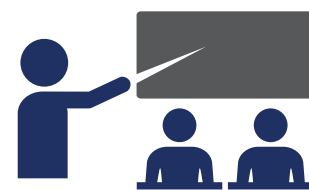
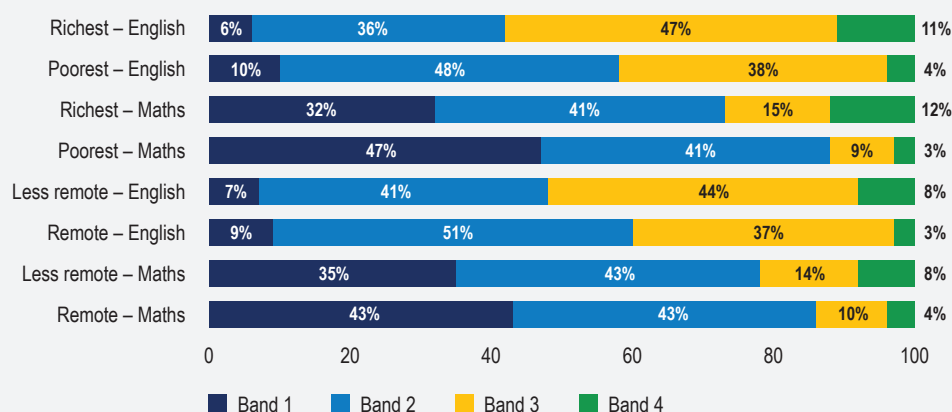
Figure 3: Gender disparities in pupil performance



Disparities in pupil performance by household wealth and remoteness of school

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. For both English and maths assessments, the association between pupils' performance and location or remoteness of their schools, measured by the distance of the school from the district capital or headquarter town, was also explored.^{3,4} In both subjects and across both grades, there appears to be a statistically significant negative relationship between remoteness of school and pupils' performance, i.e. in both JSS2 and SSS2, on average, pupils in schools further from the district capital perform worse in English and maths.

Figure 4: Disparities in pupil performance by household wealth and school location



Pupils from the richest households score higher than pupils from the poorest households in both subjects

Box 1: Interpreting and understanding implications of pupil learning outcome results

In interpreting and understanding the implications of these results, it is useful to note that:

- **English and maths results are not comparable given the test design and analysis process.** Performance bands in both subjects were defined separately; they have different task and skill demands on pupils; and a comparison is not entirely meaningful.
- Generally, **results show that the distribution of pupil abilities in both subjects is fairly diverse** – there are a modest proportion of pupils who seem to know a lot and able to correctly answer the more demanding questions while large proportions who at best demonstrate the elementary skills reflected in the lowest bands in both subjects.
- While on average SSS2 pupils scored higher than JSS2 pupils on both subjects, **there isn't an appreciable progression or movement of pupils' learning outcomes from lower to higher bands as they move up the grades.** 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.
- When disaggregated by various pupil background characteristics, it appears that **those who demonstrate some of the more demanding skills are more likely to be male pupils, from wealthier households and whose schools are less remotely located**, 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 will be an interesting avenue for further exploration.

3

Distances were computed using the geographic coordinates of the schools, recorded during the school visit.

4

We compared performance of pupils from schools within 20 kilometres of the district capital town (i.e. less remote) versus pupils who studied in schools that were more than 20 kms. away from the district capital.

About the project and contact details

Leh wi Learn/Sierra Leone Secondary Education Improvement Programme (SSEIP) is a five-year (2016-2021) UKaid-funded programme aimed at improving English and mathematics learning achievement in all secondary schools, especially for girls. This briefing note was produced under *Leh wi Learn*'s monitoring, evidence and research workstream as part of the baseline annual learning assessment. Any views and opinions expressed do not necessarily reflect those of UK Department for International Development (DFID) or the Sierra Leone Ministry of Education, Science and Technology (MEST).

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