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Sierra Leone Secondary Grade Learning Assessment 2017

Technical Report – November 2017

Acknowledgements

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1   The former ministry title 'MEST' has been used interchangeably in place of the new title 'MBSSE' throughout this report.

About the baseline annual secondary grade learning assessment (SGLA)

Contact details

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Recommended citation

MEST (2017). Sierra Leone Secondary Grade Learning Assessment (SGLA) Technical Report.
New England, Freetown: Ministry of Education, Science and Technology.

Downloading data

Interested readers can download the clean and anonymised data for this survey from
http://www.education.gov.sl/

Note: This report is based on data collected in May-June 2017.

Preface: Message from the Minister's desk

Education is of paramount importance for Sierra Leone's development. Our hopes as a nation can only be achieved with a well-educated citizenry with the skills and competencies needed for Sierra Leone to grow.

This document, the Secondary Grade Learning Assessment 2017, is a landmark document in secondary education in Sierra Leone. For the first time, we have an assessment of what pupils in junior secondary and senior secondary schools across the country can do in English and mathematics; before they attempt the Basic Education Certificate Examination and the West African Senior Secondary Certificate Examination. Further, we are able to state what pupils in our schools know and the areas in which improvements should be made. This document is a key step on that journey. It also gives us pointers on the effectiveness of the new lesson plans, and teacher support, that we recently rolled out in secondary schools across the country.

While there are successes to celebrate, there are also challenges that my officials in the Ministry are working round the clock to address. Addressing these challenges will help our children learn better and do well in public exams, and eventually contribute to nation-building.

I do thank the United Kingdom Department for International Development for their support with the Secondary Grade Learning Assessment, and look forward to further fruitful collaboration.

Secondary Grade Learning Assessment will continue, in order to help evaluating learning in our educational institutions and to check the academic progress of the pupils. The public will be able to see the results of what we have achieved and the strategic direction of Education in Sierra Leone.

This is a unique moment in the history of Education in Sierra Leone.

Alpha Osman Timbo
Minister of Basic and Senior Secondary Education

Executive summary

Significant achievements and challenges ahead

Over the last decade and a half since the civil war (1991-2002), Sierra Leone has witnessed a dramatic surge in access to education and pupil enrolment, as well as remarkable efforts to rehabilitate and reconstruct destroyed, damaged, or abandoned schools. The Ebola crisis (2014-16) presented yet another significant challenge to Sierra Leone's schools but coordinated response from the Ministry of Education, Science and Technology (MEST) has helped reopen and bring pupils back to school.

However, levels of learning, particularly for girls and pupils from economically-disadvantaged backgrounds, are still not adequate for Sierra Leone to grow and prosper. Underlying this challenge is persistent deficit in reliable education data and measurement to tell us where things stand, what is working and why.

Leh wi Learn, formerly called the Sierra Leone Secondary Education Improvement Programme (SSEIP), is a five-year (2016-2021) UKaid-funded programme aimed at supporting the Sierra Leone Ministry of Basic and Senior Secondary Education (MBSSE, formerly MEST)[1] to achieve sustained improvements in girls' education and secondary grade learning outcomes. One of the channels through which Leh wi Learn will do this is through improved monitoring, research, and learning from evidence. In this regard, it plans to conduct a series of annual secondary grade learning assessments (SGLA) designed and implemented by Leh wi Learn's monitoring, evidence and research workstream in close collaboration with MEST.

About the Secondary Grade Learning Assessment (SGLA)

The first SGLA (2017) was carried out 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 assessment survey's design contained the following components:

- **Learning assessments** for JSS2 and SSS2 grades, in English and maths, administered to 3,200 pupils;

- **Teacher's questionnaire**, including topics like usage of lesson plans, administered to 1,600 teachers; and

- **Principal's questionnaire** administered to 400 principals, covering topics like provision of supportive supervision for teachers.

This survey constitutes the baseline round of the learning assessment surveys and covers a range of indicators on pupil learning levels, teaching and supervision practices, girls' safety in school, and the schooling experience of pupils with disabilities. Specifically, this first SGLA report seeks to answer the following research questions:

- *What are Sierra Leone's secondary grade pupils learning?*

- *What are some of the conditions under which teaching and learning takes place in secondary schools?*

- *What classroom practices are being used by junior and senior secondary teachers?*

- *What are some of the school management and leadership practices employed by secondary school principals in Sierra Leone?*

The purpose of this technical report is to present a comprehensive analysis of the data collected by the SGLA 2017 survey in order to provide as much detail on what is working well, and where there are areas for improvement in teaching and learning. This would, hopefully, support MEST and partners in developing policy responses.

1   The former ministry title 'MEST' has been used interchangeably in place of the new title 'MBSSE' throughout the rest of this report. The title was revised after the production of this report had been completed.

Pupil learning outcomes in junior and senior secondary grades

About the SGLA design

The SGLA focuses 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 4-6 curriculum. The SGLA are referenced to the curriculum, but do not focus on curriculum content coverage per se. Rather, the focus is on assessing knowledge and skills acquired by pupils in these grades and their ability to apply these in "real life" both within and outside school.

Tests were administered on a one-on-one basis by enumerators to individual pupils. Each test comprised of 40 questions covering both English language and maths, along with some background questions like pupil's age, main language spoken at home and household assets.

SGLA performance bands

Analysis of learning outcomes was based on performance bands developed by the SGLA team with JSS and SSS curriculum specialists in English language and maths. Skills tested in the assessment are grouped into four categories or performance bands. These range from band 1 (basic skills, like naming some common objects in English like "hat" or "computer") up to band 4 (relatively advanced skills that require inference and reasoning). To achieve a performance band or level means that pupils in the particular band are more likely than not to be able to demonstrate the skills linked to that performance band.

Pupil learning outcomes in English

This survey found that a vast majority of pupils in both JSS2 and SSS2 grades typically demonstrate English language skills linked to performance bands 2 and 3. Seven per cent of JSS2 and 13 per cent of SSS2 pupils show the advanced skills linked to performance band 4. Pupils in this band are also very likely to demonstrate skills associated with lower performance bands. Likewise 8 per cent of JSS2 and 4 per cent of SSS2 pupils typically demonstrate the basic 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 skills that are any more advanced than this.

Pupil learning outcomes in English and 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.

In interpreting and understanding the implications of these results, it is useful to note that the English and maths results are not comparable given the test design and analysis process. In addition, 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. Generally, the 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.

Differences in learning outcomes by pupil background

Across both grades, pupils from the richest household quintile perform significantly better than pupils from the poorest 20 per cent of households. Similarly, in both subjects and across both grades, there appears to be a statistically significant negative relationship between test scores and remoteness (measured by the distance of the school from the district capital or headquarter town). Boys' generally scored higher than girls across both grades and subjects and this gap appears to widen as pupils move from JSS2 to SSS2.

More on the pupil learning outcomes in English and maths
• Overview of learning outcomes in English and maths: Section 2.3.
• Overview of learning outcomes by pupil background: Section 2.4.

Teaching practices in secondary schools

The baseline survey presents evidence on the current state of classroom practices in junior and senior secondary schools in Sierra Leone on a sample of teachers, including principals who teach in these grades.

Quantity of instructional time and teacher absenteeism

Teachers, on average, taught for 13 of the 25-30 prescribed school hours in a standard week, which amounts to approximately two and a half hours of teaching per day (or less than half of the standard school day). One in three teachers also reported significant disruptions to their instructional time in the past two weeks. The average disruption was as high as four days in the last two weeks and was reported to be most often linked to pupil absenteeism leading to suspension of classes.

According to teachers, the main reason for being absent from school was own or family illness, however, principals seemed to link teachers' absence from school to low levels of teacher salary and remuneration. The other common reason for teachers' absenteeism was social or religious obligations requiring them to be away from school. Explaining their own absence from schools, principals particularly spoke of attending meetings or events outside of school, as well as own or family health issues. Nearly all principals reported taking some corrective measures against teacher absenteeism. The most commonly cited action was to discuss the issue with teachers and reprimand them.

Pupil-teacher ratios

The baseline SGLA survey also found that the pupil-teacher ratio (PTR) in JSS and SSS (which can serve as a broad indicator of teacher workloads and the amount of individual attention given to pupils) is relatively small and similar across grades. On average, nationally, there are about 23 pupils to each teacher.

Common teaching aids, guides and MEST lesson plans

Almost all teachers across the four regions and both grade levels used at least one teaching aid in their classrooms. These were mainly traditional aids like textbooks and blackboard/chalk. The least used resource across all regions was multimedia (audio/visual) equipment and internet resources.

The most commonly used teaching aids are similar at JSS and SSS level, but more SSS teachers use internet resources and science equipment, and fewer use posters and charts.

Almost all secondary school teachers used some form of teaching guide to help plan and prepare for their teaching, with a substantial proportion of teachers already reporting the use of MEST lesson plans. Other important teaching guides were textbooks and lesson notes.

A vast majority of teachers had positive feedback on MEST lesson plans and their ability to use them. They considered the lesson plans to be well structured and helpful for pupils to learn better. Teachers can generally understand the use and purpose of lesson plans to facilitate learning. However, it appears that teachers might be facing difficulties on two fronts.

- They seem to be struggling to incorporate all the prescribed activities in the lesson plans within the duration of one period.

- Teachers also appear to be concerned that some of the lesson plan content (especially examples used to explain concepts) do not relate well to the context and lived reality that pupils are familiar with.

Both these issues are potential area for consideration and further revision for lesson plan developers. For those not using MEST lesson plans, the most commonly reported reasons were that teachers had not yet received them, or they hadn't been trained on how to use them yet.

More on teaching practices, teaching aids and teaching guides including MEST lesson plans

- Overview of teaching hours, absenteeism and pupil-teacher ratios: Section 3.1.

- Overview of common teaching aids used by teachers: Section 3.2.

- About teaching guides and MEST lesson plans, including teachers' feedback on their use and functionality: Section 3.2.2.

Provision of supportive supervision and pedagogical support

This survey explores the typical school environment, and management and leadership practices being employed in secondary schools to understand the supervision and pedagogical support provided to teachers by principals and external supervisors.

Staff and formal one-on-one meetings

Staff meetings appear to be well-established in the secondary school system in Sierra Leone, with almost all teachers and principals reporting they have had staff meetings in the previous term. Responses suggest staff meetings largely deal with day-to-day school issues and administration, rather than focusing on pedagogy and learning. According to both teachers and principals, the most common topics of discussion during these staff meetings were exams and teacher absenteeism or lateness by teachers and pupils. Staff meetings are complemented by formal one-on-one meetings with their principal or head of department.

Lesson observations

The SGLA suggests that most junior and senior secondary schools in Sierra Leone have active systems of internal lesson observation. While it is difficult to comment on the quality or effectiveness of these observations within a quantitative survey, results suggest that teachers were observed roughly once a week and this was usually done by the principal or head of department. However, it seems more than two-thirds of the observers did not stay for the entire duration of the class and a majority of them did not maintain any notes or records from the observation.

External supervision

External supervision visits are also conducted by various actors across JSS and SSS schools in Sierra Leone. A vast majority of school principals reported receiving at least one external supervision visit in the previous term, with the average school receiving four visits in the term. These visits were mostly conducted by MEST inspectors, followed by School Supervisors, District/ City Councillors, and representatives from NGOs or missions. The primary purpose of supervision visits was to check teachers' and pupils' attendance, and check other school records. External supervisors were also said to observe lessons while they were visiting.

In addition nearly all JSS and SSS schools have parent-teacher or community-teacher associations (PTA/CTA). The majority of these bodies are active, having met at least once in the previous term.

> **More on school leadership and provision of supportive supervision and pedagogical support**
>
> - About staff and one-on-one meetings: Section 4.1.
>
> - Overview of lesson observations practices within schools: Section 4.2.
>
> - Overview of external supervision practices in schools: Section 4.3.

Girls' safety in school

Although gender parity was achieved at the primary level in Sierra Leone in 2011, substantial gaps remain at higher levels of education and the probability of enrolment. Elimination of gender disparities in access to and completion of schooling is key to the achievement of the Sustainable Development Goal (SDG) of inclusive education for all. The SGLA survey asked teachers and female pupils a range of questions on girls' safety in school.

Physical safety in and on the way to school

More than 90 per cent of girls and teachers reported that they overall felt safe in school. However, less than 40 per cent reported that their school was well-fenced (to deter strangers from entering), and over a third of respondents reported that female pupils were subject to harassment on the way to and from school. Over 20 per cent of female pupils felt that girls' toilets were far enough from the main school building such that female pupils did not feel safe using them. Nearly 40 per cent of female pupils believed that girls had a tendency of absenting themselves from school during menstruation.

Sexual harassment

Almost 15 per cent of female pupils agreed that girls in their schools were subject to sexual harassment from staff members. Around 20 per cent of female pupils said male pupils in their school sexually harass girls. Around 20 per cent of female pupils reported that at least some male teachers ask girls for sexual favours in return for good grades. In general, teachers – vast majority of them are male – seemed to systematically underestimate the incidence of sexual harassment in their schools. However, mechanisms appear to exist whereby female pupils can report instances of sexual harassment in most schools but their effectiveness in dealing with these cases is not known.

> **More on girls' safety in schools**
>
> - Overview of girls' physical safety in and on the way to school: Section 5.1.
>
> - About sexual harassment in schools: Section 5.2.

Schooling experience of pupils with disabilities

The SGLA purposively sampled pupils with disabilities across all the schools included in the survey to understand their schooling experience and learning performance.

Background of pupils with disabilities

The most prevalent disability was walking, with more than half of the purposively sampled pupils reporting some or a lot of difficulty walking. Difficulty hearing and communicating was relatively less common which possibly indicates that these are among the more severe barriers to access and learning, and hence school-aged children with hearing or communication problems are either in special schools or out of school altogether.

Provision of infrastructural and teaching support

A vast majority of pupils with disabilities and almost three quarters of teachers reported that there was no provision of ramps, railings or any other infrastructural arrangements at their schools. Similarly, over two-thirds of respondents said there was no special support such as counselling provided to pupils with disabilities, nor was there a system for providing additional teaching outside regular classes. A majority of pupils (80 per cent) did however report that teachers adapted their pedagogies to make the lesson delivery more accessible to these pupils. This was confirmed by the teachers, even though the effectiveness of these techniques is not captured in this survey.

Attitude and behaviour towards pupils with disabilities

Over half the pupils with disabilities sampled for this survey agreed that harassment of pupils with disability was discouraged in their school. Around 30 per cent pupils reported that teaching or non-teaching staff in schools discriminated in favour or against pupils with disabilities (for example, by grading them graciously or by not allowing them to participate). Results suggest attitudes of other pupils towards pupils with disabilities might be a concern. Specifically, did their peers interact freely with pupils with disabilities? Around 54 per cent pupils and 64 per cent teachers said no.

Learning outcomes of pupils with disabilities

The SGLA administered an abridged version of the English and maths assessment (as given to the other randomly sampled pupils) to the purposively sampled pupils with disability. For English, 5 per cent of the purposively sampled JSS pupils with disabilities and 17 per cent of SSS pupils typically demonstrate the demanding skills linked to performance band 4. Pupils in this band are also very likely to demonstrate skills associated with lower performance bands. Similar to the results seen in the case of pupils without disabilities, a vast majority of pupils with disability in both grades fall within English performance bands 2 and 3. A very small proportion of JSS and SSS pupils with disabilities typically demonstrate skills linked to performance band 1.

For maths, about 1 per cent of the JSS and 6 per cent of the SSS pupils with disabilities typically demonstrate maths skills linked to performance band 4 and are very likely to demonstrate skills associated with lower bands as well. This is slightly lower than the distribution for pupils without disability in performance band 4. However, again similar to the other results, a vast majority of pupils with disability in both grades fall within the lower performance bands 1 and 2. This is somewhat higher than the comparable figures among pupils without disabilities. However, these findings should be seen in light of their limitations due to the purposive nature of sampling and the definitional complexities with the term 'disability', i.e. what it connotes and translates into in different languages and contexts.

More on schooling experience and learning performance of pupils with disability

- Background of pupils with disability: Section 6.1.

- Overview of infrastructure and teaching support in schools: Section 6.2.

- Overview of attitudes and behaviours towards pupils with disability: Section 6.3.

- Overview of learning outcomes of pupils with disabilities: Section 6.4.

Longlist of recommendations and next steps

The findings of the baseline survey call for urgent action to ensure that secondary education in Sierra Leone caters to the diverse learning needs of all pupils, irrespective of gender, family background or remoteness of school location. MEST has already identified this all-important need to focus on learning – measured by tracking progress annually through the SGLA and WASSCE results – as one of its three overarching targets in the new Education Sector Plan (2018-2020). However, to realise this vital goal, a concerted effort is required from all education sector actors and stakeholders, under the stewardship of MEST.

To actively support MEST in realising this goal, based on the results discussed in this report, below is a longlist of initial ideas for recommendations for MEST's consideration:

- Align curriculum content with pupils' learning levels

- Get teacher management right

- Move from "looking like" good schools to actually promoting learning

- Learn from success stories

- Make schools safe for girls

- Give pupils from poorer backgrounds a fair shot at success

- Improve schooling experience for pupils with disabilities

- Improve lesson plans based on teachers' feedback

The final section of this report discusses each of these in detail. In addition, lessons and experiences from this baseline SGLA 2017 can be used to inform the next annual round of SGLA in May-June 2018 with comparable performance bands and indicators to track any progress vis-à-vis 2017. It is proposed that the following reflections from the first SGLA be incorporated into the planning and implementation of the second SGLA:

- Transfer technical know-how from the SGLA team to MEST

- Share lessons with MEST's primary-grade learning assessment team

- Undertake complementary qualitative studies to shed more light on the quantitative results

- Design sampling strategy to provide district-level representative data

The actual process of moving from raw descriptive data to a longlist of recommendations to then a shortlist of prioritised actions is naturally complex – both technically and politically. Appropriateness of strategies and entry points will vary from one region and district to the next. While partners like Leh wi Learn can actively support this process, MEST and other national actors are best suited to identify these entry points because they have the most fine-grained understanding of what is practically, fiscally and politically feasible.

In terms of next steps, a prioritisation workshop is proposed to develop a shortlist of prioritised, feasible actions that can be reasonably taken forward to address some of the challenges. It is hoped that a few, if not all, of the shortlisted actions would then be implemented and tested for effectiveness before the next learning assessment.

Table of contents

Boxes, figures and tables

Abbreviations

BECE	Basic Education Certificate Examination
CAPI	Computer-Assisted Personal Interviewing
DFID	UK Department of International Development
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
EMIS	Education Management Information System
ESA	Education Sector Analysis
ESP	Education Sector Plan
GATE	UNICEF-Girls' Access to Education Programme
ICF	World Health Organisation's International Classification of Functioning, Disability, and Health
JSS	Junior Secondary School
MBSSE	Ministry of Basic and Senior Secondary Education
MEST	Sierra Leone Ministry of Education, Science and Technology
N	Number of observations
NPSE	National Primary School Examination
OPM	Oxford Policy Management
P	Primary grade (e.g. primary grade 2 or P2)
PDIA	Problem-Driven Iterative Adaptation
PGLA	Primary Grade Learning Assessment
PTA/CTA	Parent-teacher or Community-teacher Associations
PTR	Pupil-Teacher Ratio
SGD	Sustainable Development Goals
SGLA	Secondary Grade Learning Assessment
SSEIP	Sierra Leone Secondary Education Improvement Programme
SSS	Senior Secondary School
TSC	Teaching Service Commission
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
WASSCE	West African Secondary School Certificate Examination
WGDS	Washington Group on Disability Statistics

1 Introduction

1   Introduction

"*We have a vision of an appropriately educated, entrepreneurial and innovative citizenry; tolerant, productive and internationally competitive…Our mission [is] to provide opportunities for children and adults to acquire knowledge and skills, as well as nurture attitudes and values that help the nation grow and prosper.*"

(Sierra Leone Education Sector Plan 2018-2020,
Getting It Right – Service Delivery, Integrity and Learning in Sierra Leone, pg. 3)

1.1   Significant achievements and challenges ahead

Dramatic catch-up in access to schooling…

Since the end of the war (1991-2002), Sierra Leone has witnessed an unprecedented surge in pupil enrolment, as well as remarkable efforts to rehabilitate and reconstruct schools that were destroyed, damaged, or abandoned (World Bank, 2007). Dramatic catch-up access to education has occurred in the post-war years. Access to secondary education was limited for those that were school age during the civil war (1991-2002), particularly for girls and poor households. However, rapid increases were evident among cohorts born after 1995-96 who reached school age after the war (World Bank, 2014).

The Ebola crisis (2014-16) presented yet another significant challenge to Sierra Leone's schools. However, coordinated response to the crisis from the Ministry of Education, Science and Technology (MEST) drove core initiatives for infection prevention in schools, social mobilisation to bring vulnerable pupils back to school, accelerated learning, national school feeding, classroom construction to reduce overcrowding and enhanced support to enrol pregnant school-girls and those with disabilities (DFID, 2016).

…but schooling is not producing enough learning…

Despite these substantial achievements, Sierra Leone's education system currently does not produce sufficient young people with adequate levels of learning, to build a more secure and prosperous future. An early grade reading assessment (EGRA) conducted in 2014 showed that a vast majority of primary grades 2 and 4 pupils are not learning how to read in schools, do not know letter sounds, how to decode words and thus cannot read with comprehension – the picture in numeracy was similarly poor (Montrose International, 2014). In the higher grades, a mere 3 per cent of any age cohort can expect to complete secondary education with sufficient qualifications to enter tertiary education. The situation is even worse for girls and pupils from economically-disadvantaged backgrounds (World Bank, 2014).

…and lack of data and measurement makes it hard to know what the current situation is, what is working, and why

The lack of sound education data is persistent. Planning, monitoring, evaluation, effective management, and policy making all call for timely, accurate, and reliable data on Sierra Leone's education sector. In a decentralised system, it is particularly important that all sub-national regions and districts provide timely and quality data. Without the latter, MEST will not be able to perform its primary role of monitoring and supervising the education service delivery and learning outcomes in the rest of the country, and drive accountability at regional, district and local council levels.

1.2   Leh wi Learn programme aims to help address these challenges

Leh wi Learn, formerly called the Sierra Leone Secondary Education Improvement Programme (SSEIP), aims to help the government of Sierra Leone addresss some of these challenges in secondary education. It is a five-year (2016-2021) UKaid-funded programme aimed at supporting MEST to achieve sustained improvements in girls' education and secondary grade learning outcomes.

Leh wi Learn provides support to learning conditions, MEST and district capacity to plan, monitor, and manage service delivery, and capacity for monitoring, learning and research.

Underpinning Leh wi Learn's model is investment in addressing the problem of lack of data on the current state of learning achievement, teaching practices and school environment, what is working, and why. Through its monitoring, research and learning workstream, Leh wi Learn will:

- Inform MEST strategy, planning and policy development and ensure these are data-driven and informed by evidence;

- Improve understanding of learning outcomes at junior and senior secondary levels in Maths and English, with data and evidence used for prioritisation of actions to improve teaching and learning;

- Develop long-lasting capacity at national and district levels to deliver strong monitoring, research and evidence in line with MEST's strategy and priorities;

- Identify existing pockets of best practice across districts, by establishing a system of sharing learning across the education system as a basis for performance improvements; and

- Establish a monitoring system to ascertain the effectiveness of Leh wi Learn's activities and provide a foundation for programme learning, improvement and adaptation.

1.3   The Secondary Grade Learning Assessment bridges the data gap

In close collaboration with MEST, Leh wi Learn designed and implemented the first annual secondary grade learning assessment (SGLA). It was carried out in all four regions of Sierra Leone in the months of May and June 2017. Its objective is to help bridge the data gap and 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 assessment survey's design contained the following components:

- **Learning assessments** for JSS2 and SSS2 grades, in English and maths, administered to 3,200 pupils;

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This survey constitutes the baseline round of the learning assessment surveys and covers a range of indicators on pupil learning levels, teaching and supervision practices, girls' safety in school, and the schooling experience of pupils with disabilities. Specifically, this first SGLA report seeks to answer the following research questions:

- **What are Sierra Leone's secondary grade pupils learning?** What are 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 they able to apply the curriculum to practical, real world problems? Are there significant differences in pupil learning outcomes by gender and other background characteristics?

- **What are some of the conditions under which teaching and learning takes place in secondary schools?** What are the pupil-teacher ratios (PTRs)? Do pupils, especially girls, feel physically safe in school and on the way to/from school? What is the schooling experience of pupils with disability?

- **What classroom practices are being used by junior and senior secondary teachers?** What is the approximate number of instructional hours delivered by the average teacher? Is teacher-absenteeism an issue and what are some of its drivers? Are teachers using the MEST lesson plans and if not, why?

- **What are some of the school management and leadership practices employed by secondary school principals in Sierra Leone?** Are they providing supportive supervision and pedagogical support to teachers, and how? How are they dealing with issues like teacher and pupil attendance? Are schools adequately supported by external supervision from, say, school inspectors?

1.4   The SGLA journey so far

Looking back at the first SGLA's timeline, there were three distinct phases in the journey so far:

- Phase I: Developing the methodological design for the learning assessment and overall survey (January-April 2017);

- Phase II: Operational planning and implementation of fieldwork (March-June 2017); and

- Phase III: Analysis and communication of results (July-December 2017)

As shown in the figure below, phase I started in January with consultations between MEST and the SGLA technical team, covering the objectives and broad design features of the learning assessment such as which grades would be tested, what subjects, timing of survey in the academic year. Following this, the SGLA team developed context-specific assessment items – i.e. English and maths questions to be administered to pupils. The assessment items were put through a rigorous review by Sierra Leonean principals, teachers, examiners and curriculum specialists. This led to further fine-tuning and contextualisation of items. In March, consultations continued between the SGLA technical team and MEST on the detailed design parameters of the learning assessment. Assessment booklets were submitted to MEST for review. The final assessment and survey design, including budget and communication timelines, were locked-in in April.

Phase II saw development of the fieldwork model; budgeting and logistical planning; securing school access permissions from MEST; recruitment and training of regional survey coordinators, supervisors and data collectors; and field-testing and piloting in Port Loko, Bo, Kenema and Pujehun. Fieldwork started on 15 May, ending on 27 June.

Phase III followed in July with data cleaning and preliminary analysis of pupil learning data by the SGLA technical team. A benchmarking workshop with MEST and assessment/curriculum specialists in Freetown was conducted. At this point, further consultations between the technical team and MEST were carried out to understand how the results should be presented and communicated to enhance their use and usefulness within MEST. The Leh wi Learn output-5 lead relocated her workstation to MEST to provide more up-to-date methodological and procedural updates to senior MEST officials, including cross-learning between the SGLA and the ongoing primary grade learning assessment (PGLA). Detailed analysis and report-writing by the SGLA technical team continued in August during which preliminary results were made available for publication in the Education Sector Analysis/Plan (ESA/ESP) and monthly MEST newsletter. In September, MEST convened a meeting between Leh wi Learn and the ministry's strategy and policy team – here, the SGLA technical team presented top-level key results in a validation workshop. To enhance practical use of the SGLA results at all levels, preliminary findings were also presented to the newly recruited cadre of school support officers (SSOs) and MEST school supervisors in Freetown, Bo, Kenema, and Makeni. A data-analysis workshop was convened by MEST in November where the SGLA technical team trained 15 MEST staff on analysis and data visualisation techniques using the recent SGLA data.

It was agreed that the SGLA technical team would complete the detailed analysis and report-writing and submit a draft report, along with a longlist of recommendations, to MEST by the end of November. MEST would then consider these proposed recommendations and work together with the SGLA technical team to arrive at a shortlist of prioritised actions, assigning responsible owners for each and indicative timelines for achieving them. This draft technical report has been written with the objective of facilitating such a prioritisation and recommendations workshop to be convened by MEST in December.

Figure 1: SGLA 2017 timeline for design, fieldwork, analysis, report writing and communication
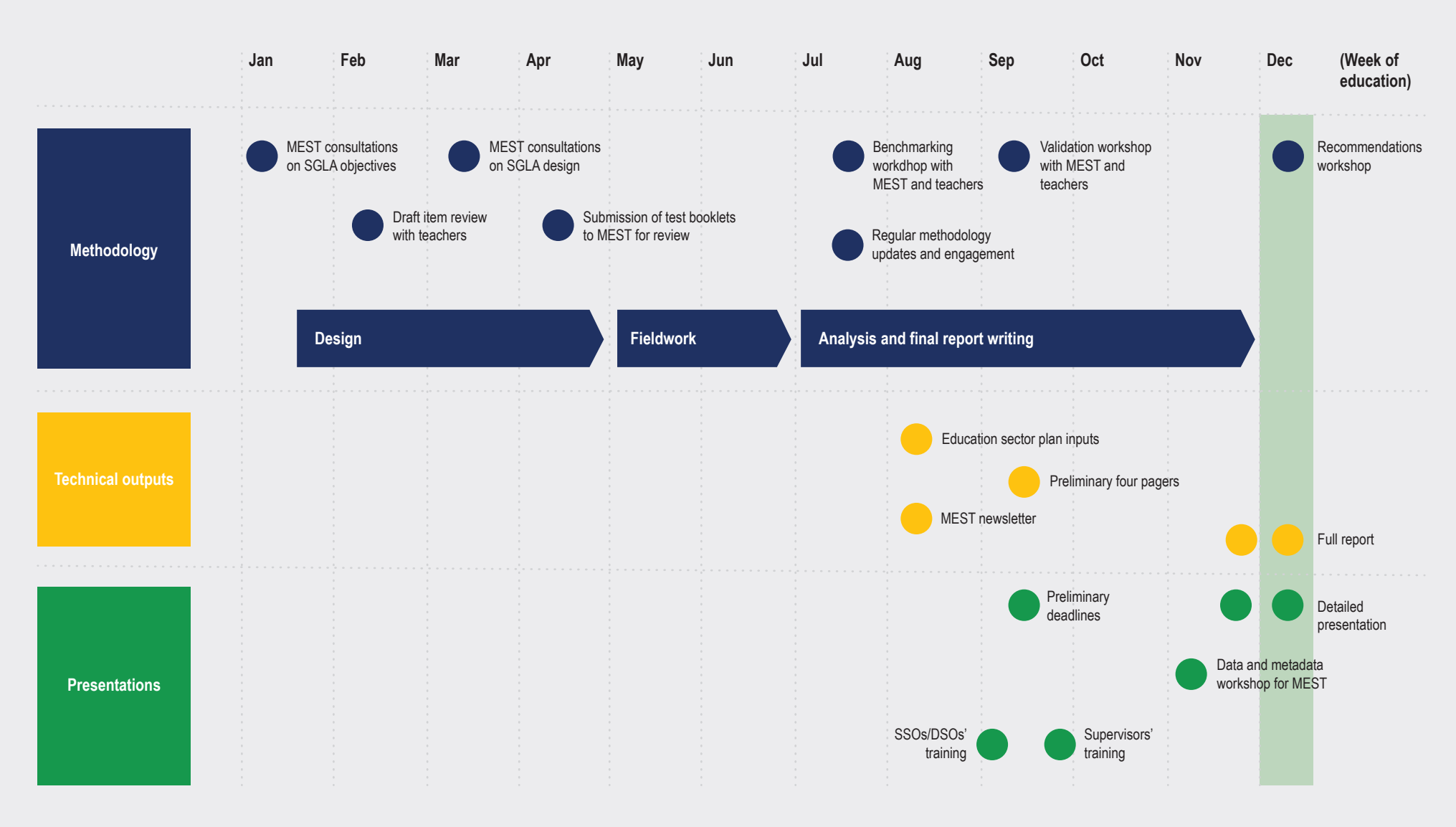
The purpose of this technical report is to present a comprehensive analysis of the data collected by the survey in order to provide as much detail on what is working well, and where there are areas for improvement in teaching and learning. This would, hopefully, support MEST and partners in developing policy responses. This process of detailed analysis in order to explore the situation and develop recommendations was discussed in the validation workshop in September with MEST where initial findings were presented. Readers seeking a short overview should consult the policy briefing notes which present key survey results on the current state of pupil learning (MEST, 2017e) and teaching practices (MEST, 2017d). Box 1 provides a further list of key background documents, data sets and companion reports – interested readers could refer to these for more detailed information on the design, fieldwork and analysis of the SGLA survey.

Gender-generic language has been used throughout this report to refer to pupils, teachers, and principals. Where necessary, for ease of reading, the female noun and pronoun have been used to refer to all genders.

Box 1: Key background documents, data sets and companion reports

This technical report is a stand-alone document that discusses the secondary grade learning assessment, its context and methodology, and presents the quantitative baseline results and possible implications for MEST's consideration. Readers might also find the following annexes, companion reports and documents of interest:

- Annex A: Survey design.

- Annex B : Sample design and weighting procedures.

- Annex C: Learning assessment design.

- Annex D: Household asset index (administered to pupils).

- Sierra Leone Secondary Education Improvement Programme (SSEIP) Business Case 2016 (DFID, 2016).

- SGLA baseline survey concept note (Leh wi Learn, 2017).

- SGLA baseline survey fieldwork completion report (Leh wi Learn, 2017a).

- SGLA baseline briefing note 1: Status of pupil learning outcomes in junior and senior secondary schools of Sierra Leone (MEST, 2017e).

- SGLA baseline briefing note 2: Current teaching and supervision practices in junior and senior secondary schools of Sierra Leone (MEST, 2017d).

- Preliminary SGLA results presentation to MEST (Leh wi Learn, 2017b).

- SGLA baseline pupil, teacher, principal and school dataset (MEST, 2017b).

- Feature story in MEST monthly newsletter on SGLA 2017 (MEST, 2017c).

Note: Full references are in the bibliography.

Sections 2-6: Results from the SGLA Survey 2017

Sections 2-6 present baseline results from the SGLA survey conducted in May-June 2017. As discussed above, the key intended impact of the Leh wi Learn programme is sustained improvements in pupil learning outcomes in secondary grades and, as such, results on pupil learning overall and for different groups of pupils (poorer and richer, boys and girls, and pupils in remote and less-remote schools) are reported and discussed first (Section 2).

Next, findings on teachers – who are the main recipients of a range of MEST and Leh wi Learn's support (e.g. lesson plans) – are discussed, including baseline teacher characteristics, classroom practices and feedback on lesson plans (Section 3). This is followed by a discussion on the typical school environment within which pupils learn and teachers teach, including school leadership and management, supervision and pedagogical support to teachers (Section 4). The results sections discuss girls' safety and their experience in school (Section 5), as well as the schooling experience of pupils with disabilities (Section 6).

Readers are encouraged to consider the pointers on how to interpret the results in figures and tables and guidance on weighted estimates, given in the box below.

Box 2: Pointers on how to interpret the results

What the figures and tables show

All the quantitative figures and tables presented in the results section show the mean estimate or proportion as relevant for each indicator. Unless otherwise stated, the word "average" has been used in this report to refer to mean to indicate central or typical values in the distribution. All figures and tables display the sample size (N), that is, the number of respondents who answered a particular question for each indicator. Some tables and figures compare estimates for different subpopulations, for example male and female pupils. In some tables, the estimates have asterisks, which indicate a statistically significant difference between the groups shown: *significant at 10% level **significant at 5% level ***significant at 1% level. The more asterisks are shown, the more likely it is that the observed difference is due to real differences between the groups rather than due to chance because of who was interviewed or tested. In other words,

Weighted estimates

Statistics presented in this report have been calculated taking into account stratification and sampling scheme as outlined in Annex A and B. To provide estimates of key indicators that are representative for each of the four regions, the observed values were analysed using survey weights. For instance, when a fixed number of pupils are sampled from JSS2 of each school irrespective of the number of pupils enrolled in the class as in the case of this survey, unless weights are used, the sample of pupils would be overrepresented by pupils in smaller schools. The relevant weights to use differ depending on whether analysis has been carried out at the school, teacher or pupil level, and survey weights have been separately calculated for each of these levels.

Note: For more on the SGLA survey design and implementation, see Annex A. For a detailed discussion of the sampling frame and stages see Annex B.

2 Pupil learning outcomes in junior and senior secondary grades

2   Pupil learning outcomes in junior and senior secondary grades

This section presents answers to the following research questions:

Box 3: Key research questions at baseline: secondary grade learning outcomes
• 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?
Source: Secondary Grade Learning Assessment survey (May-June 2017), pupil learning assessment.

Before discussing pupil-learning results, a summary of pupils' background characteristics is presented in Box 4 to provide context to the learning outcome results.

Box 4: Background characteristics of pupils
• The average age of pupils in JSS2 and SSS2, at the end of the academic year, is 15 and 18 years respectively.
• In JSS2, 38% of the pupils were age-appropriate for their grade (13-14 years old) while 58% were overage (older than 14 years). There was a similar pattern of overage pupils in SSS2 (39% age-appropriate, i.e. 16-17 years; 56% overage).
• Pupils reported the main language they speak at home as Krio in the West; Krio, Mende and Kono in the East; Krio and Temne in the North; and Krio and Mende in South.
Source: Secondary Grade Learning Assessment survey (May-June 2017), pupil learning assessment.

2.1   About the learning assessment

In the SGLA, each pupil was administered a test of 40 questions covering both English language and maths, along with some background questions like pupil's age, main language spoken at home and household assets. The test took approximately 45 minutes per pupil, and was administered on a one-on-one basis by enumerators to individual pupils.

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.[1] 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 their "real life" applicability.

The SGLA contained questions that pupils would be expected to encounter and comprehend in *both* school and "real life" such as prose, poetry, lists, tables, graphs, advertisements and webpages. In other words, the SGLA test was balanced to test both school-based knowledge and everyday English language and maths.

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1   Inclusion of questions from P4-6 curriculum was seen as necessary to avoid floor effect in the test – this arises when a large proportion of pupils taking an assessment find most questions in the test too difficult, resulting in a large proportion of pupils scoring near the bottom of the scale, also referred to as "clumping near zero".

Below are two examples – the first one from an English language item from the SGLA, which tests pupils' application of English comprehension skills to everyday life texts. Rather than providing an extract from a prescribed syllabus text and test for comprehension, this item assesses comprehension skills by some providing visual and textual information through an extract of non-continuous text (billboard) about a development project. It requires pupils to locate and extract explicitly stated information (such as title of the project) and infer meaning from simple short continuous and non-continuous texts. While a seemingly unconventional item, it ultimately tests a common skill – reading comprehension – which pupils will be required to demonstrate in school, work and life.

Box 5: Example of an English language assessment item which tests pupils' ability to comprehend non-continuous texts from everyday life

There are often billboards for construction projects in villages in Sierra Leone. These show the name of the project, where the money for the project comes from, the name of the village, the organisation managing the project and the local business doing the actual work.

Look at this example in the photograph. Use it to answer the next five questions.

PROJECT TITLE:
Provision of Safe Drinking Water

H_2O water thrive
(W2T)

DONOR: (ELCSL)
Water to Thrive (W2T)
PROJECT LOCATION:
SEMABUH
IMPLEMENTING PARTNER:
Evangelical Lutheran Church in Sierra Leone (ELCSL)
CONTRACTOR:
Mapandi Construction & General Services Ltd

What is the name of the project?

A. Semabuh
B. Water to Thrive
C. Evangelical Lutheran Church
D. Provision of Safe Drinking Water

In this project, what does the Evangelical Lutheran Church do?

A. Provide the funds
B. Manage the project
C. Provide safe drinking water
D. Do the building and construction

Source: SGLA test.

This second example below shows a more typical or familiar item from maths seems more common to how questions are presented in school textbooks or examinations. The examples below provide illustrations of items that aligned more closely with school-based maths skills.

Box 6: Example of school-based maths assessment items

Subtract

    52,829
    46,530
    ———
    ———

Find the odd numbers between 14 and 22

A. 14, 16, 18, 20
B. 15, 18, 20, 22
C. 15, 17, 19, 21
D. 16, 18, 20, 22

Source: SGLA test.

2.2 Performance bands in English and maths

In a workshop with JSS and SSS curriculum specialists in English language and maths, the SGLA team grouped skills tested in the assessment into four categories or performance bands. These range from band 1 which is characterised by basic skills (for instance, pupil can name some common objects in English like "hat" or "computer") up to band 4 which is linked to relatively advanced skills that require inference and reasoning.

The English performance bands are shown in the table below. In the analysis and reporting, pupils are sorted into these four performance bands, each described by a set of skills in English language. 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 and band descriptors: the typical student in this band shows the skills for lower bands and also…	**Example items and associated skills**
Performance band 1 Can name some common objects and understand a simple English sentence.	**Skill tested:** Can name some common objects **Look at the picture and circle the word which best matches the picture.** A. Gather C. Grating B. Greeting D. Guide
Performance band 2 Can locate and extract explicitly stated information and infer meaning from simple short continuous and non-continuous texts.	**Skill tested:** Infer meaning of an adjective in a sentence from its context **Sawie was the <u>founder</u> of the football club at school** A. Champion C. Employer B. Creator D. Operator
Performance band 3 Locate, extract and interpret immediate and overall meaning and information from 1-6 sentences. Understand the immediate impact on meaning of quantifier words (e.g. some, most, all, only). Apply basic grammar conventions.	**Skill tested:** Infer overall meaning from a short piece of continuous text *The sound of children chanting echoes across the quiet green hills around the village. It is early morning. Children with blue bags slung over their shoulders join in the chorus.* *Class has not yet begun, but the boys are reciting the alphabet and the girls are counting up to fifty. Each group is trying to drown out the other.* *The competition is fierce.* *Through the doorway of the one-room schoolhouse, seven-year-old Binta's eyes gleam as she counts energetically: 'Fory-eight! Forty-nine! Fifty!'* *An older student grins with pleasure at her enthusiasm.* *Later, Binta brings out her exercise book.* *It has many carefully formed english letters.* *'I like to practise on my slate after school,' she says with a smile. 'I come to school to learn. I want to learn, and to build my life.'* **Binta** A. Comes to school to meet her friends B. Sees learning as important to her life C. Does not take her school work seriously D. Wants to leave school as soon as she can

Table 1: Performance bands for English assessment (continued)	
Performance bands and band descriptors: the typical student in this band shows the skills for lower bands and also…	**Example items and associated skills**
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.	**Skill tested:** use technical language for the function of a word from a given sentence or extract **In the story, the word fierce is:** A. A verb B. A noun C. A pronoun D. An adjective
Source: Secondary Grade Learning Assessment benchmarking workshop (July 2017).	

As with English, maths skills tested in the assessment were also grouped into broad categories or performance bands with band 1 linked to basic skills (e.g. can extract values from a barplot) and band 4 linked to more demanding skills, like answering maths questions, which required simultaneous application of several mathematical operations. The maths performance bands are shown in Table 2 below.
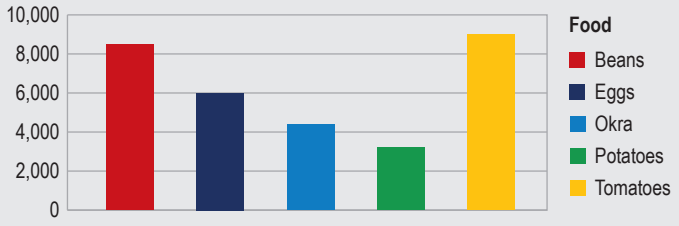
Table 2: Performance bands for Maths assessment	
Performance bands and band descriptors: the typical student in this band shows the skills for lower bands and also…	**Example items and associated skills**
Performance band 1 Extracts values shown in a barplot and visualises changes shown graphically.	**Skill tested:** extracts values from a barplot and visualises changes shown graphically The barplot shows the prices of some foods in the market. For eggs, the price is the cost of one egg. For the other foods, the pricesw are the cost of one kilogram (kg) in Leones. All the foods except eggs are vegetables: beans, okra, potatoes, tomatoes. **The cost of one egg is about:** A. Le 3,000 C. Le 6,000 B. Le 4,200 D. Le 8,400

Table 2: Performance bands for Maths assessment (continued)	
Performance bands and band descriptors: the typical student in this band shows the skills for lower bands and also…	**Example items and associated skills**
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 barplot to make simple comparisons.	**Skill tested:** four-digit school-based addition question with carrying over **Add** $\qquad$ 6,259 $\qquad$ 4,653 $\qquad$ ⎯⎯⎯ $\qquad$ ⎯⎯⎯⎯
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.	**Skill tested:** Applies addition operations on clock time Use this information to answer the next three questions: **Tuesday is homework night at our school** Kainday started her homework at 4.20pm and worked for 40 minutes. Abu started his homework at 4.30pm and worked for 20 minutes. Hassan started his homework at 4.10pm and worked for 45 minutes. Binti started her homework at 4.15pm and worked for 30 minutes. Next week Binti will start 30 minutes later than she did this week but work for the same amount of time. **At what time will Binti finish her homework next Tuesday?** A. 4.45pm $\qquad$ C. 5.15pm B. 5.00pm $\qquad$ D. 5.30pm
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.	The figure below represents a rectangular garden bed 8 metres long and 3 metres wide. Answer the next two questions about this garden bed. A. 8m^2 $\qquad$ C. 22m^2 B. 11m^2 $\qquad$ D. 24m^2
Source: Secondary Grade Learning Assessment benchmarking workshop (July 2017).	

2.3   Results: Pupil learning outcomes in English and maths

This section addresses the question: 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? To examine this, pupils were sorted into the four performance bands or levels discussed above. To achieve a performance band or level means that pupils in the particular band are more likely than not to be able to demonstrate the skills linked to that performance band.

The figure below shows that 7 per cent of JSS2 and 13 per cent of SSS2 pupils typically demonstrate 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. 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 skills that are more advanced.

Figure 2: Percentage of JSS2 and SSS2 pupils across performance bands in English
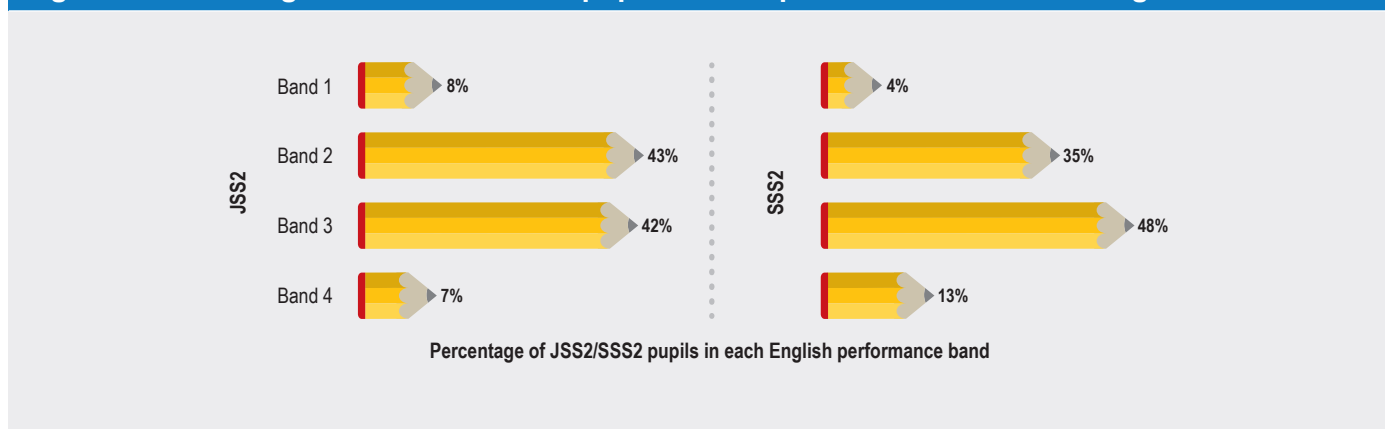
Percentage of JSS2/SSS2 pupils in each English performance band

The figure below shows that 7 per cent of JSS2 and 12 per cent of SSS2 pupils typically demonstrate 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 extracts values shown in a barplot and visualise changes shown graphically but are unlikely to demonstrate skills linked to any higher performance bands.

Figure 3: Percentage of JSS2 and SSS2 pupils across performance bands in Maths

Percentage of JSS2/SSS2 pupils in each maths performance band
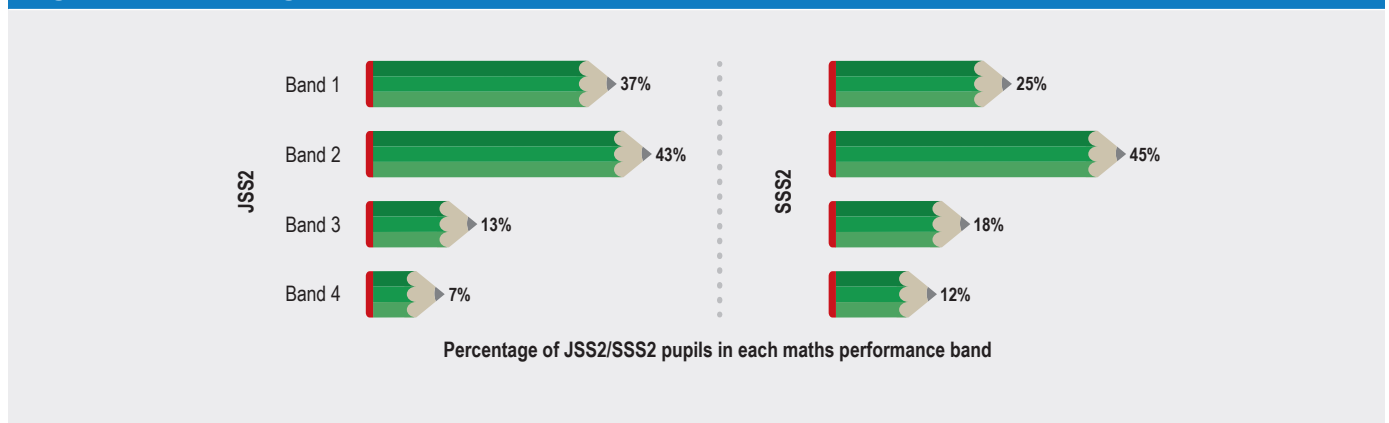
A few points are noteworthy in interpreting and understanding the implications of these results.

First, the English and maths results are not comparable. This is because the performance bands in English and maths were defined separately; they have different task and skill demands on pupils; and a comparison is not entirely meaningful. The proportions of pupils in any band for English are not comparable to those in the corresponding band in maths. For instance, even though there is a higher proportion of JSS2 pupils in band 3 for English (42 per cent) than maths (13 per cent) this does not indicate conclusively that pupils are comparatively better at English than maths.

Second, while on average SSS2 pupils scored higher than JSS2 pupils on both subjects, there does not appear to be an appreciable progression or movement of pupils' learning outcomes from lower to higher bands as they move up the grades. In fact, in both subjects, there is a sizeable proportion of JSS2 pupils who are scoring similar or better than SSS2 pupils. For instance, the 63 per cent of JSS2 pupils in bands 2-4 in maths who are performing better than the bottom 25 per cent of SSS2 on the same test. These results make clear that a large proportion of pupils in both grades, despite 8-11 years of schooling and having officially passed the National Primary School Examination (NPSE), are demonstrating no more than some very basic English and maths such as naming common objects or extracting explicitly stated information from a simply graph – they 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.

Third, and relatedly, the results above show that the distribution of pupil abilities in both subjects is fairly diverse: i.e. there are a modest proportion of pupils who seem to know a lot and able to correctly answer the more demanding questions in bands 3 and 4, while large proportions who at best demonstrate the elementary skills reflected in the lowest bands in both subjects. The sub-sections below unpack some of the background characteristics of pupils (e.g. gender, family's assets, remoteness of school) to understand the profiles of pupils who are performing well and those for whom the education system is not delivering much learning.

2.4   Disparities in learning outcomes by pupil background

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. 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 remoteness of school

	Band 1	Band 2	Band 3	Band 4
Richest – English	6%	36%	47%	11%
Poorest – English	10%	48%	38%	4%
Richest – Maths	32%	41%	15%	12%
Poorest – Maths	47%	41%	9%	3%
Less remote – English	7%	41%	44%	8%
Remote – English	9%	51%	37%	3%
Less remote – Maths	35%	43%	14%	8%
Remote – Maths	43%	43%	10%	4%
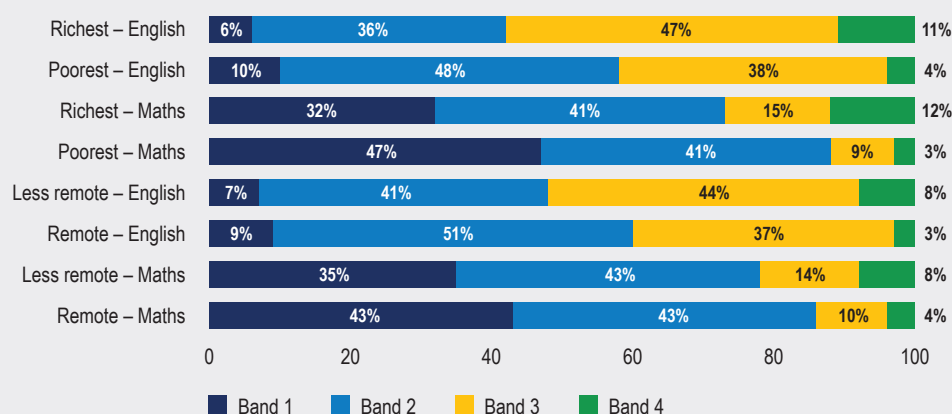
Across both grades and subjects, boys' scored higher than girls. The figure below also suggests that this learning gap appears to widen as they move from JSS2 to SSS2.

Figure 5: Disparities in learning outcomes by gender

	Band 1	Band 2	Band 3	Band 4
JSS2 Girls – English	9%	46%	39%	6%
JSS2 Boys – English	7%	41%	45%	7%
JSS2 Girls – Maths	41%	41%	11%	7%
JSS2 Boys – Maths	34%	45%	14%	7%
SSS2 Girls – English	6%	41%	43%	10%
SSS2 Boys – English	3%	29%	52%	16%
SSS2 Girls – Maths	31%	43%	15%	11%
SSS2 Boys – Maths	20%	46%	20%	14%
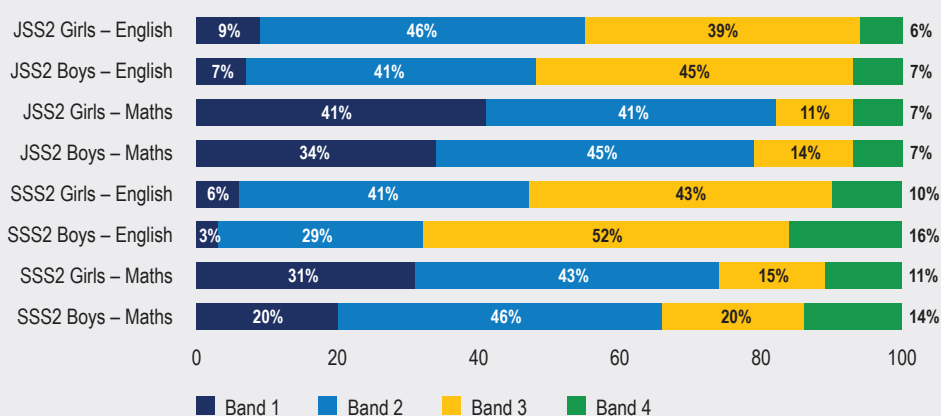
When disaggregated by various pupil background characteristics, it appears that those who demonstrate some of the more demanding skills are more likely to be male pupils, from wealthier households and whose schools are less remotely located, while those who score lower in the assessment on average are 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 more interesting question, though, is why these groups of pupils (male, wealthier, less remote) are performing better, on average, and the underlying driving mechanisms for this difference in performance. This raises the unanswered but important questions of whether teachers teach to boys more than they teach to girls, or whether families devote more resources to boys' education than girls' (e.g. time to study, money for materials) – something which has more scope for exploration through qualitative research.
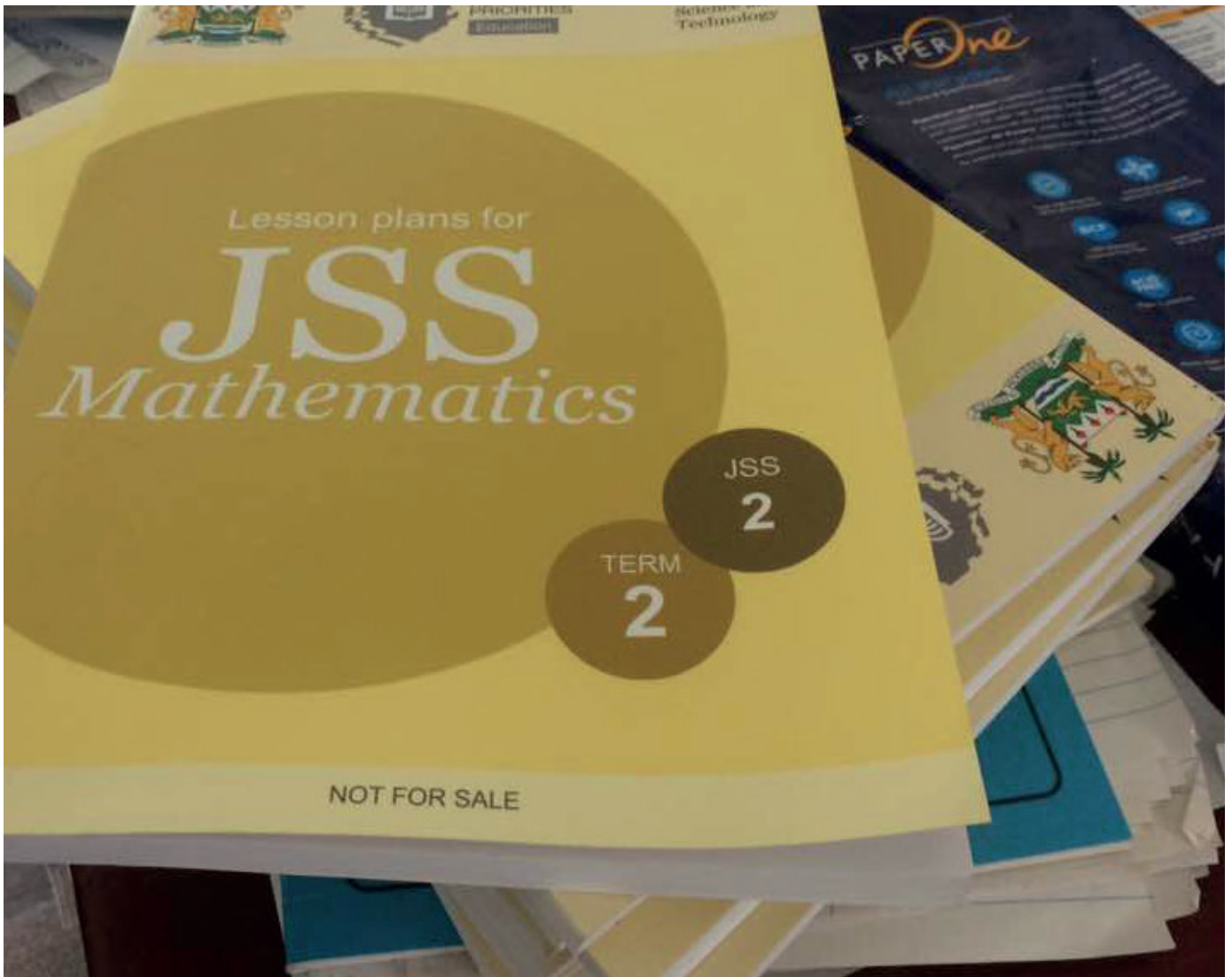
Photo credit: Zara Durrani

3 Teaching practices in secondary schools

3   Teaching practices in secondary schools

This section presents evidence on the current state of classroom practices in junior and senior secondary schools in Sierra Leone on a sample of 1,428 teachers,[1] including principals who teach in these grades.[2,3] Before discussing the results in detail, some background information on teachers is presented in the box below to help contextualise the findings.

Box 7: Background characteristics of JSS and SSS teachers[5]

- Only 5 per cent of all JSS and SSS teachers are female.

- Average age of teachers is 35 years.

- Just over a third (34 per cent) of teachers have the Higher Teacher Certificate, HTC, (secondary) qualification.

- Average teaching experience is 11 years.

Source: Secondary Grade Learning Assessment survey (May-June 2017), teacher interview.

A small percentage of teachers are female

Women ▶ 5%

Men ▶ 95%

Average age

35yrs
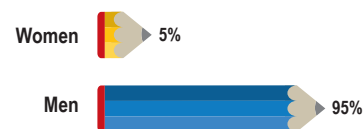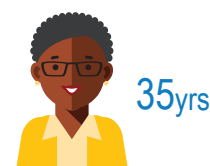
3.1   Quantity of instructional time and pupil-teacher ratios

3.1.1 Teaching hours and disruptions to teaching[5]
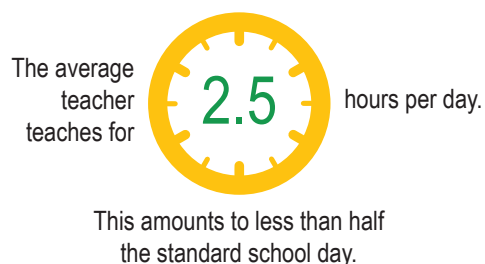
The average teacher teaches for **2.5** hours per day.

This amounts to less than half the standard school day.

Teachers, on average, taught for 13 hours in a standard week. This amounts to approximately two and a half hours of teaching per day (or less than half the standard school day).[6] SSS teachers were also found to spend more time teaching per day than their JSS counterparts did. The average SSS teacher reported that they taught for about 14 hours in a week (2 hours 49 minutes per day) whereas this was a couple of hours lower at 12 hours a week (2 hours 26 minutes) for JSS teachers.

One in three teachers (33 per cent) reported significant disruptions to their instructional time in the past two weeks, although this varied substantially across provinces.[7] The average disruption was as high as four days in the last two weeks. This was a day higher at SSS level, with teachers reporting an average of five days of classes disrupted in the past two weeks, compared to four days in JSS. According to teachers, disruption was most often linked to pupil absenteeism, which led to suspension of classes. This was followed by disruption due to ongoing exams or teachers being away from school due to trainings or workshops.

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1   The eligibility criteria for a teacher to be included in the sample was that they should be teaching English and/or maths in JSS or SSS levels and present in school on the day of the survey.
2   Unless otherwise specified, this is the reference population for results in this section.
3   Of these 1,428 teachers: 1,173 are learners teaching English and/or maths, and the remaining 255 are principals who teach some subject at JSS/SSS level.
4   Characteristics based on nationally representative sample of 1,173 teachers teaching English and/or maths at JSS/SSS level.
5   Results in this sub-section are based on a sample of 1,173 teachers teaching English and/or maths at JSS/SSS level.
6   The average teacher taught for 2 hours and 33 minutes per day. This was calculated by asking teachers the number of periods they taught and the average length of a standard period. The length of the standard school day in secondary schools in Sierra Leone is approximately 5.5-6 hours (including breaks) in single shift schools and 5-5.5 hours in double shift.
7   The start of the survey in mid-May 2017, immediately followed a period of over 3 weeks of school closure due to a national voter registration exercise in the country.

3.1.2 Teacher absenteeism from school

According to teachers, the main reason for being absent from school was own or family illness, with 18 per cent of teachers reporting this.[8] However, principals linked teachers' absence from school to low levels of teacher salary and remuneration (61 per cent of principals mentioned this).[9] This could be due to poor motivation because of low remuneration, but the underlying mechanism connecting low remuneration to teacher absenteeism is difficult to fully disentangle in a quantitative survey. The other common reason for teachers' absenteeism was social or religious obligations requiring them to be away from school.

Explaining their own absence from schools – be it authorised or unauthorised absence – principals particularly spoke of attending meetings or events outside of school (15 per cent of principals) as well as own or family health issues (13 per cent).

Nearly all principals (95 per cent) reported taking some corrective measures against teacher absenteeism. The most commonly cited action was to discuss the issue with teachers (44 per cent). This was followed by another 27 per cent of principals who reported writing a query or letter of reprimand to the teacher. Principals also practised ruling the attendance book at school opening time[10] (26 per cent) and following up with teachers who were late or absent. These actions are represented in the figure below.

Figure 6: Corrective measures taken by principals against teacher absenteeism

95%
of principals took some corrective measures against teacher absenteeism

44%
discussed attendance with teachers

27%
reported writing a query or letter of reprimand to the teacher

26%
practised ruling the attendance book at school opening time
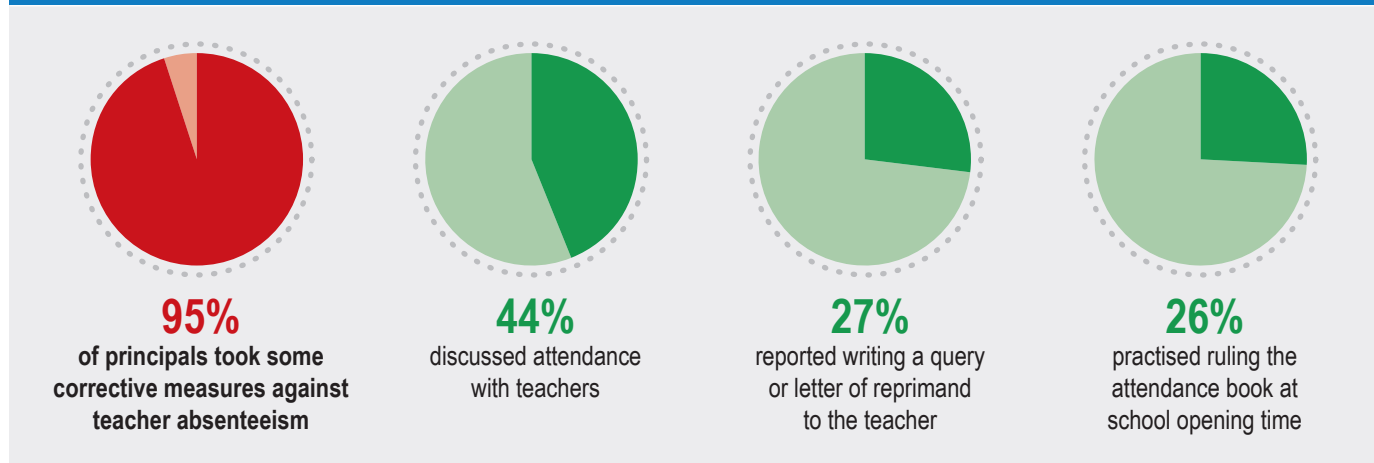
3.1.3 Pupil-teacher ratio[11]

Figure 7: Pupil-teacher ratio

PTR is relatively small and similar across JS and SS schools

JSS pupil teacher ratio

23:1

SSS pupil teacher ratio

22:1

Pupil-teacher ratios (PTR) can serve as a broad indicator of teacher workloads and the amount of individual attention a pupil is likely to receive from teachers.

This baseline SGLA survey found that PTR is relatively small and similar across JSS and SSS. On average, nationally, there are just over 23 pupils to each teacher.

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8 Based on a sample of 1,173 teachers teaching English and/or maths at JSS/SSS level.
9 Based on a sample of 392 principals interviewed in the SGLA 2017.
10 That is, drawing a linein the attendance register under the name of the last teacher to arrive on time such that it is clear who arrives after the line was drawn.
11 The average PTR counts teachers teaching both JSS and SSS grades once; while the PTR at JSS (SSS) counts all the teachers who teach at JSS (SSS) even if they also teach at the other levels. Information on numbers of teachers and pupil enrollment was collected as part of the principal interviews.

3.2   Common teaching aids and guides

3.2.1 Teaching aids[12]

Almost all teachers across the four regions and both grade levels used at least one teaching aid in their classrooms, defined in this case as an object or device used by a teacher to enhance classroom instruction. These were mainly traditional aids like textbooks and blackboard/chalk as opposed to, say, improved aids made by the teacher from low-cost materials from the local environment.

The figure below reports the most commonly used teaching aids. A substantial majority of teachers (85 per cent) reported using textbooks. Over two-thirds (71 per cent) of teachers also used blackboard and chalk. Other commonly used aids were resources made by the teacher (27 per cent) and posters, charts or pictures (25 per cent).

Understandably, the least used resource across all regions was multimedia (audio/visual) equipment and internet resources (5 per cent teachers) presumably because there is no electricity and internet in most schools.

The most commonly used teaching aids are similar at JSS and SSS level, but more SSS teachers use internet resources and science equipment, and fewer use posters and charts. This could potentially be linked to changes in the nature of subject content and more advanced class aptitudes at higher levels requiring less visual and more self-study or hands-on teaching methods and resources compared to junior grades.

Figure 8: Common teaching aids used by teachers

Textbook 85%

Black/white board 71%

Resources made by teacher 27%

Poster/charts 25%

Multimedia or internet resources 5%

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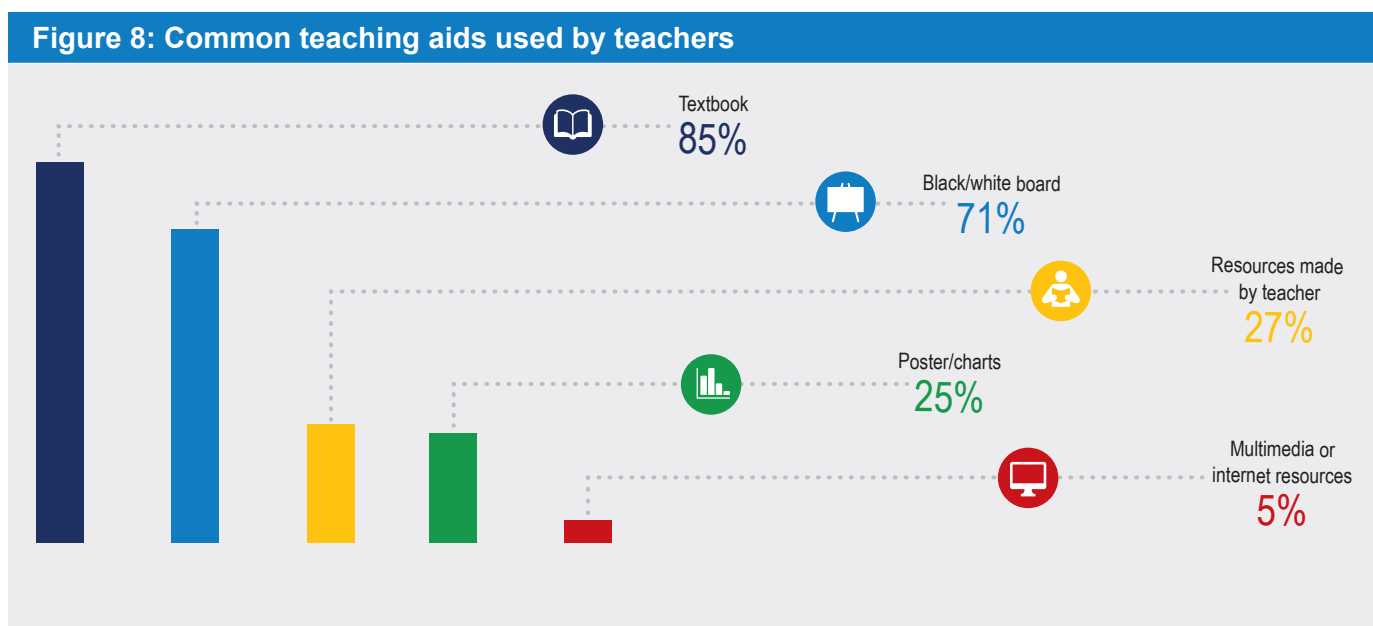
12 Teachers were asked what teaching aids or resources they 'normally used' in their lessons. Teachers were allowed to record use of more than one teaching aid.

3.2.2 Teaching guides and MEST lesson plans

The SGLA also interviewed teachers and principals who taught about teaching guides used to help plan and prepare for their teaching. In April 2017, MEST distributed lesson plans in Language Arts and maths amongst 40,000 primary and JSS teachers across Sierra Leone to support delivery of high quality classroom instruction. In this regard, the timing of the SGLA survey in May-June 2017 provides an interesting opportunity to capture baseline usage trends and get initial feedback from teachers on the structure, content and usefulness of MEST lesson plans.[13]

Almost all secondary schools teachers used some form of teaching guide to plan and prepare for their lessons, with a substantial proportion (68 per cent) of teachers already reporting the use of MEST lesson plans for this purpose.[14] Other important teaching guides were textbooks (60 per cent) and lesson notes (55 per cent). This is represented in the figure below.

Figure 9: Common teaching guides used by teachers

Usage of various teaching guides among JSS English or maths teachers

| 68% | 60% | 55% | 22% |
| MEST lesson plans | Textbooks | Lesson notes | Teaching syllabus |
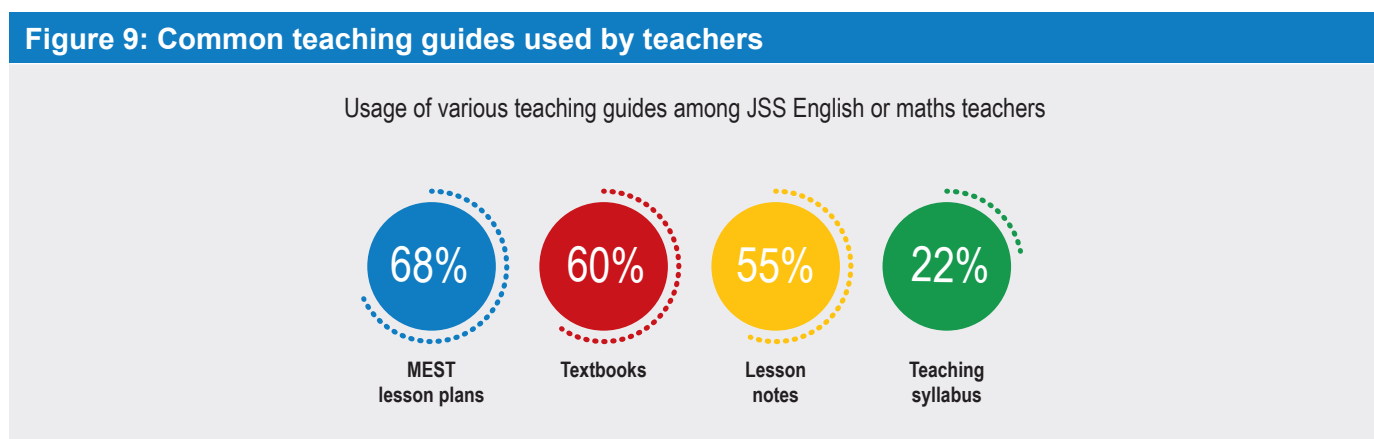
Teachers who reported using MEST lesson plans were further asked to share feedback on the lesson plans, and how they were able to use them in their teaching.[15] Teachers were read out 23 different statements related to these themes and asked the extent to which they agreed or disagreed with each one. Statements were clustered around:

- appropriateness of the length of lesson plans,

- structure and ease of use,

- appropriateness of the level of difficulty of content,

- how lesson plan content and examples related to pupils,

- how pupils' learning and understanding could be assessed through lesson plans.

Teachers can generally understand the use and purpose of lesson plans to facilitate learning. However, they struggle to incorporate all the prescribed activities in the lesson plans within the duration of one period.[16] The table below summarises teachers' responses on how they are able to use lesson plans.

13 This part of the survey was only administered to a teacher or principal if she indicated that they taught English and/or maths to at least one grade of JSS, since MEST currently provides printed lesson plans only at the JSS level and only for two subjects i.e. Language Art and maths. Consequently, of the total 1,428 teachers teachers and principals who taught, the sub-sample of teachers asked about their use of teaching guides was 805 teachers.
14 When data collection for the SGLA 2017 was taking place in May/June 2017, JSS teachers had recently received lesson plans and were being trained in using them.
15 540 of the 805 teachers (68 per cent) reported and were asked about their use of MEST lesson plans.
16 This could be driven by a range of factors, such as teachers' own mastery of the subject material (especially if they lack subject specialism); or constrained lesson time (especially in shift schools); or the lesson plans indeed being more ambitious than what teachers can feasibly deliver within one period.

Table 3: Teachers' ability to use MEST lesson plans

JSS teachers who use MEST lesson plans who are able to...	Strongly agree	Agree	Disagree	Strongly disagree
Understand how to use lesson plans	29%	68%	3%	0%
Understand what pupils might learn	25%	73%	2%	0%
Check if pupils are understanding content	28%	70%	2%	0%
Fit all activities into one period	6%	28%	57%	9%

When asked if they felt they understood how to use the lesson plans, 97 per cent of teachers reported that they agreed or strongly agreed with the statement. A similar picture emerged when teachers were asked if they felt that they understood what pupils might learn when using the lesson plan with 98 per cent of the teachers reporting favourably. Nearly all teachers (98 per cent) also reported that they agreed that they could assess whether pupils are understanding content while using lesson plans. However, when asked if they could fit all activities outlined in the lesson plan into one lesson, a significant 66 per cent of the teachers reported that they disagreed with the statement. This is a potential area for consideration and further revision for lesson plan developers. More qualitative inquiry, including classroom observations, is also required to comment further on the effectiveness of lesson plan usage by teachers.

A vast majority of teachers also had positive feedback on MEST lesson plans. They considered the lesson plans to be well structured and as helping pupils learn better. However, teachers were concerned that some lesson plan content (especially examples used to explain concepts) did not relate well to the context and lived realities of pupils.

About 95 per cent of teachers reported that the content of MEST lesson plans was at the appropriate level for pupils and 93 per cent felt that lesson plans moved smoothly from one topic to the next, making them easy to understand. A similar majority (95 per cent) of teachers also said that they felt the lesson plans helped their pupils learn well. However, responses varied when teachers were asked if the content of lesson plans and examples used were appropriate for pupils and related well to the context in which they lived, with only 69 per cent of teachers affirming the statement. This is captured in the table below.

Table 4: Teachers' feedback on lesson plans

JSS teachers who use MEST lesson plans who think...	Strongly agree	Agree	Disagree	Strongly disagree
Lesson plan content relates well to pupils	13%	56%	26%	5%
Content is at the right level for pupils	28%	66%	5%	1%
Lesson plans move smoothly between topics	36%	57%	4%	3%
Pupils learn well with lesson plans	30%	65%	4%	1%

Needless to say, these results might be affected by social desirability bias whereby teachers may have had a tendency to answer questions in a manner that will be viewed favourably by others – in this case, the lesson plans were being used by them and general positive feedback on their content and structure. Readers are therefore recommended to see these results are giving an indicative idea of lesson plan uptake and preliminary feedback only.

JSS English and/or maths teachers who did not use MEST lesson plans were also asked the reasons for not using them.[17] It was usually because she had not received them yet (17 per cent) or had not been trained on how to use them (7 per cent).

As the above discussion has shown, it is encouraging to note a large proportion of teachers reporting the use of and giving positive feedback on JSS lesson plans even though these have been distributed quite recently. Further distribution, teacher training and support, and coverage of other subjects and SSS grades should be pursued. This survey could be complemented by qualitative inquiry into the effectiveness of lesson plan usage. In addition, potential problem areas identified by teachers, such as length of modules and relevance of content to local contexts should be considered by lesson plan developers for further revision and improvement.

17 265 of the 805 teachers interviewed about their use of teaching guides reported that they did not use MEST lesson plans.

Lesson Title: Perimeter and Area Story Problems	Theme: Measurement and Estimation
Lesson Number: M-08-067	Class/Level: JSS 2	Time:

Learning Outcomes	Teaching Aids	Preparation
By the end of the lesson, pupils will be able to solve practical problems on perimeter and area.	None	None

Opening *(2 minutes)*
1. **Say:** Please sketch a square, rectangle, triangle, trapezium, and rhombus in their exercise book.
2. **Ask:** Who would like to come to the board and sketch one of the shapes and label it with its proper name?
3. Call on 5 pupils with hands raised to come to the board to draw the shapes and label them with their proper names.
4. **Say:** Today, we will learn how to solve story problems involving the perimeter and area of shapes, such as the ones you have just sketched.

Introduction to the New Material *(8 minutes)*
1. Write: Massa's farm is shaped like a trapezium, with sides measuring 12 m, 10 m, 9 m, and 9 m. If fencing costs Le 250 per metre, how much would it cost to put a fence around the farm?
2. Read the question aloud to the class.
3. **Say:** Remember that the distance around a shape is the perimeter.
4. **Say:** We need to find the perimeter of the farm, which will tell us the amount of fencing.
5. **Say:** To be able to understand story problems involving the perimeter or area of plane shapes, it can be helpful to draw a picture of the shapes first, and then apply the correct formula to solve the problem.
6. Draw and label the farm on the board as shown at the right
7. Calculate the perimeter of the farm as below:

$$P = a + b + c + d = 10\ m + 9\ m + 12\ m + 9\ m = 40\ m$$

8. **Say:** I have added the 4 sides together and my answer is 40 m.
9. **Say:** Massa needs 40 m. of fencing.
10. **Say:** To find the total cost of the fencing, we multiply the number of metres of fence needed by the cost per metre.
11. Calculate the cost as follows: 40 m × Le 250 = Le 10,000.
12. **Say:** I have calculated the cost of the fencing by multiply 40 meters times Le 250.
13. **Say:** Massa's fence would cost Le 10,000.

Guided Practice *(9 minutes)*
1. Write: Joe wants to build a porch 3 m long by 2 m wide on his house. Each bag of cement make 2 square metres of porch. How many bags will Joe need?
2. Read the question aloud to the class.
3. **Say:** Remember that square metres are used for area.

4. **Say:** We need to find the area of the porch Joe wants to build, and then we will be able to calculate the number of bags of cement.
5. Draw and label a diagram of the porch.
6. **Say:** Please draw a diagram of the porch in your exercise book.
7. **Ask:** How do I calculate the area of the porch? (Answer: multiply length x width)
8. **Say:** Please calculate the area in your exercise book.
9. Write: $A = 3\ m \times 2\ m = 6\ m^2$
10. **Say:** $3\ m \times 2\ m = 6\ m^2$
11. **Say:** Since we know that 1 bag of cement makes 2 square metres of porch and Joe wants 6 m², we can calculate the number of bags by dividing.
12. **Say:** Please calculate the cost in your exercise book.
13. Write: $6\ m^2 \div 2\ m^2 = 3$ bags of cement.
14. **Say:** $6\ m^2 \div 2\ m^2 = 3$
15. **Say:** Joe would need 3 bags of cement.
16. **Say:** Work with a partner to solve the next problem.
17. Write: Bendu wants to buy net for her windows to keep the mosquitos out and prevent malaria. Each of her windows is 80 cm tall, and 60 cm wide. How much net will she need to cover 5 windows?
18. Walk around the room and assist pupils when needed. Make sure that pupils are drawing the picture, applying the correct formula and their answers are in correct units.)
19. **Ask:** Who would like to write their answer on the board?
20. Call on a pair with hands raised to present their answers on the board. (Answers: Area of window: $A = 60\ cm \times 80\ cm = 4{,}800\ cm^2$; $4{,}800\ cm^2 \times 5\ windows = 24{,}000\ cm^2$)

Independent Practice *(9 minutes)*
1. Choose two problems from the question bank on the next page (based on your pupils' level of understanding) and write them on the board.
2. **Say:** Please work on your own and write the answers in your exercise book.
3. Walk around the room and assist pupils when needed.
4. **Ask:** Who would like to solve the problems on the board?
5. Call on 2 pupils with hands raised to solve the problems on the board.

Closing *(5 minutes)*
1. **Say:** Write your own story problem using the lesson as an example.
2. **Ask:** Who would like to share their story problem with the class?
3. Call on pupils with hands raised to share their story problems aloud.

Photo credit: Zara Durrani

4 Provision of supportive supervision and pedagogical support

4   Provision of supportive supervision and pedagogical support

What are some of the school management and leadership practices being employed by secondary school principals in Sierra Leone? Are they providing supportive supervision and pedagogical support to teachers, and how? How are they dealing with issues like teacher and pupil attendance? Are schools adequately supported by external supervision from, say, school inspectors? In this section we attempt to answer these questions.

Before discussing the results in detail, some background information on principals is presented in the box below to help contextualise the findings.

Box 8: Background characteristics of JSS and SSS principals and school ownership

A total of 392 heads of schools were interviewed which consisted of 36 percent principals, 42 acting principals and 20 percent assistant or vice principals.[17]

- 7 per cent of all them were female

- The typical principal was 46 years old

- On average, they had 20 years of experience in teaching profession

  – Had 6 years of experience in heading any school

  – Had 5 years of experience in heading the current school

  – 85 per cent of them were heading a school for the first time

- 41 per cent had Higher Teacher Certificate (Secondary)

- 41 per cent had a B.Ed. /BA (Ed) /BSc. (Ed) or equivalent Bachelor degree in education

- 11 percent had a M.Ed. /MA(Ed) or equivalent Master or MPhil/PhD in education

About a fifth of all secondary schools are government-owned, while the rest are privately owned. Over half of these private schools receive government assistance. Private schools are predominantly mission schools.

Source: Secondary Grade Learning Assessment survey (May-June 2017), principal interview.

4.1   Staff and formal one-on-one meetings

Staff meetings appear to be common in secondary schools in Sierra Leone, with approximately 93 per cent of teachers and 99 per cent of principals reporting that they have had staff meetings in the previous term (January to April 2017). An average teacher attended two such meetings in a term and an average principal conducted three such meeting in the same time period: this translates roughly into one staff meeting a month on average.

It is difficult to fully capture the effectiveness of these meetings within a quantitative survey like the SGLA. However, responses suggest staff meetings largely deal with day-to-day school issues and administration, rather than focusing on pedagogy and learning. According to both teachers and principals, the most common topics of discussion during these staff meetings were exams and teacher absenteeism or lateness by teachers and pupils.[2]

> **93%**
> of teachers have attended at least one staff meeting in the previous term
> The typical teacher attended two staff meetings in a term

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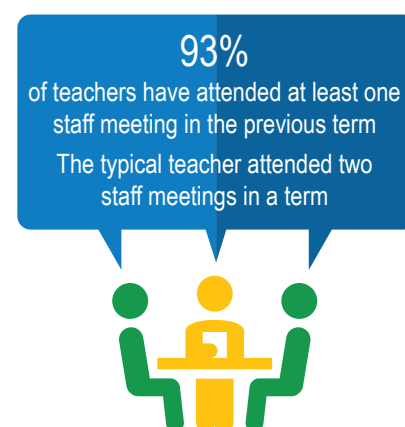
1   The term 'principals' is used to refer to all these types of heads of schools. In some schools where both JSS and SSS wings had been sampled, the head was common across both wings and hence interviewed only once covering all JSS and SSs questions. Hence the total respondents for the principal interview is less than the total number of schools in the survey (400).

2   More than one third of the schools (37 per cent) maintained meeting notes or minutes from staff meetings. More than a half of them (58 per cent) said that they maintained the meeting notes, however, they were unavailable at the time of the interview. The remaining schools (5 per cent) said they did not maintain any meeting notes/minutes.

A majority of secondary school teachers also have formal one-on-one meetings with their principal or head of department: 73 per cent of teachers reported having such meetings in the previous term, at an average of four meetings over the term.

73%
of teachers have had one-on-one meetings with principal or HoD in the previous term.
The typical teacher had 4 one-on-one meetings last term.

4.2   Lesson observations

Lesson observations can be a useful tool for measuring and improving teachers' pedagogical effectiveness in a classroom. Effective lesson observations can potentially serve several purposes, including:

- Describing the current status of pedagogical practice and identifying issues;

- Investigating instructional inequities by gender, socio-economic status, race or ethnicity of pupils; and

- Improving current teaching practices, especially if observations are followed up by detailed and constructive feedback to teachers.
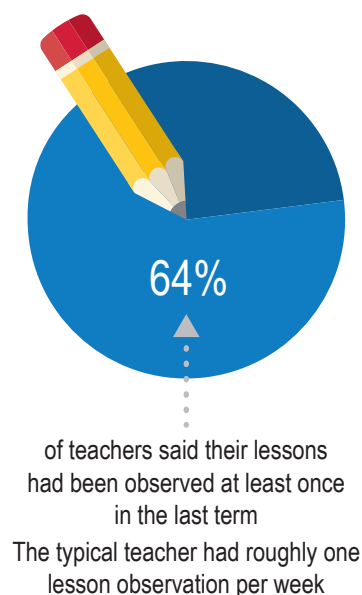
64%

of teachers said their lessons had been observed at least once in the last term
The typical teacher had roughly one lesson observation per week

The SGLA suggests that most junior and senior secondary schools in Sierra Leone have active systems of internal lesson observations, with an average teacher being observed approximately once a week. Almost all principals (93 per cent) reported that they had conducted lesson observations during the previous term.[3] This was substantiated by teachers – a majority of them (64 per cent) said their lessons had been observed in the previous term. Lesson observations were usually conducted by the principal, vice principal or head of department.[4] Teachers reported an average of 13 lessons observed during the term, or roughly one per week.

These seem like a fairly high number of lesson observations for a teacher every term but it is difficult to comment with certainty because there is no established national guideline for the required number of observations within a given time period. However, what the SGLA can tell us is that lesson observations differ in duration across observers. Different principals observed lessons for different lengths of time and more than two-thirds of observers did not stay for the entire duration of the class.[5] Even though these results suggest that the practice of lesson observation is regular, keeping a record of it is not – a majority of observers did not maintain any notes or records from the observation.[6]

Within the constraints of this survey, it is difficult to comment on the *effectiveness* of these observations. For instance, do principals follow-up with teachers after they would observed the lesson, give them constructive feedback, follow-up on action taken and track progress in pedagogical practice? Further, despite robust number of lesson observations per term, why is the average instructional time per teacher per day fairly limited (as discussed in the previous section)?[7] These remain questions for future enquiry.

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3   Almost 12 per cent of principals reported that they had observed more than 32 lessons in total over the entire term. The remaining 88 per cent principals observed 12 lessons on average during the same time period. These included, on average, 6 lesson observations for English and 5 for maths as well.

4   Teachers reported that most of these observations were conducted by principals (34 per cent), followed by acting principals (14 per cent) and head of department (12 per cent).

5   A quarter (27 per cent) of the principals who observed lessons said they did so for the entire duration of the class session, 39 per cent of them observed the class for half the session and 32 per cent observed the class for only a few minutes, all while sitting inside the classrooms. A small number of principals (3 per cent), reported that they observed lessons from outside the classroom or casually while passing by the window.

6   Most principals (46 per cent) did not maintain any schedule of lesson observations. Only 13 per cent of the principals could show the SGLA enumerators a schedule or a record of lesson observations from the previous term, and 42 per cent of them said that they maintained the schedule but was not available at the time of the survey.

7   As discussed in the previous section: teachers, on average, taught for 13 hours in a standard week. This amounts to approximately two and a half hours of teaching per day (or less than half the standard school day).
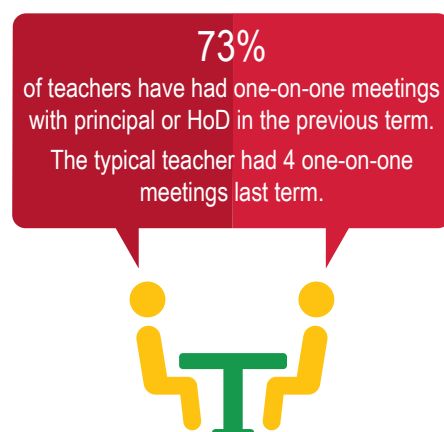
4.3   External supervision

In addition to internal supervision through staff meetings and lesson observations, external supervision visits are also conducted by various actors across JSS and SSS schools in Sierra Leone. A vast majority of principals (86 per cent) reported at least one external supervision visit during the previous term (January to April 2017) and on average four supervision visits over the same term. The most frequent external supervision visits were by MEST inspectors (reported by 51 per cent principals) followed by school supervisors (37 per cent), district or city councillors (28 per cent), and representatives from NGOs/mission (26 per cent).

External observers

- MEST inspectors
- School supervisors
- District or city councillors
- Representatives from NGOs or missions

Percentage of principals

- 51%
- 37%
- 28%
- 26%

Purpose of visit

- Checking teacher attendance
- Checking pupil attendance
- Check other school records
- Observe lessons

Percentage of principals

- 56%
- 48%
- 41%
- 36%
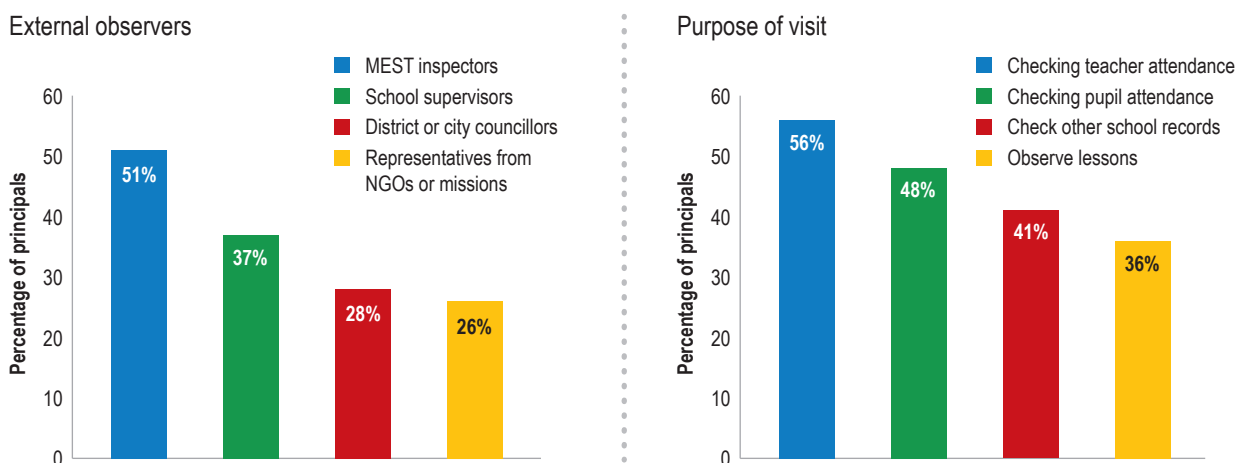
The main purpose of supervision visits, as reported by school principals, was to check teachers' and pupils' attendance, and check other school records. More than one-third of the principals (36 per cent) also reported that external supervisors observed lessons while they were visiting. These lesson observations were in addition to the ones reported by the internal observations by principals themselves as mentioned in the previous section.[8] Further, nearly all JS and SS schools have parent-teacher or community-teacher associations (PTA/CTA). The majority of these bodies are active, having met at least once in the previous term.

Schools with PTA/CTA

98%

PTA/CTA met in previous (2nd) term

71%

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8   Teachers were also asked about the frequency of such external lesson observations. Similar to the principals' response, 34 per cent of teachers reported to have received at least one lesson observation by an external supervisor in the previous term. Further, they reported the MEST inspectors to be the most frequent external lesson observers (14 per cent). On average, there were four external supervisor visits with the purpose of lesson observations in the previous term, according to the teachers. Note that whereas principals were asked about total visits by external supervisors, teachers were asked only about lesson observations by external supervisors.

5 Girls' safety in school

5 Girls' safety in school

Elimination of gender disparities in access to and completion of schooling is key to the achievement of the Sustainable Development Goal (SDG) of inclusive education for all. In Sierra Leone, although gender parity was achieved at the primary level in 2011, substantial gaps remain at higher levels of education and the probability of enrolment – which is equal for boys and girls up to approximately age 13 – declines for female pupils in higher grades (World Bank, 2014). Given societal norms for early marriage and heightened concerns for physical safety of girls – exacerbated by socioeconomic and geographic characteristics – ensuring that the school environment is such that girls do not feel vulnerable or threatened is of paramount importance.

The SGLA survey asked the sampled teachers and female pupils a range of questions on girls' safety in school, in order to address the following research questions:

Box 9: Key research questions at baseline: girls' safety in school[1]
• Do female pupils feel a general sense of physical safety in the school environment and on the way to/from school?
• Do female pupils feel safe visiting the school toilet? Do they absent themselves from school while menstruating?
• What is the incidence of sexual harassment faced by female pupils from teachers and male pupils, including instances of insults and "sex-for-grades"?
• Are there mechanisms available to female pupils for reporting harassment?
Source: Secondary Grade Learning Assessment survey (May-June 2017), pupil learning assessment and teacher questionnaire.

5.1 Physical safety in and on the way to school

Female pupils and teachers were asked if the former felt safe in the school and if they risked harassment on their way to and from the school. A significant majority of girls (91 per cent) and teachers (94 per cent) reported that they overall felt safe in school. However, less than 40 per cent of the teachers and female pupils reported that their school was well fenced such that strangers could enter the school, and over a third (34 per cent) of respondents reported that female pupils were subject to harassment while travelling to and from school. The figure below summarises this information.

Teachers and female pupils were asked if school toilets were far from the main building with girls fearing going there alone, and if girls absent themselves from school due to fear of using the toilets during menstruation. Over 20 per cent of female pupils felt that girls' toilets were far enough from the main school building such that female pupils did not feel safe using them, compared to their teachers (only 12 per cent of teachers reported this). Nearly 40 per cent of female pupils (over half the teachers, i.e. 51 per cent) believed that girls had a tendency of absenting themselves from school during menstruation. The figure below summarises these results.

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1   Given that questions discussed as part of this module were often quite sensitive in nature and it was not always possible to have a female enumerator interview girls, enumerators were instructed to be particularly mindful of respecting gender relations when administering this set of questions in both the teacher and pupil interviews. They were instructed to not express any views or judgements, nor provide any explanation of what each question meant. Hence, although it was not possible to eliminate the risk of respondents feeling uncomfortable to talk about girls' safety, the risk was mitigated to the extent possible.

Figure 10: Girls' safety: physical safety and toilet facilities in schools

Category	Strongly agree	Agree	Disagree	Strongly disagree
Feel safe in school (girls)	36%	55%	6%	3%
Feel safe in school (teachers)	33%	61%	5%	1%
School is well fenced (girls)	17%	22%	44%	17%
School is well fenced (teachers)	15%	17%	43%	25%
Harassment to and from school (girls)	9%	25%	51%	15%
Harassment to and from school (teachers)	4%	30%	53%	13%
Absent during menstruation (girls)	9%	26%	50%	15%
Absent during menstruation (teachers)	6%	45%	42%	7%
Safety of WASH facilities (girls)	7%	15%	61%	17%
Safety of WASH facilities (teachers)	2%	10%	66%	22%

Percentage of female students and teachers

■ Strongly agree ■ Agree ■ Disagree ■ Strongly disagree

Over **20%** of girls said school toilets were too far from main school building to feel safe

35% of girls said inadequate toilet facilities meant girls missed school during menstruation

More than **30%** of female students reported girls experienced harassment on the way to and from school

5.2   Sexual harassment

Almost 15 per cent of female pupils agreed that girls in their schools were subject to sexual harassment from staff members, while one in every five female pupils (i.e. 20 per cent) reported male pupils in their school sexually harass girls. Further, a similar proportion of female pupils (i.e. 18 per cent) agreed that at least some male teachers asked girls for sexual favours in return for good grades. In general, teachers – vast majority of whom are male – seemed to systematically underestimate the incidence of sexual harassment in their schools with only 4, 7 and 4 per cent of teachers agreeing female pupils in their school experienced sexual harassment by staff, male pupils or sex-for-grades respectively. However, mechanisms appear to exist whereby female pupils can report instances of sexual harassment in most schools, with about half the girls (53 per cent) and two-thirds of teachers (67 per cent) agreeing this was the case. However, the effectiveness of these mechanisms is not known.

These results are summarised in in the figure below.

Figure 11: Sexual harassment by school staff and male pupils

Category	Strongly agree	Agree	Disagree	Strongly disagree
Sexual harassment by boys (student)	5%	14%	55%	26%
Sexual harassment by boys (teacher)	6%		57%	36%
Sexual harassment by staff (student)	4%	10%	56%	30%
Sexual harassment by staff (teacher)	4%		50%	46%
Sex for grades (student)	5%	13%	52%	30%
Sex for grades (teacher)	4%		51%	45%
Can report incidents (student)	18%	35%	32%	15%
Can report incidents (teacher)	14%	53%	23%	10%

Percentage of female students and teachers

■ Strongly agree   ■ Agree   ■ Disagree   ■ Strongly disagree

14%
of female pupils said girls were subject to sexual harassment from other staff members

18%
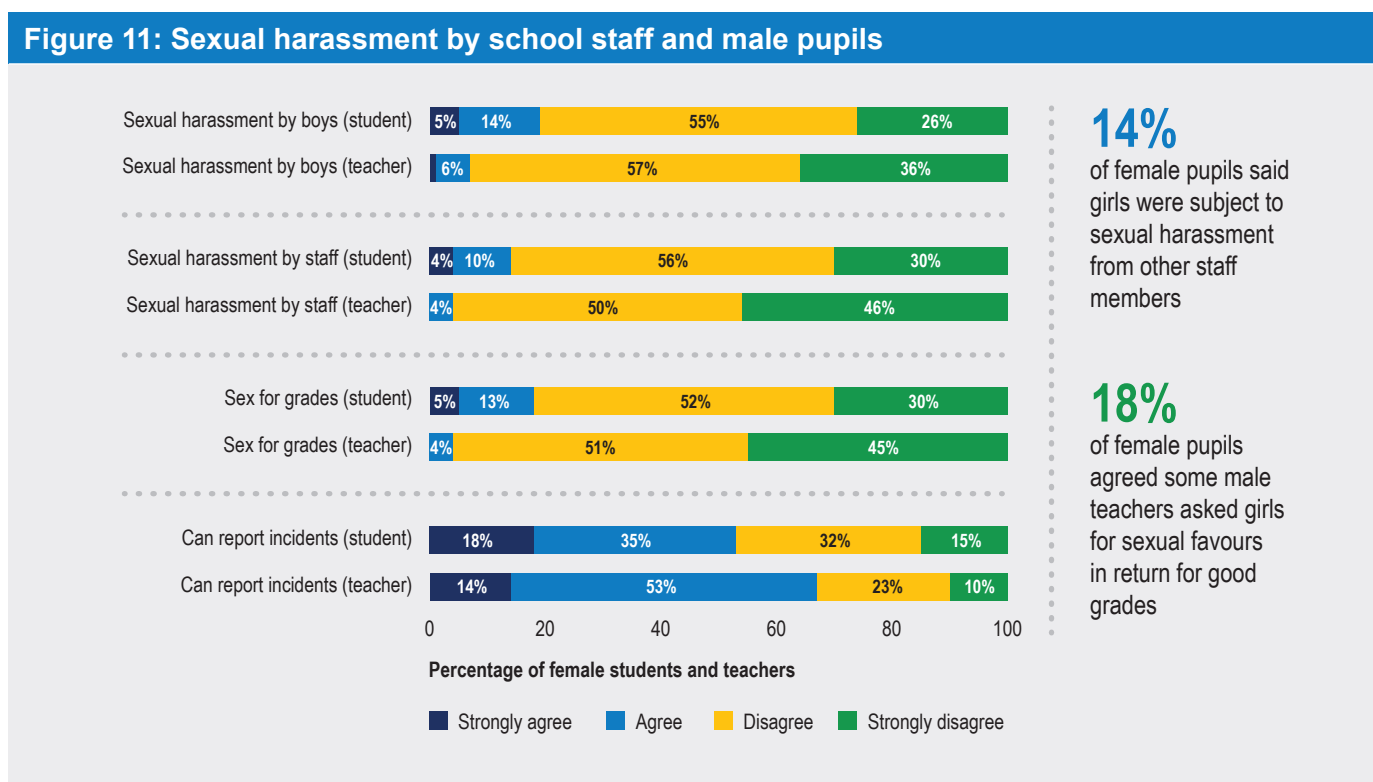of female pupils agreed some male teachers asked girls for sexual favours in return for good grades

6 Schooling experience of pupils with disabilities

6   Schooling experience of pupils with disabilities

Pupils with disabilities face multiple forms of discrimination, which leads to their exclusion from society and school. Attitudes towards children with disabilities, as well as a lack of resources to accommodate them, compound the challenges they face in accessing education and performing well in school. Disability-sensitive schooling, therefore, involves not only ensuring that schools are well equipped with the necessary physical infrastructure, but also that teachers adopt teaching pedagogies and practices that integrate pupils with disabilities in the learning process. The attitudes of teachers, non-teaching staff and fellow pupils play an integral part of this process.

This section presents results from a purposive sample of 194 pupils with disabilities across all the 400 schools included in this SGLA. The box below explains further.

Box 10. Pupils with disabilities in the SGLA: definition, sampling and limitations

Definition and types of disabilities

To incorporate various forms of disabilities, a broad definition was used alongside a list of possible disabilities to guide the selection of pupils. In the SGLA, disability was broadly defined as referring to any physical, mental or learning impairment that affected the full and effective participation of a pupil in learning. The disability classifications were based on a typology of 'functioning' provided by the Washington Group on Disability Statistics, using the World Health Organisation's International Classification of Functioning, Disability, and Health (ICF) as a conceptual framework (WG, 2017). These included six core functional domains: seeing, hearing, walking, cognition, self-care, and communication. Each question had four response categories, which are read after each question:

- No, no difficulty
- Yes, some difficulty
- Yes, a lot of difficulty
- Cannot do it at all

Purposive sampling of pupils with disabilities

Teachers and principals were requested to select up to two pupils with one or more physical or intellectual disability (or both) to participate in a short interview and learning assessment test. This amounted in a total purposive sample of 194 pupils who were administered an instrument that covered questions related to the type and severity of disability, attitude of others towards disabled pupils, infrastructure and school environment for inclusive learning.

Limitations of results presented in this section

Findings presented in this section have limitations due to the purposive nature of sampling and the definitional complexities with the term 'disability', i.e. what it connotes and translates into in different languages and contexts. Identification of pupils with disability may have led to a biased sample, e.g., a certain group of pupils with disability could have got more representation (for instance, teachers may tend to select pupils who have a physical disability as these might be more visible, leaving out those with intellectual disabilities). Selection relied on teachers' understanding of 'disability' – it could be that some teachers are unaware of certain types of disabilities, particularly those that are difficult to diagnose (e.g. intellectual disabilities). As there was no medical examination as part of the SGLA to crosscheck and confirm the disabilities, the results and findings rely on self-reported responses. Both these concerns limit the representativeness of the sample and inference beyond this purposively sampled group of 194 pupils, as indeed children with the most severe disabilities are likely to be out of school. This, being a school survey, could not reach them to understand their barriers to accessing education.

Source: SGLA team.

6.1   Background of pupils with disabilities

More than half (i.e. 120 pupils) of the purposively sampled pupils reported having some or a lot of difficulty in walking – this was reported as the most prevalent disability. While difficulty in walking should not indicate difficulty in learning per se, it could inhibit a pupil's full and effective participation in schooling, especially in a school without appropriate physical infrastructure (e.g. ramps and railings). Difficulty in hearing and communicating was relatively less common (total 47 pupils) which possibly indicates that these are among the more severe barriers to access and learning, and hence school-aged children with hearing or communication problems are either in special schools or out of school altogether.

Figure 12: Types and extents of disabilities

Number of pupils with various forms of self-reported disabilities (N=194)

■ Some difficulty   ■ A lot of difficulty   ■ Cannot do at all
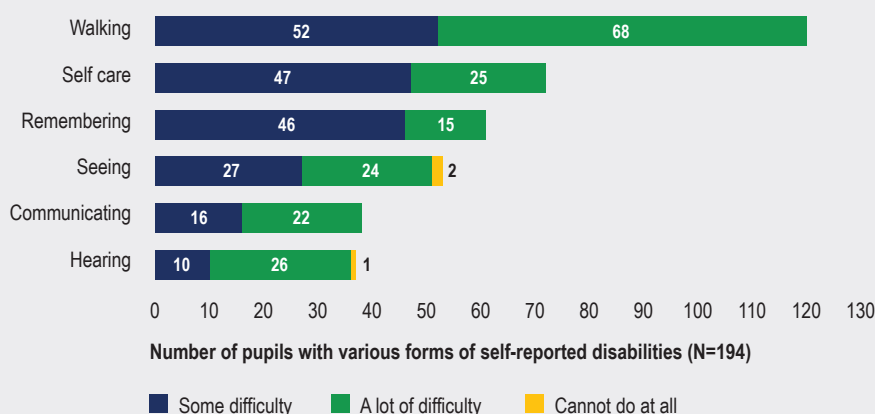
6.2   Provision of infrastructural and teaching support

Questions on school environment and support included noting if there was infrastructure such as ramps and toilets for disabled access, if there were specially designated staff to support pupils with disability, if teachers used inclusive teaching methods and if the school had extra classes outside of school hours for pupils with disability, if needed. Additionally, pupils were asked about any discriminatory attitudes by teachers (biased in favour or against), non-teaching staff and behaviour of fellow pupils without disability. These questions were mirrored in the teacher interview to triangulate results.

A vast majority of pupils with disabilities (84 per cent) and almost three quarters of teachers (74 per cent) reported that there was no provision of ramps, railings or any other infrastructural arrangements at their schools. Even if a school is single-storey this could still pose a mobility issue in accessing certain parts of the school, which are raised above the ground. Similarly, 76 per cent of pupils with disability and 65 per cent of teachers reported there was no special support such as counselling provided to pupils with disabilities. Pupils and teachers were also asked if those with physical or learning difficulties were given additional teaching outside regular classes. A large majority of pupils (66 per cent) and teachers (70 per cent) reported this was not the case. Pupils were also interviewed about teachers' use of adaptive teaching methods (e.g. using large font) to integrate them into the learning process. Majority of them (79 per cent) reported that teachers did adapt their pedagogies to make the lesson delivery more accessible to these pupils. Around 87 per cent of teachers said the same, even though the effectiveness of these techniques is not captured in this survey. These results are summarised in the figure below.

Figure 13: Physical infrastructure and pedagogical support for pupils with disabilities

Infrastructure (ramps, railings, etc)

	No	Yes
Pupils N=158	83.5%	16.5%
Teachers N=739	73.5%	26.5%

Special support (e.g. counselling)

	No	Yes
Pupils N=159	75.5%	24.5%
Teachers N=733	65.3%	34.7%

Teaching support outside class hours

	No	Yes
Pupils N=160	66.3%	33.7%
Teachers N=735	70%	30%

Adaptive teaching methods (e.g. large fonts)

	No	Yes
Pupils N=160	21.4%	78.6%
Teachers N=735	13.3%	86.7%

Percentage of pupils and teachers with disabilities

■ No ■ Yes

Vast majority of sampled pupils with disabilities said their school did not provide special physical infrastructure or any other special support (e.g. counselling, help with lessons outside class hours).

6.3   Attitude and behaviour towards pupils with disabilities

The UNESCO Global Monitoring Report 2015 highlights the low literacy and high dropout rates among pupils with disabilities, often due to stigmatisation, isolation and discrimination in the classroom or wider school environment (UNESCO, 2015). Almost 60 per cent of the pupils with disabilities sampled for this survey agreed that harassment of pupils with disability was discouraged in their school. When questioned if the teaching or non-teaching staff discriminated in favour or against pupils with disabilities, for example, by grading them graciously or by not allowing them to participate, around 30 per cent pupils with disabilities and 20 per cent teachers reported this was the case. However, results suggest attitudes of other pupils towards pupils with disabilities might be a concern. Specifically, did their peers interact freely with pupils with disabilities? Around 54 per cent pupils and 64 per cent teachers said no.

6.4   Learning outcomes of pupils with disabilities

As mentioned above, these purposively sampled pupils were also administered an abridged version of the English and maths assessment (as given to the other randomly sampled pupils without disability). The results, based on a purposive sample of 135 JSS and SSS pupils,[1] are discussed below.

Five per cent of the purposively sampled JSS pupils with disabilities and 17 per cent of SSS pupils typically demonstrate the demanding skills linked to performance band 4. Pupils in this band are also very likely to demonstrate skills associated with lower performance bands. Among pupils without disabilities, 7 per cent of JSS2 and 13 per cent of SSS2 pupils typically demonstrate skills linked to performance band 4.

1   59 of the 194 pupils initially selected into this purposive sample were identified as having a disability which would impede full participation in the learning assessment (e.g. problem seeing or hearing or writing).

A vast majority of pupils in both grades fall within performance bands 2 and 3 – similar to the results seen in the case of pupils without disabilities. Around 5 per cent of the selected JSS pupils with disabilities and 1 per cent of SSS 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. Among pupils without disabilities, around 8 per cent of JSS2 and 4 per cent of SSS2 pupils typically demonstrate skills linked to performance band 1.

For maths, about 1 per cent of the JSS and 6 per cent of the SSS pupils with disabilities who took this test typically demonstrate maths skills linked to performance band 4 and are very likely to demonstrate skills associated with lower bands as well. Among pupils without disabilities, 7 per cent of JSS2 and 12 per cent of SSS2 pupils typically demonstrate maths skills linked to performance band 4.

A vast majority of pupils in both grades fall within the lower performance bands 1 and 2 – similar to the results seen in the case of pupils without disabilities. More specifically, around 49 per cent of JSS and 34 per cent of SSS pupils with disabilities typically demonstrate skills linked to performance band 1, i.e. they can extracts values shown in a barplot and visualise changes shown graphically but are unlikely to demonstrate skills linked to any higher performance bands. Among pupils without disabilities, around 37 per cent of JSS2 and 25 per cent of SSS2 pupils typically demonstrate skills linked to performance band 1. These results are summarised in the figure below.

Figure 14: Percentage of purposively sampled JSS and SSS pupils with disabilities within each performance band for English and maths

Percentage of pupils with disability in each performance band
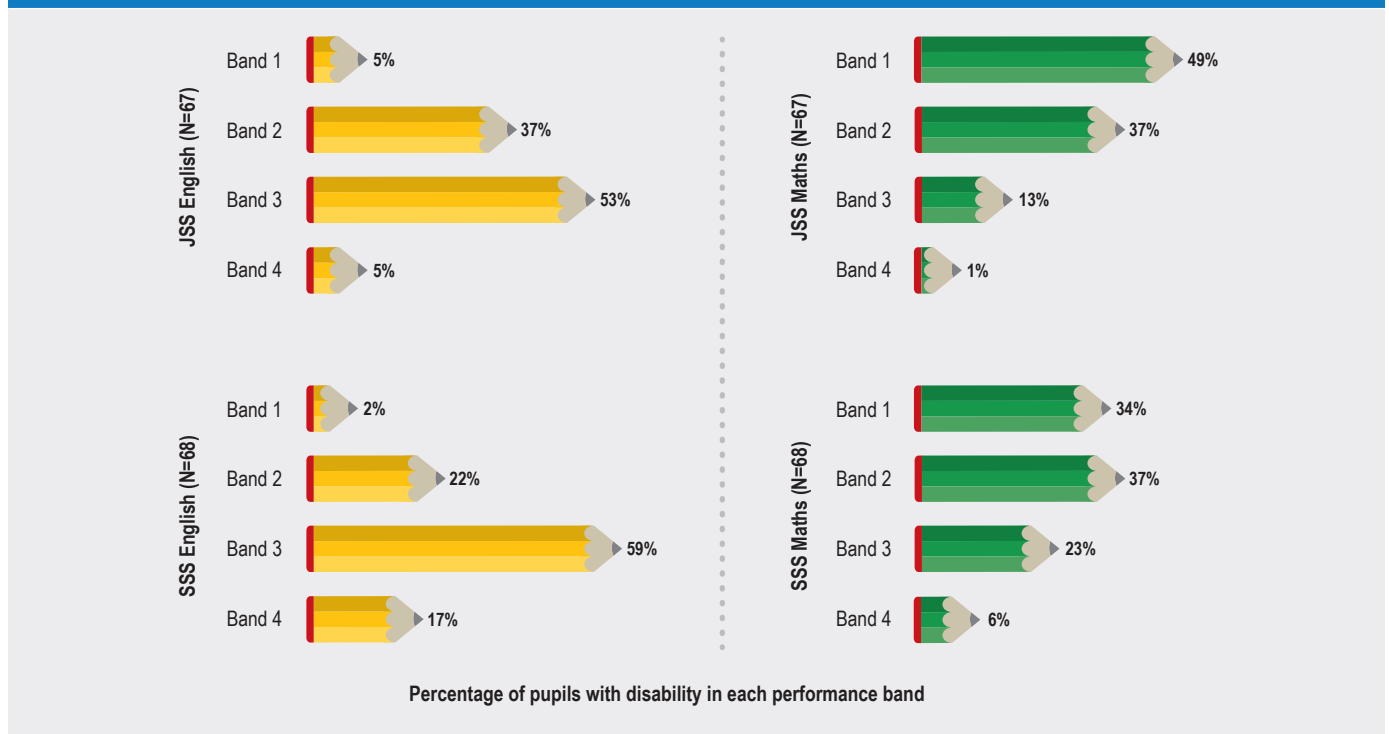
These results, based on a purposive sample of 135 pupils with disabilities, provide a useful snapshot of learning levels but have clear limitations that are discussed above. Be it pertaining to definitional challenges and identification of 'disability' among pupils, or the fact that any inference beyond the specific group of pupils interviewed and assessed for this survey is not recommended due to the purposive nature of the sample. While allusion has been made between learning outcome results of the purposively sampled pupils with disabilities with results of pupils without disabilities from a much larger and random sample, simple like-for-like comparison is neither possible nor recommended. The small and purposive sample also means the results have wide confidence intervals and likely to be unstable from year to year.

7 Longlist of recommendations and next steps

7   Longlist of recommendations and next steps

"*Learning outcomes won't change unless education systems take learning seriously and use learning as a guide and metric…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 programs and policies are delivering learning.*"

(World Development Report 2018:
Learning to Realise Education's Promise, pg. 16; World Bank, 2017)

7.1   Concluding remarks

This SGLA offers, for the first time in Sierra Leone, robust evidence on what JSS2 and SSS2 students in Sierra Leonean schools know and can do in English and Mathematics. One of the primary objectives of this report is to provide MEST and other education sector stakeholders with robust nationally-representative data on the status of learning, teaching and school management in the secondary schools of Sierra Leone, and track these annually for progress. Together with complementary evidence on teaching practices, the SGLA report generates evidence-based recommendations for how to improve teaching and learning in secondary schools. This section draws the report to a close by proposing some initial ideas for recommendations, in the form of a longlist – to be discussed within MEST and the Leh wi Learn SGLA team – and a proposed process for moving from a longlist of recommendations to a shortlist of actions. Suggestions for subsequent rounds of the SGLA are also discussed.

The main overarching observation from the SGLA is that secondary grade learning outcomes in Sierra Leone are poor. 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. 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. They are very unlikely to keep pace with the advanced demands of the JSS and SSS curriculum or perform well in BECE and WASSCE exams, which take place at the end of JSS3 and SS4 respectively. The system is particularly not delivering 'learning for all', especially girls, poorer pupils and those in remote schools.

This calls for urgent action to ensure the system caters to diverse learning needs of all pupils, irrespective of gender, family background or location. MEST has already identified the urgent need to focus on learning – measured by tracking progress annually through the SGLA and WASSCE results – as one of its three overarching targets in the new Education Sector Plan (2018-2020) (MEST, 2017a, pg.7).[1] However, to realise this all-important goal, a concerted effort is required from all education sector actors and stakeholders, under the stewardship of MEST.

Partners like Leh wi Learn are providing active support to MEST in realising this goal, and this SGLA is one such initiative to ensure MEST's policies and programmes are evidence-based and backed by data. Based on the results discussed in this report, below is a longlist of initial ideas for recommendations for MEST's consideration.

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1   The other two overarching targets are: "tangible improvement in education service delivery" and "improved systems integrity" by reducing exam malpractice.

7.2   Longlist of recommendations

Align curriculum content with pupils' learning levels

The SGLA results make amply clear that important change in the secondary grade curriculum is necessary. Results suggest that a large proportion of pupils in both grades are struggling to keep pace and respond to the ambitious demands of the curriculum.

One of the entry points for MEST and partners is to understand how to better align secondary grade curriculum content with pupils' learning levels – could the curriculum meet pupils at their current level and gradually bring them up to where the system expects them to operate? Could non-standard approaches to learning, such as remediation, be brought to bear on the challenge at hand? These approaches either shift the curricular pace down a notch to better coincide with pupils' learning potential (as is usually the case with tracking or training teachers in remedial pedagogy), or accelerate the pace of pupil learning, usually through more targeted attention or tutoring, such that pupils can better keep up with curricular pace (Banerjee, Cole, Duflo, & Linden, 2005; Duflo, 2011).

Research has shown that two countries with exactly the same potential learning could have massively divergent learning outcomes, just because of a gap between curricular and actual pace – the country which goes faster has much lower cumulative learning (Pritchett & Beatty, 2014). In other words, and quite paradoxically, learning could go faster if curricula and teachers were to slow down. Slowing down the curriculum to coincide with students' current level might seem like failure but it would help the system re-orient teaching and learning away from what happens for a small group of able pupils towards the typical pupil who is now better equipped to move ahead.

Just because remediation has worked in India or Kenya does not guarantee automatic success in Sierra Leone but these approaches would be worth MEST's consideration. If MEST decides to go down this route, some concrete action points would be to, first, assess the degree of gap between curricular content and pupils' learning levels and understand the flexibility currently afforded to teachers and principals to re-orient teaching at the right level and adjust pace. This would also require a serious consideration of the current examination and assessment system in secondary grades. Should we continue to rely largely on the BECE and WASSCE as a measure of academic success in secondary grades? Is the pressure to pass these seemingly all-important exams leading to "teaching to the test", exam malpractices and rote-learning? Do we need a more gradual and continuous system of classroom-based formative assessments to help pupils up the learning trajectory? Based on this initial diagnosis, a framework and operational plan for remediation would need to be designed.

Get teacher management right

This report has discussed a number of key results pertaining to teachers: how much time they spend on classroom instruction, what keeps them away from school, what teaching aids they use in class, how principals manage teacher absenteeism, and what supervision and pedagogical support teachers receive. Specifically, for quantity of instructional time, these results suggest that teachers are not teaching for a considerable proportion of their time in school, and instructional time in class is being further affected by disruptions, seemingly linked to low pupil attendance but possibly also due to teachers' own low motivation related to poor remuneration.

These are important results, and seem to suggest that structural changes to teacher management is necessary. Nevertheless, they trigger more questions for further research than actions for immediate implementation. This quantitative learning assessment survey had highlighted important teacher management issues. However, unpacking teacher management issues – especially when it comes to teacher motivation – is beyond its scope. Before embarking on any change, it would be important to systematically diagnose, preferably through some rapid action-research, what is currently not working well for effective teacher management, specifically (but not limited to):

- **Are teachers' subject knowledge and pedagogical skills adequate for the demands of a typical JSS or SSS classroom?** Is the current pre-service training meeting these needs? What constraints do they face in the classroom for effective delivery of quality instruction? Can any of this be remediated through in-service training? How can principals and school support officers (SSOs) provide necessary scaffolding to a struggling teacher?

- **What drives teachers' intrinsic and extrinsic motivation in Sierra Leone?** To what extent is it determined by reward and remuneration, location of posting and allowances, career progression, satisfaction from pupils' good performance, and other factors?

- **Are teachers willing to be deployed to remote schools**? Pupils in remote schools are performing less well than those in less remote schools. Does this have anything to do with the management and motivation of teachers in these schools? What concrete actions can encourage talented teachers to work in disadvantaged schools?

- **How can school leadership and management be enhanced for better teacher management?** How can community actors (parents, elders and local influential figures) also be brought into the arena and encouraged to contribute towards possible solutions?

Based on what emerges from this enquiry, MEST – together with the Teaching Service Commission (TSC) and other partners – should consider an action plan for getting teacher management right as this is critical to overcoming the hurdle of slow learning.

Move from 'looking like' good schools to actually promoting learning

From the background evidence presented on school teaching and supervision practices in the sections above, the typical secondary school in Sierra Leone feels like a case of looking like a good school without actually delivering much learning.[2] Schools are implementing lots of 'best practice' processes – low PTR, use of teaching aids and lesson plans, lots of lesson observations and staff meetings, external supervision and CTA/PTA activity – but learning outcomes are still low. MEST and partners need to understand why this is the case – are schools and their administrations, intentionally or unintentionally, being incentivised to gain legitimacy and internal/external support through process compliance alone, whereby they are rewarded for "looking like" good schools rather than actually promoting learning? We need to explore if this is the case and, if so, how best to break this "camouflage" and re-centre schools to put learning at the front-and-centre of all incentives, actions and behaviour.

Learn from "success stories"

The learning assessment results indicate the distribution of pupil abilities in both subjects is fairly diverse: i.e. there is a modest proportion of pupils who seem to know a lot and able to correctly answer the more demanding questions in bands 3 and 4, while large proportions who at best demonstrate the elementary skills reflected in the lowest bands in both subjects. The first step in unpacking what distinguishes these two groups of pupils has been done in this report by looking at some of the background characteristics of pupils (e.g. gender, family's assets, remoteness of school) to understand the average profiles of pupils who are performing well and those for whom the education system is not delivering much learning. However, most of these results are for the typical or large sub-populations of pupils and schools, not individual units of analysis.

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2   This is often termed as 'isomorphic mimicry'. 'Isomorphism' and 'isomorphic mimicry' are terms from evolutionary biology, popular since the 19th century, which refer to different organisms evolving to look similar without actually being related. In particular, isomorphic mimicry is the process by which one organism mimics another to gain an evolutionary advantage. Lately the term has caught on in the area of education, courtesy of Lant Pritchett, and is used to refer to fundamentally dysfunctional education systems that look like well-performing systems. Such dysfunctional systems pretend to conduct teaching and learning like the kind that goes on in functional education systems, but without their core underlying functionalities and therefore do not actually deliver much learning.

MEST and partners should therefore consider exploring possibilities to learn from pockets of effective learning already present in Sierra Leone ("positive deviance"). A starting point would be to see what characterises schools where pupils are scoring well in the SGLA – are there any of these replicable in a disadvantaged school? Are the teachers and principals doing anything different, which helps their pupils succeed? Are there lessons to be learnt from these pockets of learning that can be taken as lessons for other schools in the system? Are there cases of schools in where pupils are performing well despite being in a remote location or where most pupils are from a disadvantaged background – can we learn anything from such schools?

Make schools safe for girls

The girls' safety results presented in the sections above have made the first step in providing empirical evidence for what it is like being a female pupil in a secondary school in Sierra Leone, and the picture is truly disturbing.

Not only do girls score less than boys do in the learning assessment, but when in school, they are subject to lack of physical safety and sexual harassment. A sizeable proportion of female students are facing harassment while travelling between school and home, and while in school being sexually harassed by male pupils and teachers, including being asked for sexual favours by teachers in return for grades. One might ask – what have toilets got to do with girls' education? We find that lack of adequate toilet facilities near the main building of the school means that girls feel unsafe using them and absent themselves from school during menstruation.

What is worse is that teachers – who are mostly male and supposed to be guardians of pupils while they are in school – systematically underestimate the prevalence of the problem. This possibly prevents them from recognising the extent of the problem as experienced by female pupils first hand, but also think prevents them from contributing to solutions at the school and community level. While mechanisms exist for lodging complaints, their effectiveness is not known.

Paradoxically, however, a majority of girls say they "feel safe in school" which probably reflects the relative incidence and extent of harassment they encounter outside school in the community. But the fact that lack of girls' safety in schools is very common and seen in many developing country school systems (Levy, 2017) and, therefore, not unique to Sierra Leone shouldn't hold us back from acknowledging the problem. No doubt, these challenges have deep-set social and economic roots but it is worth considering ways to start addressing this issue, namely by:

- Sensitising teachers (especially male teachers) and male pupils to become part of the solution – ensure they appreciate the extent and seriousness of the problem, its consequences on school and society, their role in the problem, and what they could individually do to prevent incidents of harassment.

- Ensuring effective accountability mechanisms exist such that when a girl or someone else lodges a complaint, they can do so without fear of retribution and appropriate action is taken. Garner support from the CTA/PTA to make these mechanisms more effective.

- Consider more female participation in the teaching workforce – While clearly easier said than done, there is ample evidence which suggests female teachers make an positive impact on girls' enrolment, attendance and achievement in school (UNESCO, 2006).

Give pupils from poorer backgrounds a fair shot at success

The SGLA results show that pupils from poorer backgrounds – irrespective of grade and subject –performed significantly worse than those from more well-off backgrounds. There is a clear need to understand why this is the case and what is holding back poorer pupils. Experiential evidence from Sierra Leone and other developing countries can give us some leads along the lines of differences in parental education, level of support at home, access to more and better education resources at home and school, the resource levels of schools poorer pupils go to, access to private tuitions outside school, aspirations and whether the environment that helps them achieve their goals. However, we need to understand these constraints further especially, for instance, the constraints poorer pupils experience at home and school; including the direct and indirect costs of schooling; the rationale between their education decisions; the opportunity cost of attending school and learning versus wage-earning options in the labour markets; and what teachers and school management can do to ensure these pupils don't fall through the cracks of the system. Armed with this knowledge, MEST should consider trying out different support systems for poorer students and test if these approaches are delivering more learning for poorer students.

Improve schooling experience for pupils with disabilities

Despite its methodological limitations in sampling pupils with disabilities, the SGLA provides indicative evidence for the first time of what is it like to be a pupil with disability in a secondary school in Sierra Leone. While specialised infrastructure (e.g. ramp, railings) and other support (e.g. counselling) seems lacking, teachers are reportedly doing what they can in classrooms to adapt pedagogy to the special needs of these pupils. Attitudes of other pupils towards those with disabilities is also a concern. Overall, this indicates that we need to do more research to better understand the issue at hand before arriving at any concrete solution.

Improve lesson plans based on teachers' feedback

One of the clearer action points has emerged from the feedback provided by teachers who are currently using the MEST lesson plans. While it is encouraging to see the initial uptake of lesson plan usage – 70 per cent of teacher have already started using the lesson plans – it is worth noting that a substantial proportion of teachers have also said they struggle to fit in all the material and activities of the lesson plans within the time allotted for one period, and that the content of some of the lessons, as given in the lesson plans, is sometimes removed from the immediate context and lived realities of pupils. It is therefore proposed that lesson plan developers consider this feedback from users for future revision and improvement. Further, SSOs should also consider supporting teachers effectively use the lesson plans, especially avoid treating these lesson plans as scripts and instead use them as guidance material.

7.3 Recommendations for next year's SGLA

This annual SGLA is expected to be repeated again in May-June 2018 with comparable performance bands and indicators to track any progress vis-à-vis 2017. It is proposed that the following reflections from the first SGLA be incorporated into the planning and implementation of the second SGLA.

Transfer technical know-how from the SGLA team to MEST

The SGLA can only be successful in achieving its objective of supporting evidence-based education policy and planning if the Leh wi Learn team successfully transfer the technical know-how and methodology for its design and implementation to colleagues within MEST, so that the annual SGLA can continue smoothly even after Leh wi Learn comes to an end in 2021. This is not an impossible feat but will be possible only if the MEST are very much in the driving seat and are closely involved in all aspects of SGLA from design to conclusion, progressively phasing out the role of the external SGLA team in the detailed implementation of the SGLA.

To start with, each year, the SGLA team should prepare cleaned and anonymised datasets and intermediate indicators in a suitable format and submit this to MEST for uploading on the MEST website, along with any supporting documentation. In collaboration with the Director for Policy and Planning, specialists from the SGLA team should facilitate a detailed data capacity-building workshop in in MEST to transfer data analysis skills so that MEST officials on a day-to-day basis can use the baseline SGLA data. A thorough and joint assessment of MEST's current institutional capacity to design and implement its own SGLA would help identify further gaps in capacity which could then be fed into a workplan for plugging these gaps.

Share lessons with primary-grade learning assessment team

Through the design and implementation of this baseline round, the SGLA team has acquired significant expertise in rapid deployment of learning assessments at a national level, data analysis and reporting. It would be beneficial to share any cross-learning with the primary grade learning assessment team, which is also walking on the same path with its assessments in P4 and 5. Conversations are ongoing between the two teams to ensure learning, reflection and approaches are harmonised across the two learning assessments.

Undertake complementary qualitative studies and district-level data

Throughout this report, several quantitative results were discussed whereby it was felt that, while these findings are useful, more information is required before moving to concrete recommendations, especially qualitative research in the areas of teacher management, learning from "success stories" in the system. Second, while it is useful to have regionally-representative education data, the more useful administrative level for accountability and education service delivery in Sierra Leone is the local council or district education office, which means district level results are required. It is understood that some of these choices were made due to budgetary constraints but it would be worthwhile thinking about complementary qualitative studies (especially action-oriented research) and a sample large enough to support district disaggregation in the second SGLA in 2018. In the second SGLA, it would be important to consider oversampling schools where pupils scored in higher performance bands in the baseline SGLA – this would help us unpack the profiles of these schools better for replicating lessons, if any. Further, it would be worth giving confidential access to the BECE and WASSCE exam data at the individual pupils, or at least school level, to understand the extent of correlation between SGLA scores and BECE/WASSCE results.

7.4   Prioritisation of concrete actions: easier said than done

Measurement of learning shortfalls does not provide automatic clear guidance on how to remedy them. The actual process of moving from raw descriptive data to a longlist of recommendations to then a shortlist of prioritised actions is naturally complex – both technically and politically. It requires weighing and making delicate trade-offs. While partners like Leh wi Learn can actively support with, MEST will ultimately have to lead the prioritisation process, form coalitions with other sector partners and own these concrete action points.

Appropriateness of strategies and entry points will vary from one region and district to the next. Therefore, MEST and other national actors are best suited to identify these entry points because they have the most fine-grained understanding of what is practically, financially and politically feasible within their context. In line with this, the goal of this synthesis is not to advocate for the adoption of specific policies, but rather to provide a menu of possible recommendations for consideration, all backed by high-quality evidence and analysis that a) demonstrates that there are problems within the system and helps to convince key decision makers to focus their attention on these issues; and b) offers useful ideas and analysis to inform the development of strategies to address these problems.

This approach highlights the importance of context and argues for iterative approaches in devising responses to complex problems. It also appreciates, as can be seen the figures below, the highly complex and inter-connected ways in which education systems move from inputs to actually delivering learning – all the while balancing the incentives of millions of actors in the system and various distractors which could disrupt the production of learning. For example, teachers respond to incentives to attend school and to improve pupils' long-term outcomes, even though the nature of the response varies across contexts. Likewise, pupils and parents make choices responding to other decisions – e.g. government grants to schools might lead parents to reduce their own investments in their children's schooling.
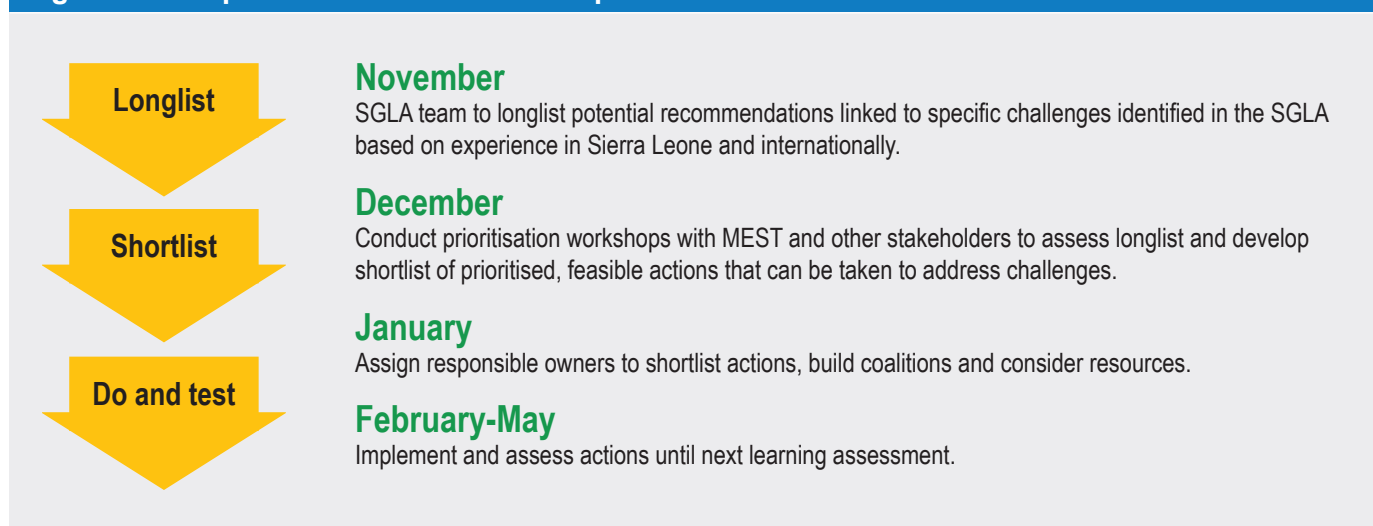
Figure 15: Making the whole system work for learning is more complicated than it looks[3]
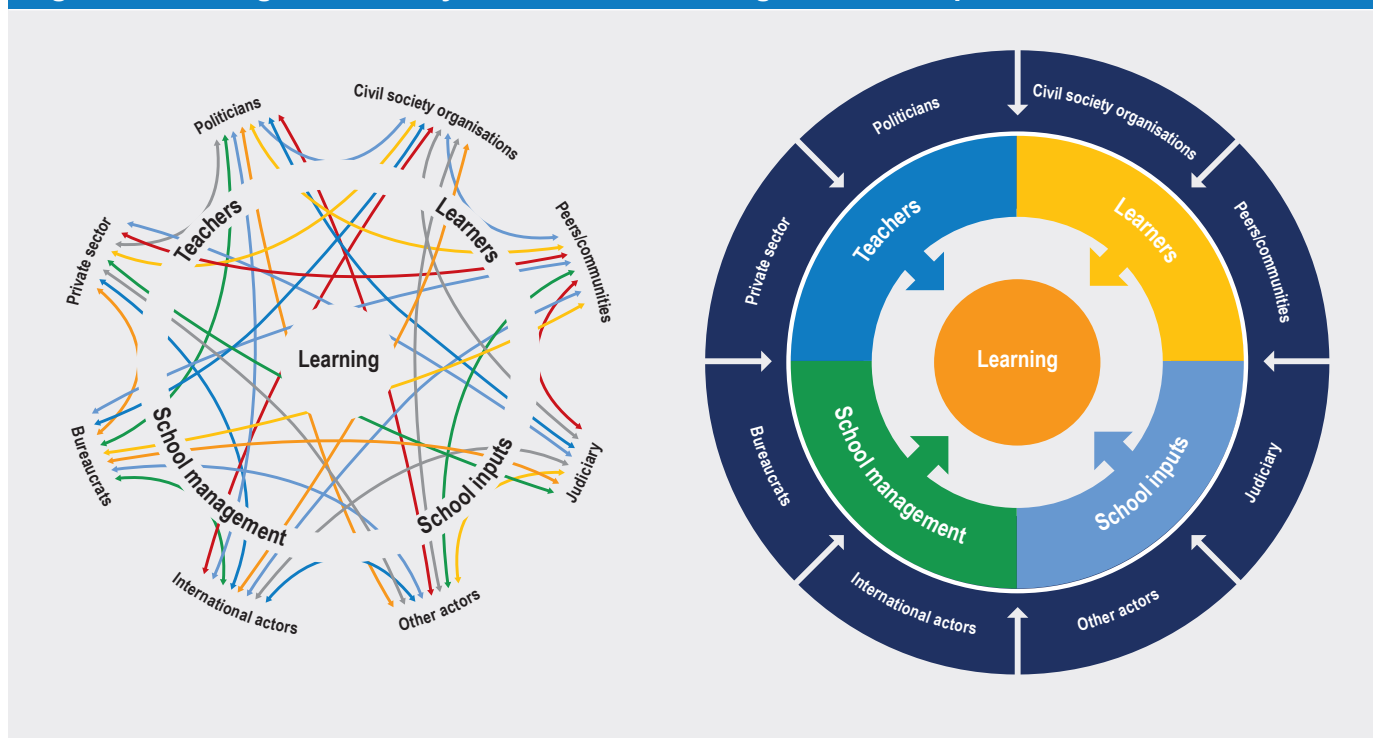
Bearing in mind these inter-connected complications and complexities, as next steps, it is proposed that the longlist of recommendations, as outlined above and any other ideas that might emerge, be assessed and discussed in a brainstorming workshop with MEST and Leh wi Learn/SGLA team. The intended outcome of this workshop would be to discuss and assess the feasibility of each 'longlisted' recommendation and develop a shortlist of prioritised, feasible actions that can be reasonably taken forward to address challenges. It would be necessary to assess resource requirements for each of the shortlisted actions, build coalitions among actors, and assign responsible owners for shortlisted actions. It is hoped that a few, if not all, of the shortlisted actions would then be implemented and tested for effectiveness until the next learning assessment. A proposed timeline for this proposed process and next steps in presented below.

3   (World Bank, 2017, fig. O.14, O.15).

Figure 16: Proposed timeline for next steps

Longlist

Shortlist

Do and test

November
SGLA team to longlist potential recommendations linked to specific challenges identified in the SGLA based on experience in Sierra Leone and internationally.

December
Conduct prioritisation workshops with MEST and other stakeholders to assess longlist and develop shortlist of prioritised, feasible actions that can be taken to address challenges.

January
Assign responsible owners to shortlist actions, build coalitions and consider resources.

February-May
Implement and assess actions until next learning assessment.

Finally, it is important to congratulate MEST for embarking on this brave and important journey of annual secondary grade learning assessments. Undoubtedly, these processes lead to, what might seem like, exposing fault lines in the system but is eventually an important step in challenging the status quo and achieving any long-term vision of making Sierra Leone grow and prosper. A recent study of 121 countries showed that 1 in 3 countries lack data on the reading and mathematics proficiency of children at the end of primary school, and even more lacked this data for the end of lower secondary school (Khokhar, 2017). By championing the SGLA, MEST has now ensured that Sierra Leone is now among a select few countries in the world with robust nationally representative annual learning data on its secondary grade students. While the challenges ahead in using this data for improving learning might be hard and long, the act of successfully pulling off this first SGLA is certainly a cause for celebration.

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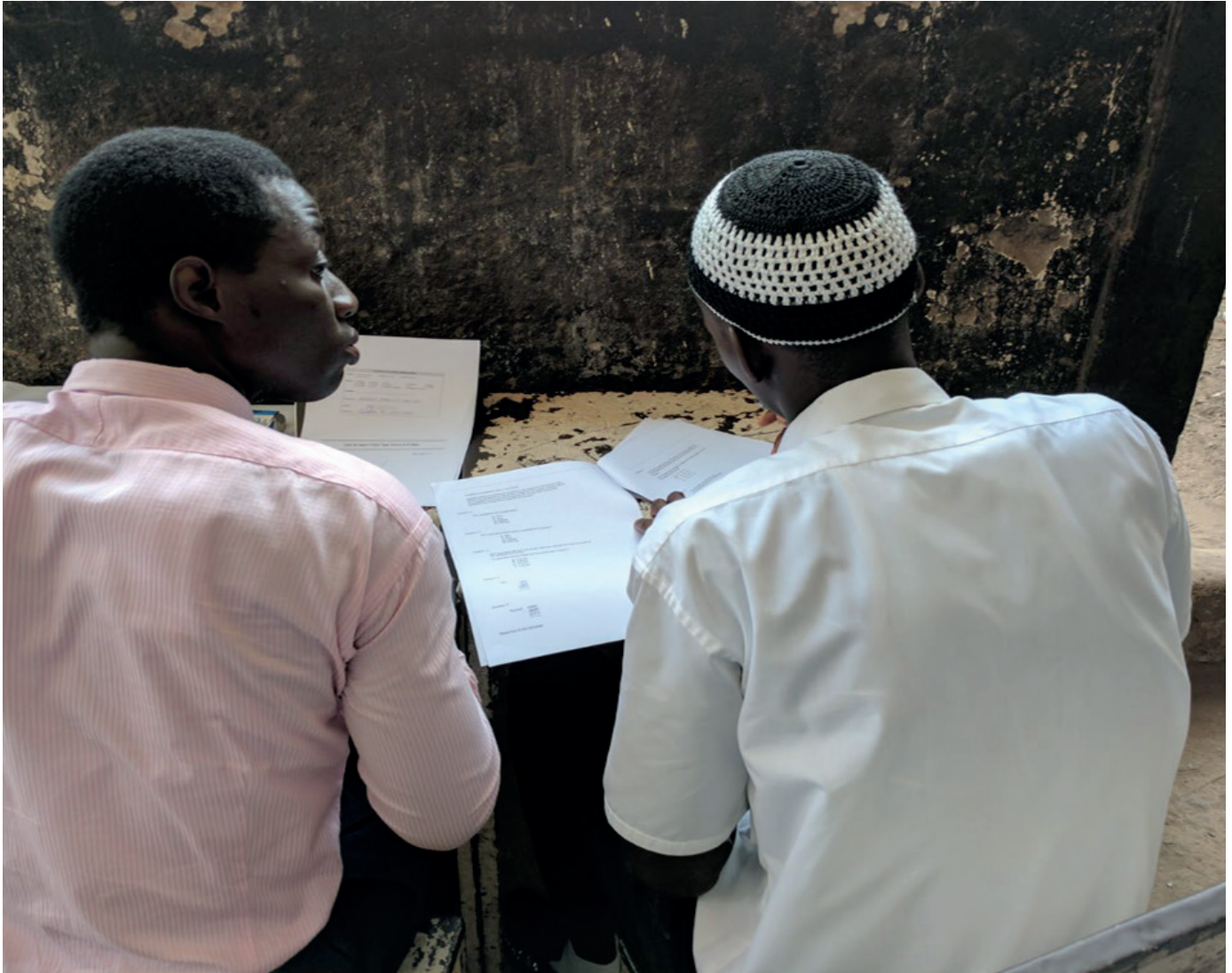
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