Teachers and Teaching in Sierra Leone

Teacher Quality and Management Study

The World Bank
2021

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AAA

Acronyms and Abbreviations

ASC	Annual School Census
BECE	Basic Education Certificate Examination
CPD	Continuous professional development
DFID	United Kingdom's Department for International Development
EVD	Ebola Virus Disease
FQSE	Free Quality School Education
GDP	Gross domestic product
JSS	Junior secondary school
MBSSE	Ministry of Basic and Senior Secondary Education
NDP	National Development Plan
PQTR	Pupil-to-qualified-teacher ratio
PTR	Pupil-to-teacher ratio
RBF	Results-based financing
REDiSL	Revitalization Education Development in Sierra Leone
SSA	Sub-Saharan Africa
SSS	Senior secondary school
TC	Teaching certificate
TSC	Teaching Service Commission
TTC	Teacher training college
WASSCE	West African Senior School Certificate Examination

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Acknowledgments

The report was prepared by a team from the World Bank, including Marcela Gutierrez Bernal (Education Specialist and lead author), Polycarp Otieno (Education Economist Consultant and lead author), Thanh Thi Mai (Senior Education Specialist and Task Team Leader), Mari Shojo (Senior Education Specialist), Himdat Bayusuf (Education Specialist), Laura McDonald (Operations Officer), and Virginia Jackson (Consultant). The team is grateful for the management, guidance, and support provided by Jaime Saavedra (Education Global Director), Halil Dundar (Practice Manager), Gayle Martin (Country Manager for Sierra Leone), and Sheikh Alhaji Yayah Sesay (Operations Officer).

The production of this report was made possible through consultations with key stakeholders and partners in the education sector. The team acknowledges with sincere gratitude the support and contributions of the Teaching Service Commission and the Ministry of Basic and Senior Secondary Education in the preparation of the study, particularly Staneala Beckley (Chair, Sierra Leone Teaching Service Commission), Sorie Turay (Secretary, Sierra Leone Teaching Service Commission), Petula Sylvie Rische (Director, Teacher Development and Performance, Sierra Leone Teacher Service Commission), and Marian Abu (Director, Teacher Management, Sierra Leone Teacher Service Commission). We would also like to thank the Ministry of Basic and Senior Secondary Education for granting us access to the 2018 Annual School Census, which was conducted in conjunction with Statistics Sierra Leone.

The team also wishes to thank all who contributed to the realization of this report, including Elif Yonca Yukseker, Janet Omobolanle Adebo, Warrah Mansaray, and Mariatu Margaret Sankoh. The report was edited by Oscar Parlback (Consultant) and designed by Lulú Angulo (Consultant).

Foreword

By making basic education free, Sierra Leone has taken important steps to improve the education of its citizens and lay the foundation for the future development of the country. The government's efforts have resulted in important improvements in terms of access to education. Despite progress, however, many children who go to school do not acquire even the most fundamental skills to be productive and engaged members of society. While a child who starts school at age 4 in Sierra Leone can expect to complete 9.6 years of school by their 18th birthday, these years only translate into 4.9 years of learning, which means that half of the time spent in school is wasted. In this context, expanding access to education is insufficient; the quality of education must be improved to ensure that years in school translate into rising productivity and household income (HCI 2020).

This study aims to provide guidance to the Government of Sierra Leone in how to translate investments in education into quality learning. It centers on teachers—the single most important predictor of the quality of an education system. Joyful, rigorous, and focused learning happens when teachers have the necessary inputs and capacity to do their job. Decades of research provide important insights into what successful education systems both do for and ask of teachers. For example, traditional teacher training, which consists of overly theoretical and one-size-fits-all education, needs to be replaced with continuous, personalized, and practical training. While moving away from traditional practices is not easy, it is possible and necessary to improve learning. This study looks at the different stages of the teaching profession: (i) the decision to pursue a teaching career; (ii) pre-service training; (iii) the entry into the teaching service; (iv) deployment; (v) initial training; and (vi) continuous professional development. It provides an overview of each stage and makes recommendations based on global evidence. The results reveal multiple opportunities for improvement, and many measures could be implemented in the short term, including working with the six institutions that provide pre-service training to institute minimum standards; improving the entry and exit exams of pre-service institutions; avoiding hiring unqualified teachers; and institutionalizing the teacher deployment protocol.

>> (...) half of the time spent in school is wasted. (...) expanding access to education is insufficient; the quality of education must be improved.

An estimated 29,500 new teachers would be required to implement the Free Quality School Education program in the next five years, but the government only plans to hire 25,000 new teachers due to fiscal limitations. To address this shortage of teachers, the study proposes several solutions such as changing the standard for the pupil-to-teacher ratio; relying on assistant teachers (e.g., experienced but unqualified teachers hired as contract teachers and students undergoing pre-service teacher training) until there are enough trained teachers; and ensuring that newly approved schools meet minimum standards.

The purpose of the study is to help shape the career of Sierra Leonean teachers and create a better learning environment in the classroom. Like other professionals, teachers need to be motivated, well trained, supported, and have access to the necessary tools and inputs (e.g., chalk, books, guidance notes, etc.). A lot is at stake in Sierra Leone, and the country needs qualified teachers to ensure the success of the future workforce and increase economic productivity and growth.

Executive Summary

The Government of Sierra Leone has made education a national priority. Recognizing the right to education, it launched the Free Quality School Education (FQSE) program in September 2018. Through the FQSE program, the government commits to provide all children with access to free quality basic and secondary education. This implies eliminating school fees for government and government-approved schools, giving schools a capitation grant based on enrollment, paying teachers' salaries with public resources, providing books and other assorted learning material to schools, and maintaining existing facilities of approved schools. The program is also accompanied by a greater decentralization of the management and supervision of education services. Finally, the Ministry of Finance is committed to allocating a minimum of 20 percent of the recurrent state budget to the education sector (NDP 2019, pg. 44).

This study analyzes the scope and content of the teaching profession in Sierra Leone, describing its main challenges and providing recommendations to better align teacher training with education needs. In line with the FQSE program, the analysis focuses on basic education. It also considers the role of the Teaching Service Commission (TSC) in managing teachers, including registration, licensing, and training. The study starts by providing a background of the education system in Sierra Leone, followed by a detailed analysis of the teaching profession, including: (i) the teacher application process and pre-service training (before teaching); (ii) teaching service registration, licensing, and hiring (entry into the teaching service); and (iii) the deployment, initial training, and professional development of teachers (while teaching). Given the expected expansion of the education system with the implementation of the FQSE program, the analysis also includes a projection of the number of teachers that will need to be hired in the near future.

Before Teaching

To improve the quality of the education system, Sierra Leone needs to improve the pool of graduates interested in pursuing a career in teaching. To this end, communication campaigns undertaken for the FQSE program should clarify that the teaching profession is as a complex and intellectually demanding career that has an immense social value. They should also highlight the benefits enjoyed by government-paid teachers such as higher salaries and fewer work hours relative to comparable professions. The government should consider giving the best graduates of senior secondary schools scholarships to study to become teachers, thereby signaling the importance of the career for the future of the country. Given that less than half of all teachers are hired by the government, private, community, and mission schools should be incentivized to improve the prestige of the teaching career by rewarding qualified teachers with acceptable salaries.

Sierra Leone needs to improve the quality of teachers entering the education system, especially since pre-service training often receives inadequate attention in education reforms in African countries. First, teacher training colleges (TTCs) should make entry into pre-service training selective and guarantee the quality of graduates upon exit. Additionally, the curriculum should be strengthened to ensure minimum standards and aligned with the reality of the country's classrooms. Given the importance of a strong practical component, the authorities should strengthen and expand the Mentoring Pre-service Teacher Training Program, which is being piloted in Bo, Kenema, Port Loko, and Makeni. Eventually, the TSC needs to coordinate its work with TTCs so that the supply of teachers matches the demand from schools, both in terms of the number of teachers and area of specialty. TTCs should also be incentivized to learn from the performance of their graduates.

The government should make a special effort to attract, recruit, and retain more female teachers so that they can mentor girls to stay in school. While there is gender parity in school enrollment, more than 70 percent of all teachers are male. A more equal representation of women in the teaching profession could provide young female students with role models and an incentive to stay in school.

Entry into the Teaching Service

The TSC should reduce the share of unqualified teachers in the education system. The TSC should encourage nonapproved service providers to refrain from recruiting unqualified teachers. Moreover, in government or government-approved schools, the TSC should continue enforcing their recent policy of not hiring any teacher who does not meet the minimum standards. The registration and licensing process should be made mandatory for new and existing teachers. The TSC should also establish a grace period in which existing teachers are expected to present their certification documents to continue teaching. This process should be followed rigorously to ensure the payroll is correct (i.e., that only teachers that are practicing in the school assigned by the TSC are being paid) and improve the quality of the education system.

The probationary period of all new government-employed teachers constitutes an important opportunity for the TSC to dismiss unqualified teachers. Few countries have the political space and the operational mechanisms to dismiss government-paid teachers who are underperforming in the beginning of their careers. The TSC should assess teachers during the probationary period and dismiss those who do not meet the minimum standards.

While Teaching

There should be a systematic deployment of teachers, ensuring that newly recruited teachers are allocated to schools with the greatest needs (e.g., higher

pupil-to-qualified-teacher ratio and lower levels of learning). The recent deployment protocol adopted by the TSC represents an important step, and it should be strictly followed in regional and local offices, especially since decentralization has led to irregular implementation of deployment protocols in other African countries, reducing their impact. Given the difficult conditions and scarcity of teachers in some rural areas of Sierra Leone, the government should also consider offering teachers rural or hardship allowances to incentivize them to move to and serve in disadvantaged areas. Furthermore, the deployment protocol should be adapted to the standards that are being developed by the Standards Committee.

Teacher training in Sierra Leone needs to be significantly strengthened. Existing evidence shows that many of the country's teachers lack the necessary pedagogical skills and knowledge to be effective, which needs to be addressed to improve the quality of the education system. While the TSC has a modern vision of continuous professional development that broadly aligns with international best practices, it needs to be translated into a national program. Additionally, the role of the head teacher needs to be redefined, and the European Union has supported the government with the training of principals, setting up the basis for the reform. Through the FREE Education Project, the World Bank and other international partners are working with the government on a technology-enabled initiative to improve the quality of teacher training in Sierra Leone.

Since learning happens inside the classroom, the authorities need to evaluate and, if necessary, improve teaching practices. Regrettably, there are no large-scale classroom observation studies in Sierra Leone. Therefore, this study uses available information from small-scale studies to discern common patterns. It finds a high rate of teacher absenteeism in the country. Initiatives such as the performance-based financing model implemented by the World Bank-financed REDiSL project are promising, although further work is needed to ensure teachers internalize the responsibility of running a classroom. Inside the classroom, a teacher-centered pedagogy that is heavy on lecturing, with low student participation and high repetition, is widespread. Instead, teachers need to shift to a student-centered pedagogy, where students participate and are active. This can be facilitated through highly scripted lesson plans, which teachers do not seem to currently use. Making sure that teachers access—and more importantly use—detailed lessons plans could be an important next step to improve teaching practices. In-classroom assessments and homework assignments appear to be important strengths of current teachers, and they should be incorporated into the design of lesson plans. Incidents of harsh discipline and physical punishment have been reported and should not be accepted. Schools should be safe and inclusive, and the TSC and the international community need to make this a priority.

>> While the TSC has a modern vision of continuous professional development that broadly aligns with international best practices, it needs to be translated into a national program.

The Sierra Leonean education system has plenty of teachers, with a pupil-to-teacher ratio (PTR) ranging from 12 in pre-primary to 27 in primary education. Yet, more than one-third of the country's teachers are unqualified, lowering the quality of teaching. It is estimated that the full implementation of the FQSE program would require hiring more than 29,400 new qualified teachers in the next five years, far more than the 25,000 new teachers the government plans to hire. To fill this gap, the government could decide to add more teaches to the payroll, which would require roughly more than US$42 million per year. Alternatively, the authorities could change the PTR to a higher but still acceptable level. Currently, the

country is considering a PTR of 1:25 in pre-primary education and 1:40 in all the remaining education levels. For example, the government could work with TTCs to increase the PTR by having teachers in training serve as class assistants (as is done in the United Kingdom). Finally, the government could start requiring newly approved schools to meet all the minimum standards, which would in effect limit the approval of new schools.

The TSC has a critical role in ensuring coherence and quality in the education system. Since many schools are not run by the government in Sierra Leone, the creation of standards, guidelines, and protocols is critical to ensure consistency and teaching quality across schools. In addition, the TSC needs to develop a strong supervision mechanism to guarantee that standards, guidelines, and protocols are followed and that a certain level of quality is met.

1 Introduction:

The Importance of Teaching Quality as a Determinant for Learning

Teachers are some of the most valuable resources in any education system. Teachers are the adults with whom many students interact with the most,[1] and they have an extremely difficult task. In addition to imparting basic cognitive skills, such as numeracy and literacy, they need to teach students socioemotional skills, such as teamwork, communication, and persistence, and encourage a passion for lifelong learning.

The quality of teachers is an important determinant of educational outcomes. In the United States, students with an effective teacher advance 1.5 grade levels or more over a single school year, compared with just 0.5 grade levels for those with an ineffective teacher.[2] Similar findings of the importance of quality teachers have been found in Ecuador, Uganda, Pakistan, and India.[3] Moreover, some of the most effective interventions to improve student learning rely on the effectiveness of teachers. Beteille and Evans (2019) compare the effects of three types of programs on student learning in low- and middle-income countries: teacher-driven interventions (e.g., structured pedagogy), community-based monitoring, and computer-assisted learning programs. They find that while teacher-driven interventions raised students' language scores by about nine months, community-based monitoring had half the effect and computer-assisted learning program had less than one-twentieth of the effect. For Sub-Saharan Africa (SSA), Bashir et al. (2017) document "the most consistent sources of impact on student learning: teacher knowledge, teaching practice and instructional time." They recognize that "where education systems are often poorly resourced, additional factors that matter... include the availability of textbooks and pedagogical resources, better school and classroom facilities, and smaller classes."[4]

The Government of Sierra Leone has made education a national priority. The National Development Plan (NDP) clearly states that "human capital development, especially the provision of free quality education for all, constitutes the main goal of our government" (pg. iv). The Free Quality School Education (FQSE) program, introduced in September 2018, is the government's flagship initiative to accelerate human capital development. Through the FQSE program, the government has recognized the right to education and is committed to provide all children with access to free quality basic (i.e., preschool and primary and junior secondary) and senior secondary education. This implies eliminating school fees for government and government-approved schools, giving schools a capitation grant based on enrollment, paying

1. Beteille and Evans 2019.
2. World Development Report 2018.
3. Blau and Das 2018.
4. Bashir et al 2017, pg 231.

teachers' salaries with public resources, providing books and other assorted learning materials, and maintaining existing facilities of approved schools. The program also includes a greater decentralization of the management and supervision of education services, as evidenced by the creation of ward education committees, the creation of district Teaching Service Commission (TSC) offices, and the hiring of school supervisors at the regional level. Moreover, the Ministry of Finance is committed to allocate 20 percent of the minimum recurrent state budget to the education sector (NDP 2019, pg. 22).

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Recognizing the importance of effective teachers, the government formally inaugurated the TSC in August 2016.[5] The TSC seeks "to manage the affairs of teachers to improve their professional status and economic wellbeing and for other related matters" (Teacher Service Commission Act 2011). As an independent commission, the TSC: (i) advises the Minister of Education on all matters pertaining to teachers, including pre-service training, and sanctions schools that are in violation of standards for professional practice; (ii) registers and licenses all teachers; (iii) evaluates all teachers' qualifications and determines their equivalence based on a qualifications framework; (iv) measures teacher performance; (v) recruits, promotes, posts, transfers, dismisses, and replaces teachers in government and government-approved schools; (vi) develops and reviews standards and codes of professional ethics for teachers; (vii) defines the rights and obligations of teachers in relation to their employers and the management of the institutions where they serve, as well as of school management in relation to their employees; (viii) disciplines teachers in government and government-approved schools in accordance with the provisions of the Code of Ethics for Teachers; (ix) organizes regular induction and orientation programs for newly licensed teachers as well as continuous professional development (CPD) programs for serving teachers; and (x) appraises the performance of head teachers and principals in accordance with the legal provisions of the 2004 Education Act.

1. Beteille and Evans 2019.
2. World Development Report 2018.
3. Blau and Das 2018.
4. Bashir et al 2017, pg 231.
5. The TSC had been in the making for several years. As documented by Wright (2009), the National Education Policy of 1995 recommended the establishment of a TSC. Once the TSC has been established, teacher management responsibilities should be transferred from the MBSSE to the TSC, according to the Education Act of 2004. The National Education Policy of 2010 assigned clear roles to the TSC, and the Teaching Service Comission Act of 2011 relieved the MBSSE from direct involvement of the implementation of teacher management policies. In 2013, an operational framework for the TSC was developed, and the presidential appointment of a TSC chair was approved by the parliament in 2015.
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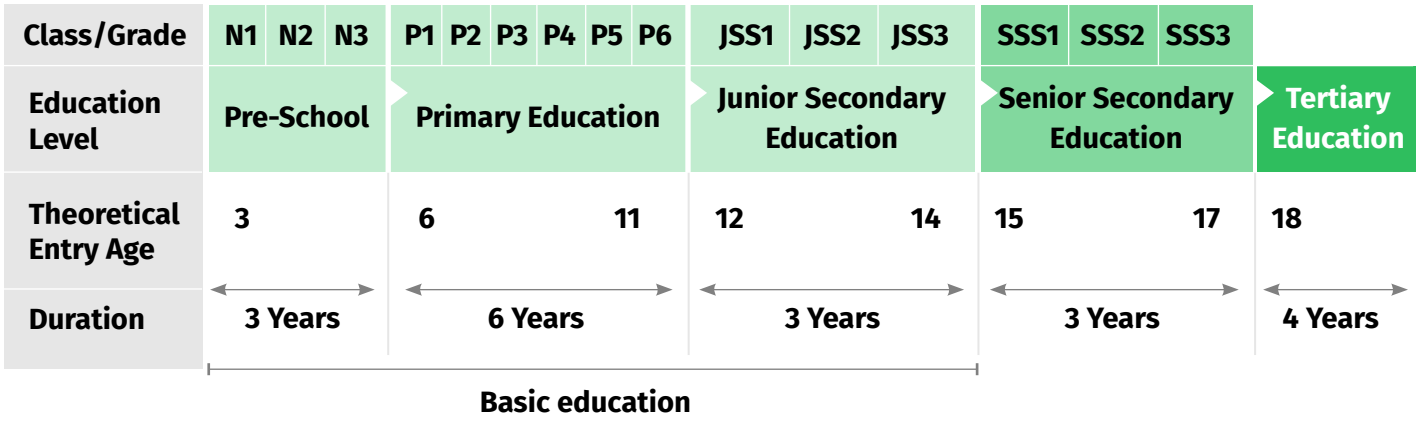
Considering the key role of teachers in translating the FQSE program into quality learning, this study analyzes the teaching profession and highlights key opportunities for the TSC to improve the education system. In line with the FQSE program, the study focuses on the basic education cycle (primary and junior secondary education). Section 2 provides a background of the education system in Sierra Leone, and section 3 presents a detailed analysis of the teaching career, including the application to become a teacher and pre-service training; the registration, licensing and hiring of teachers; and the deployment, initial training, and professional development of teachers. Section 4 estimates the number of government-paid teachers that will be needed to meet the goals set out in the FQSE program. Finally, section 5 presents key recommendations.

2 Background:

The Education System in Sierra Leone

Sierra Leone's education system is organized into a three-tier structure. The first tier consists of twelve years of basic education, the third consists of three years of senior secondary education, and the third tier consists of four years of tertiary education (Figure 1).[6] Basic education is also comprised of pre-school as well as primary and junior secondary cycles.

Figure 1 | **Structure of the Education System in Sierra Leone**



In the basic and senior secondary cycle, Sierra Leone has close to 2 million students, 11,000 schools, and more than 87,000 teachers. (2018 Annual School Census, ASC). About 65 percent of the country's schools, 69 percent of the students, and 57 percent of the teachers are in primary education (Table 1). In junior secondary education, there are more than 300,000 students (16 percent of total), 20,000 teachers (23 percent), and over 1,000 schools (14 percent). While the number of enrolled senior secondary students is more than double that of enrolled pre-primary students, there are almost three times as many pre-primary schools and more teachers per primary student, as pre-primary schools need to have low pupil-to-teacher ratios (PTRs) and be located close to households. In Sierra Leone, there is gender parity—measured by absolute enrollment—across all levels of education, except in senior secondary, where there are nine female students for every ten male students in school.

6. Since the 2010/11 academic year, senior secondary education consisted of four years. The current administration changed this policy, so senior secondary now consists of three years (as was the norm from 1993 to 2010/11).

Table 1 | Institutions, Enrollment, and Teachers by Education Level

	Number of institutions	Number of learners (Male)	Number of learners (Female)	Number of students	Student Female to Male ratio	Number of teachers
Pre-Primary	1,633	42,922	47,779	90,701	1.1	7,279
Primary	7,002	674,034	695,704	1,369,738	1.0	49,850
Junior Secondary	1,531	158,651	156,849	315,500	1.0	20,329
Senior Secondary	581	108,144	98,392	206,536	0.9	10,167
Total	**10,747**	**983,751**	**998,724**	**1,982,475**	**1.0**	**87,625**

Source: ASC 2018.

Education in Sierra Leone is delivered by missions, communities, the private sector, and the government, About 52 percent of all the schools in the country (from pre-primary to senior secondary) are owned by religious groups; 16 percent are owned by communities; 16 percent by private entities; and 15 percent of all schools are owned by the government (Table 2) This pattern holds for all levels of education, with the exception of pre-primary and senior secondary, which have relatively more private providers (private providers represent 35 percent and 29 percent of all schools in pre-primary and senior secondary education, respectively). There is also a greater share of government-run schools (18 percent) in primary education. The reason for the strong presence of religious community schools in the provision of education in Sierra Leone is partly due to eleven years of civil war and the recent Ebola Virus Disease (EVD) crisis (Wright 2019).

Table 2 | Distribution of Schools by Ownership and Educational Level

	Pre-Primary		Primary		Junior Secondary		Senior Secondary		Grand Total
	No.	%	No.	%	No.	%	No.	%	
Community	282	17%	1,006	14%	368	24%	92	16%	1,748
Government	156	10%	1,277	18%	158	10%	54	9%	1,645
Mission	618	38%	4,056	58%	678	44%	265	46%	5,617
Private	577	35%	663	9%	327	21%	170	29%	1,737
Total	**1,633**	**100%**	**7,002**	**100%**	**1,531**	**100%**	**581**	**100%**	**10,747**

Source: ASC 2018.

Despite directly managing only 15 percent of schools, the government provides financial support to 45 percent of all schools in the country (Table 3). Schools that receive public assistance are referred to as approved or government-assisted schools. Approved schools meet a set of minimum requirements defined by the Ministry of Basic and Senior Secondary Education (MBSSE). These schools should receive funding for teacher salaries, capitation grants, and books and other learning materials from the central government. However, many approved schools receive only partial support. For example, some of these schools do not receive a full set of textbooks, and some have teachers who are not paid by the government. There are also approved schools that receive full support but transfer registered teachers paid by the government (i.e., approved teachers) to non-approved schools. This results in higher PTRs in approved schools, which often hire non-certified teachers to fill the gap. Furthermore, due to fiscal and operational constraints, there is a backlog of schools that meet the minimum requirements and have applied to become government-approved schools but are waiting for government approval.

Table 3 | Distribution of Schools by Status and Educational Level

	Pre-Primary	Primary	Junior Secondary	Senior Secondary	Grand Total
Approved	498	3,449	689	236	**4,872**
Not Approved	1,135	3,553	842	345	**5,875**
Total	1,633	7,002	1,531	581	**10,747**
% Approved	30%	49%	45%	41%	**45%**

Source: ASC 2018.

Box 1
Quality of Education in Sierra Leone

The quality of education in Sierra Leone is extremely poor. According to the latest Early Grade Reading Assessment (EGRA 2014), 87 percent of students in second grade cannot read any part of a short passage. By the end of third grade, more than 50 percent cannot write their own name. The MICS 2017 survey finds similar results with only 12 percent of children in grades 2 and 3 meeting expected levels of numeracy for their grade and only 16 percent of children meeting the expected level of literacy for their grade. Alarmingly, virtually all children (97 percent) of the poorest wealth quintile do not display foundational literacy and numeracy skills. This continues throughout the education system, as reflected in students' low performance on the West African Senior School Certificate Examination. For instance, only 18 percent of students who took the exam passed it in 2018 (NDP 2019).

The country's education system has expanded extremely quickly. Despite internal conflict, economic crises, and the EVD crisis, the number of students in Sierra Leone's education system almost doubled in 2003-2017 (Table 4). The number students more than quadrupled in pre-primary and senior secondary education and more than doubled in junior secondary education in fifteen years. This was accompanied by an increase in the number of teachers from 19,317 in 2004/05 to 38,125 in 2010/2011.

Table 4 | School Enrollment by Education Level, 2003-2017

	Pre-Primary	Primary	Junior Secondary	Senior Secondary	Grand Total
2003/2004	19,068	1,134,815	133,401	38,324	**1,325,608**
2004/2005	20,632	1,280,853	155,052	44,924	**1,501,461**
2010/2011	37,351	1,194,503	244,289	108,243	**1,584,386**
2011/2012	49,006	1,252,354	275,915	124,885	**1,702,160**
2012/2013	54,040	1,298,908	276,593	139,647	**1,769,188**
2015	60,065	1,338,210	286,457	156,520	**1,841,252**
2016	80,923	1,412,524	316,402	171,424	**1,981,273**
2017	80,119	1,486,939	312,919	179,221	**2,059,198**

Source: National Development Plan 2019.

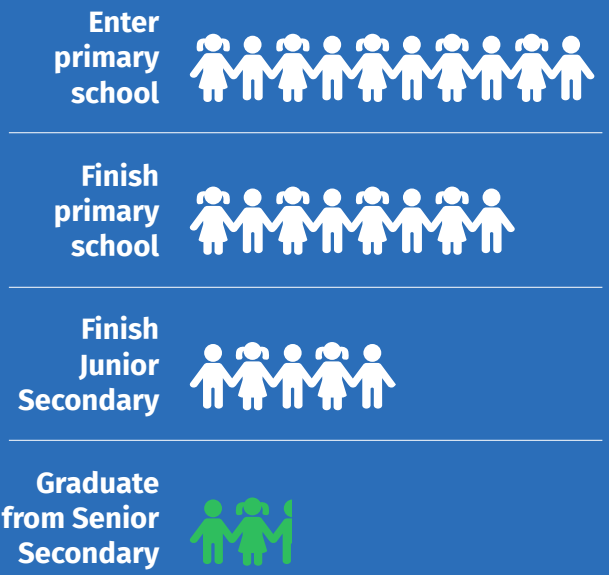
>> The number students more than quadrupled in pre-primary and senior secondary education and more than doubled in junior secondary education in fifteen years.

This trend can be expected to continue and will likely intensify under the FQSE program. Aligned with its objective to guarantee universal access to basic and secondary education, the FQSE program aims to increase the number of government-approved schools, which will lead to an increase in the number of teachers hired by the state. The FQSE program will also eliminate schooling fees, which is important in a context where insufficient funding is the main reason for not sending children, particularly girls, to school (2014 Labor Force Survey referenced in NDP 2019).[7] With fewer than half of basic and senior secondary schools receiving government support, the FQSE program will likely lead to massive demand for government approval of schools that currently cover these levels and meet the eligibility criteria.

7. Historically, primary education has not been completely free in Sierra Leone because schools have informal charged their students for tuition, school uniforms, books, etc. With the FQSE program, these fees will be abolished.

Box 2
The Transition Challenge

Dropout rates in Sierra Leone are extremely high. Two out of every ten students entering the first grade are not likely to make it to the end of primary school, five are unlikely to reach the end of junior secondary, and more than seven are unlikely to finish senior secondary. In fact, three in four students who join junior secondary or senior secondary are likely to stay to the end. In Sierra Leone, students need to pass high-stakes examinations administered by the West Africa Examination Council (WAEC) to transition between education levels (except from pre-primary to primary). The biggest challenge for the education sector is, therefore, to ensure that students who access first grade can stay in school up to at least the end of basic education.



3 Analysis
of the Teaching Career Path

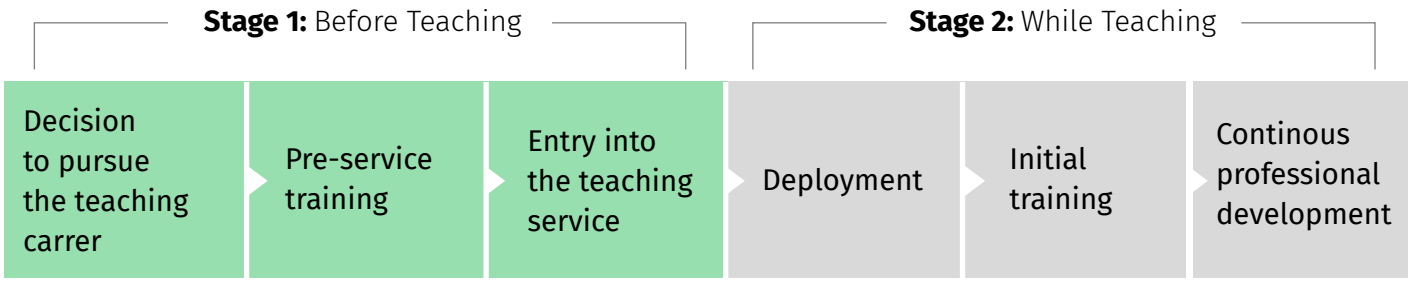
This section analyzes two key stages of the teaching career:

1 **The experience of prospective teachers before they join the profession (before teaching);**

2 **The experience of current teachers (while teaching)**

It starts by exploring the process of potential candidates in deciding to pursue a teaching career and apply for pre-service training (Figure 2). This involves an analysis of career options for potential candidates as well as the pay and reputation of the teaching career—factors that may influence the decision to pursue teaching. It also includes an evaluation of the availability and quality of pre-service training and a review of the steps and criteria associated with the process of registering, licensing, and hiring teachers. The second stage discusses the initiation of trainees into the teaching profession and their CPD, including a review of the inputs that teachers rely on to make their teaching effective in the classroom.

Figure 2 | **Stages of the Teaching Career – Before Teaching**



3.1 Stage 1: Before Teaching

Decision to Pursue a Teaching Career

Most countries that score high on international student achievement assessments attract the best graduates into the teaching profession. For example, one-fifth of applicants to a teaching pre-service institution in Finland are admitted. Here, admission to education programs depends not only on high academic achievements but also on the applicant's interests and passions (Saavedra et al. 2018). The idea that countries with the best student performance have teachers with higher-than-average cognitive skills is consistent with the findings of Hanushek, Piopiunik, and Wiederhold (2014).

Efforts to attracted well-qualified teachers are often more successful when the career has a high status. However, the prestige of the teaching career has declined sharply in most countries that have rapidly expanded access to education. This is the case in Sierra Leone, as education was once more valued than inherited political prestige, and teachers were once treated the same way as a secret society and religious/ritual specialists (Bolten 2017). However, teachers' social standing fell when unprepared teachers were hired as the country attempted to universalize basic education. Similar patterns for the teaching profession can be seen throughout Latin America (Vegas et al. 2017).

Although salaries are not the sole motivation for people to pursue a specific career, they serve as a proxy for the prestige of a profession. In Sierra Leone, government-hired teachers earn a salary ranging from US$90 to US$329 per month (Table 5). This is higher than the country's per capita gross domestic product

(GDP), as primary school teachers earn 2.4 times the average GDP per capita, and secondary school teachers earn 5.4 times per capita GDP (Figure 3). Teachers earning above per capita GDP is not uncommon in Africa. In fact, teachers' salaries in the region range from 0.8 times per capita GDP in Gabon (primary school) to almost 20 times per capita GDP in Malawi (secondary school). It is, however, significantly higher than what teachers earn in Organisation for Economic Co-operation and Development countries (an average of 1.07 times per capita GDP) (Beteille and Evans 2019).

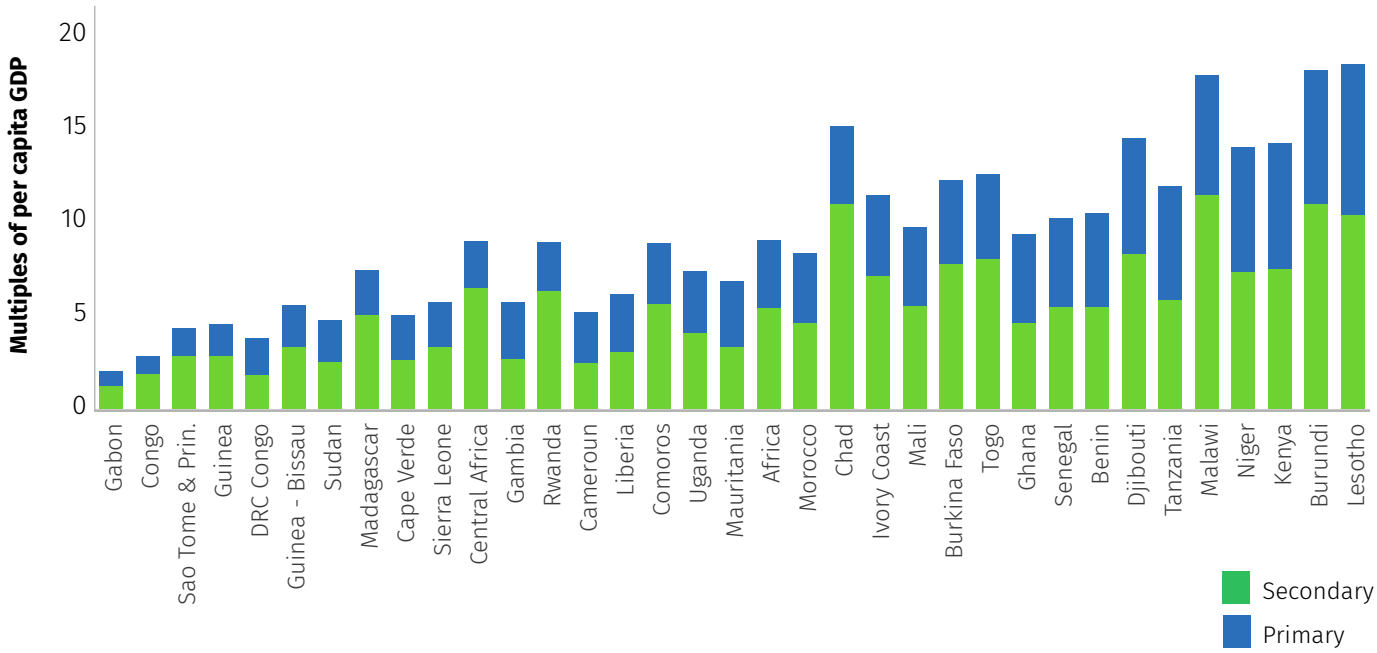
Table 5 | Salary Scale for Teachers in Sierra Leone

Qualification	Grade	Basic Monthly Salary		Recipients
		Leones	US$	
Fifth Form/ West African Senior School Certificate Examination (WASSCE)	2	759,408	90	Untrained and Unqualified
Awaiting result, Arabic / Certificate; TC (Lower)	5	908,920	108	
TC or Diploma or Certificate	6	965,020	115	
HTC or HNC or HND or Degree without Education	7	1,152,537	137	Senior Teacher (Primary)
Degree with Education or HTC + Degree	8	1,292,046	154	Graduate
TC + HTC (Primary or Secondary) or Degree with Education or Degree + HTC	9	1,596,044	190	Head Teacher(P); Sen. Teacher (Sec); Junior Secondary School (JSS)/ Senior Secondary School (SSS)/Tech Voc.
HTC (Sec.) + Degree with Education or HTC Secondary + Degree	10	1,905,686	227	Vice Principal (JSS/SSS/Tech. Voc.)
HTC Secondary + Degree with Education or HTC (Secondary) +Degree	11	2,762,960	329	Principal (JSS/SSS/Tech Voc.)

Source: MBSSE 2019.

Note: WASSCE: West African Senior School Certificate Examination; TC: Teacher's Certificate; HTC: Higher Teacher's Certificate; and HNC: Higher National Certificate.

Figure 3 **Teacher Salaries in Primary and Secondary Education (Multiples of per Capita GDP)**



Source: IIEP Pole de Dakar 2015.

Since being a teacher requires having certain minimum qualifications, a teacher's salary should be compared with that of other educated professionals. Data from early to mid-2010s show that a teacher's hourly salary in Sierra Leone was comparable to that of other well-educated workers in non-teaching professions (Bashir et al. 2017) For example, the country's primary teachers earn 122 percent of what clerical workers with a comparable education earn per hour, and secondary teachers earn 98 percent of what comparably educated professionals earn.

While government-paid teachers earn a relatively attractive salary in Sierra Leone, a majority of teachers in the country do not reach this wage level. Given the diversity of providers, less than half of all teachers are employed by the government.[8] In addition, almost 30 percent of teachers are volunteers, earning irregular and reportedly low wages, with the expectation of joining the government's payroll in the future. This results in harsh living conditions. For instance, Bennell and Akyeampong (2007) found that more than half of teachers in Sierra Leone admit that they went to work hungry. TTCs report that few children want to become teachers because they see their own teachers in poor living conditions. It is, therefore, not a surprise that "anecdotal evidence from knowledgeable individuals claim that teaching is treated as a "holding area" for young people whilst they seek opportunities for further studies or for entry to more lucrative professions" (Wright 2018, pg. 27).

While teachers and schooling are held in high regard in Sierra Leone, few students want to become teachers. Teachers and schooling are held in high regard in Sierra Leone, despite the low teacher salaries. TTCs report that while most students deeply respect their teachers, few of them wish to join the teaching profession because of the low salaries. Moreover, the fact that 30 percent of all teachers are volunteers and that 16 percent of all schools are established directly by communities could be an indication of the value placed on education in the country.

8. Only 17 percent of teachers are paid by the government in pre-primary; 41 percent in primary, 36 percent in junior secondary, and 40 percent in senior secondary education.

Box 3
Who are the teachers in Sierra Leone?

Sierra Leone has relatively young and inexperienced teachers. More than half of all teachers are younger than 34 years old, and three out of four are younger than 45 years old. Based on the age profile, most teachers have little teaching experience, with 60 percent of them having been teachers for less than ten years.

Figure 4 Distribution or Teachers by Age

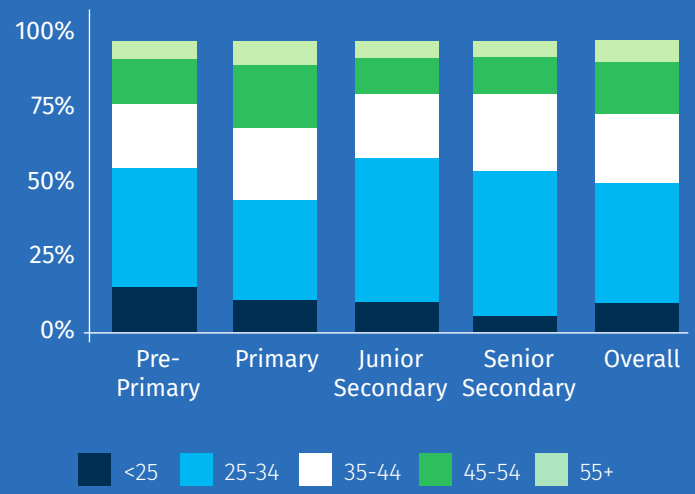
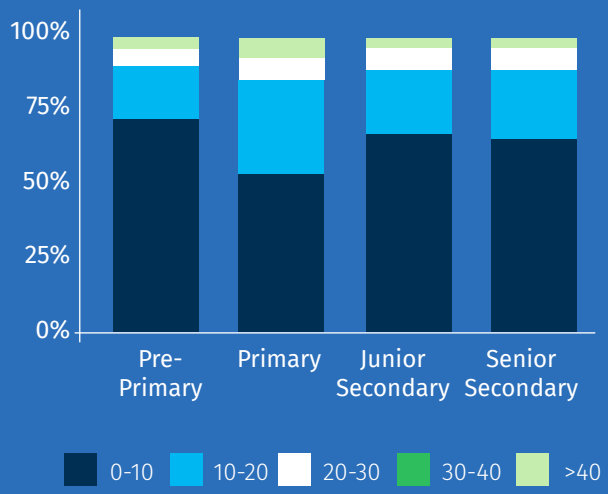


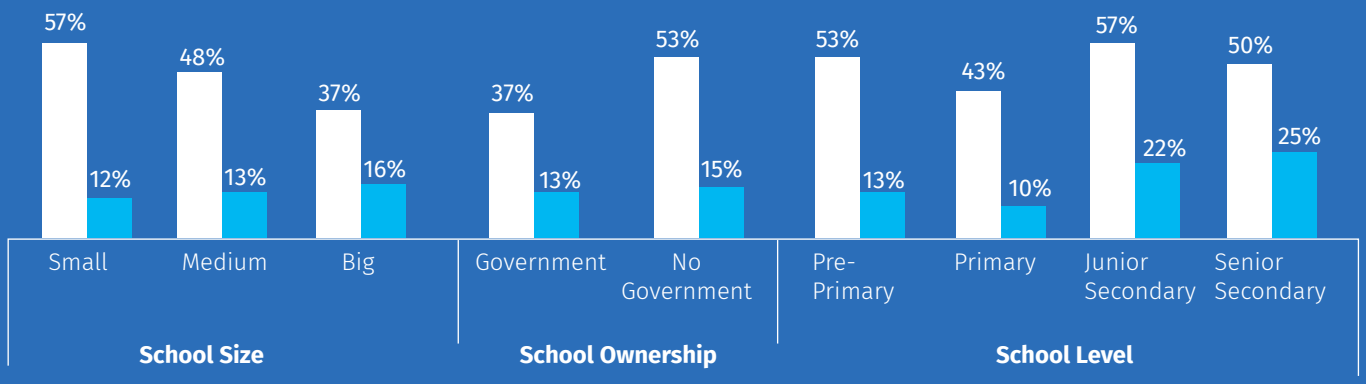
Figure 5 Years or Service in Teaching



Source: ASC 2018.

Most of the country's young teachers are not on the government's payroll. Instead, most of them work in small nonpublic schools. While only one in three teachers in large schools are younger than 34 years old, more than half of teachers in small schools are younger than 34 years old (Figure 7). Young teachers are also concentrated in non-government schools, possibly because teachers in these schools do not need to meet minimum qualifications. Approved teachers are generally older and work across all grades and types of schools, regardless of size and ownership structure.

Figure 6 | **Distribution of Teachers Aged 34 Years and Younger**



Source: ASC 2018.

Pre-Service Training

This section explores the process to train prospective teachers in Sierra Leone. It provides an overview of the admission criteria to teaching institutions and programs and approximates the quality of training by examining exit exams as well as student and teacher outcomes. In Sierra Leone, 36 percent of teachers are unqualified and do not go through the official pre-service training process. However, this share is expected to fall over time, as the TSC has stopped hiring teachers who do not have minimum qualifications.

Pre-service teacher training is only offered by six TTCs.[9] The training programs vary in length and intensity and offer: (i) teaching certificate (TC) and teaching certificate lower (TC lower), which last one year; (ii) higher teaching certificate (HTC) for primary and secondary education, which last two years; (iii) bachelor's degree in education, which takes four years to complete and is only offered by two institutions;[10] and (iv) graduate programs in education. The small number of institutions in charge of training teachers makes it easier to coordinate and supervise education institutions from the central level, which could be instrumental in ensuring quality standards. However, the small number of institutions also makes it more difficult for prospective students to access training opportunities.

9. The six institutions are: i) Fourah Bay College, University of Sierra Leone; ii) Njala University; iii) Ernest Bai Koroma University of Science & Technology; iv) Eastern Polytechnic; v) Milton Margai College of Education & Technology; and vi) Freetown Teachers' College.
10. Fourah Bay College, University of Sierra Leone; and Milton Margai College of Education & Technology.

Although each institution operates autonomously, all teacher training programs require candidates to pass all five subjects in the West African Senior School Certificate Examination (WASSCE). For example, applicants to Milton Margai[11] who want to pursue a bachelor's degree, diploma, or HTC in teacher training have to pass the WASSCE in all five subjects with a grade of C6 or better, as well as demonstrate a minimum of C6 in English. Similarly, applicants to Njala University[12] also have to have 5 credits from the WASSCE to be considered for admission. Moreover, prospective candidates to both institutions must demonstrate that they obtained their credits from no more than two sittings. Admission to Eastern Polytechnic[13] requires similar qualifications, and any prospective student who meets the set academic criteria and is able to cover the cost can apply to the pre-service training program.

The number of students enrolled in TC Lower, TC, and HTC Primary has increased substantially over the last decade. Approximately 64 percent prospective pre-primary and primary teachers enroll in the TC program, 33 percent enroll in HTC Primary, and around 3 percent enroll in TC Lower. While the share of students pursuing the HTC has been close to 30 percent for the last decade, the share of students pursuing TC Lower has fluctuated over time, from none in 2005, 2006, and 2009 to 15-18 percent in 2008, 2010, and 2011; 13 percent in 2012; and 2-4 percent in 2013-16. By contrast, even though enrollment in HTC Secondary peaked at 720 students in 2012, the number of enrolled students in 2012 (344) was basically the same as the number of students in 2005 (332) (Table 6). This could be due to to a lack of qualified secondary education teachers being a binding constraint to expanding access to the full education cycle.

Table 6 | **Distribution of Students along TC and HTC Programs, 2005-16**

Year	TC	TC Lower	HTC Primary	HTC Secondary	Total
2005	416	0	226	332	**974**
2006	481	0	231	N.a.	N.a.
2007	641	0	314	N.a.	N.a.
2008	502	150	261	493	**1,406**
2009	460	0	239	N.a.	N.a.
2010	452	135	191	N.a.	N.a.
2011	591	145	234	N.a.	N.a.
2012	615	136	342	720	**1813**
2013	539	30	320	N.a.	N.a.
2014	497	30	307	N.a.	N.a.
2015	735	30	433	557	**1755**
2016	682	30	350	344	**1406**

Source: Wright, 2019, "A comprehensive Situation Analysis of Teachers and the Teaching Profession in Sierra Leone."

11. http://mmcet.edu.sl/application-form-1.php
12. http://admissions.njala.edu.sl/
13. https://easternpolytechnic.edu.sl/faculty-of-education-and-community-development-studies/

Training Content and Teacher Knowledge

The objective of pre-service training is to prepare future teachers with the necessary professional competency in terms of content knowledge, pedagogical skills, and teaching practices. Content knowledge refers to the information that teachers are expected to teach in a given subject or thematic area. Pedagogical knowledge relates to mastering the most effective ways to teach a particular subject by structuring and representing the content in different ways, identifying common misconceptions and difficulties, and using adequate methods to address diverse student challenges. Finally, teaching practices refer to measures that affect the classroom such as scheduling and planning lessons, managing the classroom, engaging students, assessing the skills of students, and sequencing the curriculum (Bashir et al. 2017).

Teachers in the region seem to lack content knowledge. SACMEQ III data from Malawi, South Africa, Zambia, and Zanzibar show that while most teachers have the minimum content knowledge necessary to teach reading, more than 10 percent lack the skills required to teach mathematics (Bashir et al. 2017). Moreover, service delivery indicator datasets from a survey of seven African countries[14] show that only 7 percent of language teachers in grade 4 and less than 70 percent of math teachers in grade 4 possess the minimum knowledge required to teach the curriculum. Specifically, 14 percent of teachers could not spell a simple word, 23 percent could not subtract double digits, and only half could understand and solve a simple math story problem[15]. Similarly, service delivery indicator surveys in Tanzania, Kenya, and Mozambique find that less than one-third of teachers answer pedagogical questions correctly.

Unfortunately, teachers in Sierra Leone lack the necessary content knowledge. A primary grade learning assessment administered in grades 4 and 5 and analyzed by Oxford Policy Management finds that many of the country's teachers have difficulties in completing a test designed for children in the grades they teach. Indeed, teachers perform only slightly

14. Kenya, Mozambique, Nigeria, Senegal, Tanzania, Togo and Uganda
15. Bold, T., Filmer, D., Martin, G., Molina, E., Rockmore, C., Stacy, B., ... & Wane, W. (2017).

better than their students.[16] The performance of prospective teachers on the exams required to attain a teacher diploma can be used as a proxy of their professional competence. Given institutional autonomy, each training institution carries out their own exit/graduation examinations without external verification. However, they all require their students to only score 25 percent on their examinations to pass, which means that students are only expected to know one-fourth of the content on which they are tested in order to graduate as teachers. This raises concerns of whether teachers have the necessary skills in the subjects they are expected to teach. There are also anecdotal evidence of rampant malpractice during examinations.

As expected, a teacher's knowledge of a subject has an important effect on student learning. Studies have shown that an increase of 1 standard deviation in a teacher's subject knowledge is associated with increased student performance of 0.03 standard deviations, and that textbooks only have a positive impact on students if they are taught by higher-scoring teachers (Bietenbeck, Piopiunik, and Wiederhold 2017).

Entry into the Teaching Service

This section describes the processes of registration, licensing, and hiring teachers in Sierra Leone.

Registration and Licensing of Teachers

Many countries require teachers to be registered and licensed before the start teaching. For example, all teachers in Kenya are expected to be registered immediately after training, regardless whether they want to practice in private or public schools. Inspectors visit schools to ensure that all teachers comply with this policy. While there could be teachers in far-off places practicing without due registration, the provision has largely helped to deter unqualified individuals from practicing teaching.

Sierra Leone also requires all teachers to be registered and licensed, although enforcement is lacking. After completing their pre-service training, teachers need to register with the TSC and receive their license. Only registered teachers should be able to apply for teaching positions at schools. However, there are many teachers in the country who are not registered and do not have their license, either because the process has not been strictly enforced or they the lack the training and qualifications required for registration. Since the establishment of the TSC, many graduates are going through the registration process, but the process (which is being done manually from Freetown) is cumbersome. The authorities have no yet decided to suspend unregistered teachers, as it would likely lead to a massive shortage of teachers in many schools.

Hiring

As in most countries' education systems, not all graduates from teacher training institutes in Sierra Leone are added to the government payroll. Aside from public schools, graduates are also hired by private schools, unapproved mission or community schools, or approved mission or community schools. Only teachers hired by approved schools or directly by the government are added to the government payroll.

Many teachers apply to government-paid positions and take other employment opportunities while waiting to be hired. A teaching job paid by the government is highly desirable in Sierra Leone, as the

16. Upcoming publication.

government salary is competitive, and the teaching profession is relatively stable, especially in a job market severely lacking in formal jobs. However, there are also many qualified professionals that accept teaching positions paid by the government while they pursue other labor opportunities.

While the government's hiring procedures ensure candidates for teaching positions meet some minimum standards, they are not necessarily the best candidates. Teachers are added to the government payroll by being hired in either government schools or approved community or mission schools. For government schools, prospective teachers who complete their training early are the first to be considered for employment. For community or mission schools, teachers who are already working at the school are added to the government payroll if: (i) they meet the minimum qualifications (Table 7); and (ii) the school's PTR is below a certain ratio defined for the district. When approved by the school, the school sends a list of their teachers, along with their certifications, to the TSC. If the teachers meet the minimum standards, the government hires them until the teacher quota for the school is met.[17] If teachers in a recently approved school do not meet the minimum qualifications, they should be replaced with qualified teachers. In practice, however, the school rarely replaces teachers. Instead, it often pays unapproved teachers a lower salary and allows them to continue to work. Furthermore, when missions or communities manage more than one school, they often deploy their approved teachers from one school to another, resulting in unapproved schools having approved teachers and in approved schools having unqualified teachers. The subsequent heterogeneity of teaching conditions (e.g., differences in pay, access to teaching materials, pedagogical support, etc.) is a source of tension that creates resentment among teachers.

The management of the teacher payroll suffers from various reported inefficiencies in Sierra Leone. In-depth interviews with government officials reveal that there may be a large number of ghost teachers in the country. Ghost teachers could be certified teachers that have left their jobs but their pay is still being processed. Instead of informing the MBSSE or the TSCE that the teacher has left, the principal and the teacher find someone else to assume the teaching position and receive the certified teacher's salary. This increases the likelihood of having uncertified teachers in the classroom who are receiving salaries as if they were certified. The government has worked with United Kingdom's Department for International Development (DFID) in a payroll cleansing exercise to ensure that only registered and licensed teachers are on the payroll and that remunerations are paid out to legitimate teachers. This exercise is currently being carried out by deputy directors recruited by the TSC and deployed to all districts. The TSC believes its decentralized presence will help rebuild integrity in the teaching profession.

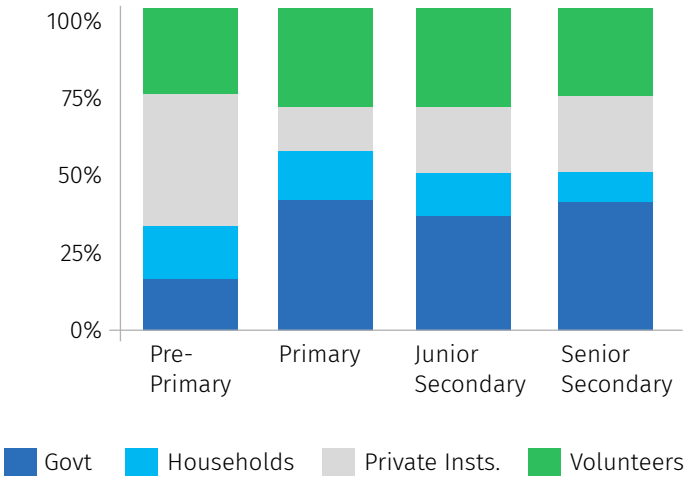
Private and non-approved schools recruit and manage teachers based on their own criteria. Given that these schools are in charge of more than half of the teachers in the country, the lack of a common minimum standard makes it more difficult to improve the quality of teachers and ensure all children are taught by qualified professionals (Figure 7). In private and non-approved schools, teachers are hired as soon as there is vacancy, and uncertified teachers are sometimes recruited. Indeed, more than one in every three teachers in the country are unqualified, and more than half of teachers in non-approved schools are uncertified, compared to 28 percent of teachers in approved schools. Moreover, it is difficult to certify teachers who are volunteers (often unpaid), which is the case for close to one in every three teachers hired in private and non-

17. Teacher quotas per school are established to equalize the PTR in and between districts.

approved schools. Many volunteer teachers do not receive a stable salary and continue working in the hope that they will become salaried teachers once the school is approved by the government.

As in most countries in SSA, the official minimum qualifications for teachers in Sierra Leone's civil service are lower in primary than in secondary education. The country's primary teachers require a TC, while secondary teachers require an HTC. In Madagascar, a lower-secondary education is required to be a primary school teacher, an upper-secondary education is required to teach lower-secondary students, and a university degree is required to teach in upper-secondary schools. A similar pattern holds for Uganda and the Democratic Republic of the Congo, although these countries also require additional teacher training. Countries like Benin and Niger demand the same level of high-school education (upper secondary) for primary and secondary school teachers as Sierra Leone, but they also require additional teacher training for secondary school teachers. Ghana and Nigeria require an upper-secondary education and more than three years of teacher training for primary and lower-secondary school teachers, and a university-level education is required for teaching in upper-secondary schools. Finally, primary school teachers in Mali need to have an upper-secondary education and complete three years of teacher training, while secondary school teachers need to have a primary and university-level education.

Figure 7 **Proportion of Teachers by Salary Source**



Source: ASC 2018.

Table 7 Official Minimum Qualifications for Civil Service Teaching Posts in Selected SSA Countries, Early 2010s

Preservice education and training required	Level of teaching position		
	Primary School	Lower-secondary school	Upper-secondary school
Lower-secondary			
Plus no teacher training	Madagascar	None	None
Plus 1-2 years of teacher training	Mozambique; Uganda	None	None
Plus ≥ 3 years or teacher training	Congo, Dem. Rep	None	None
Upper-secondary			
Plus no teacher training	None	Madagascar	None
Plus 1-2 years of teacher training	Benin; Burkina Faso; Kenya; Malawi, Niger	Congo, Dem. Rep	None
Plus ≥ 3 years of teacher training	Ghana, Mali, Nigeria	Benin; Ghana; Niger; Nigeria	Benin; Niger
University degree	South Africa	Kenya; Mali; South Africa	Congo, Dem. Rep; Ghana; Kenya; Madagascar; Mali; Nigeria; South Africa; Uganda

Sources: Compiled from Kitchlu 2017a, 2017b; Nordstrum 2015; TISSA-Uganda 2014; UNESCO 2011; and World Bank resources.
a. Student teachers being prepared as primary school teachers in the Democratic Republic of Congo are tracked after two years of lower-secondary into schooling into a four-year course in the Humanités Pédagogiques stream (Kitchlu 2017a).

Table 8 | Qualification Requirements for Government-Paid Teachers

Level	Type of teacher	Qualification
Primary	Teacher	TC (Lower); TC or Diploma or Certificate
	Senior Teacher	HTC; HNC; HND; Degree without Education
	Head Teacher	TC + HTC Primary; Degree with Education; Degree + HTC
JSS/ SSS/ Technical Vocational	Teacher	HTC (Secondary)
	Senior Teacher	TC + HTC (Primary or Secondary) or Degree with Education or Degree + HTC
	Vice Principal	HTC (Sec.) + Degree with Education; HTC Secondary + Degree
	Principal	HTC Secondary + Degree with Education; HTC (Secondary) +Degree

Source: MBSSE 2019.
Note: West African Senior School Certificate Examination; TC: Teacher's Certificate; HTC: Higher Teacher's Certificate; HNC: Higher National Certificate.

>> More than one in every three teachers in Sierra Leone are untrained.

As expected, 38 percent of pre-primary and primary teachers in Sierra Leone have a TC, almost 40 percent of junior secondary school (JSS) teachers have an HTC, and more than 40 percent of senior secondary school teachers have a B.Ed. (Table 9). While teachers in junior secondary are expected to have an HTC Secondary, more than 15 percent of these teachers have an HTC Primary and a TC. However, 49 percent of pre-primary school teachers do not have any formal training, and almost four in ten primary teachers have not been formally trained. In junior secondary and senior secondary, 30 percent and 26 percent of teachers, respectively, have not received any formal training. Across grades, untrained teachers tend to be young (younger than 25 years old), which is an indication that the teaching profession is being used to transition to other jobs, the result of the expansion of the school system in recent years, or a combination of both.

Table 9 | Professional Training of Teachers by Education Level and Age

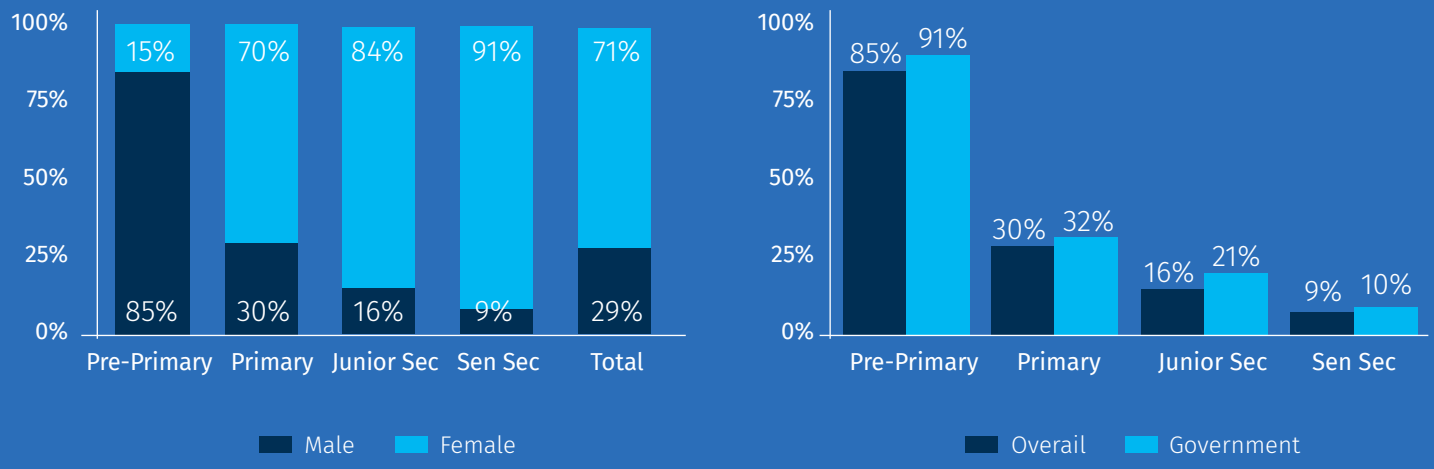
School Level	Age	B.Ed (+)	HTC(S)	HTC(P)	TC	Untrained
Pre-Primary	<25	0.3%	1.2%	2.2%	17.6%	78.7%
	25-34	1.5%	2.5%	5.4%	36.3%	54.2%
	35-44	1.2%	2.7%	10.8%	46.8%	38.5%
	45-55	2.7%	3.4%	16.3%	45.4%	32.2%
	>55	2.9%	4.0%	20.2%	50.7%	22.2%
Pre-Primary Average		**1.5%**	**2.6%**	**8.8%**	**38.0%**	**49.2%**
Primary	<25	0.6%	1.1%	1.6%	18.1%	78.6%
	25-34	1.2%	3.3%	5.0%	40.7%	49.9%
	35-44	1.9%	3.2%	13.2%	54.8%	27.0%
	45-55	1.6%	2.6%	18.6%	53.5%	23.7%
	>55	2.4%	2.7%	22.0%	54.0%	18.8%
Primary Average		**1.5%**	**2.8%**	**11.1%**	**45.6%**	**39.1%**
Junior Secondary	<25	2.9%	18.1%	1.4%	8.6%	69.0%
	25-34	9.9%	42.7%	3.7%	10.0%	33.7%
	35-44	20.5%	44.9%	5.8%	11.2%	17.7%
	45-55	28.2%	36.1%	9.5%	11.5%	14.7%
	>55	39.9%	23.7%	12.5%	11.8%	12.2%
Junior Secondary Average		**15.6%**	**38.8%**	**5.2%**	**10.4%**	**30.1%**
Senior Secondary	<25	13.6%	19.5%	0.8%	4.5%	61.6%
	25-34	32.5%	31.4%	1.3%	2.4%	32.5%
	35-44	52.0%	26.6%	1.5%	2.1%	17.8%
	45-55	60.6%	22.6%	2.9%	2.4%	11.5%
	>55	59.3%	18.4%	5.1%	2.7%	14.4%
Senior Secondary Average		**41.9%**	**27.6%**	**1.8%**	**2.4%**	**26.3%**
Total		**9.5%**	**14.0%**	**8.4%**	**31.8%**	**36.3%**

Source: ASC 2018.

Box 4
Who are the teachers in Sierra Leone?

Globally, women tend to dominate the teaching profession, but this is not the case in SSA. For instance, while 64 percent of teachers worldwide were women in 2014, the share of female teachers in SSA was less than 50 percent in primary and less than 30 percent in secondary education (Bashir et al. 2017, pg. 235). The gender composition of teachers is even more extreme in Sierra Leone, with women only representing 29 percent of teachers in the entire basic and senior secondary education cycle. Also, the share of female teachers shrinks as the level of education increases: 85 percent of teachers in pre-primary are women, while women only represent 30 percent, 16 percent, and 9 percent of all teachers in primary, junior secondary, and senior secondary education, respectively (first panel of Figure 11). This pattern holds when considering teachers' age and responsibilities. For example, the results of the 2018 ASC reveal that the share of female teachers in positions of authority (head teachers, principals, vice principals, etc.) remains regardless of the level of education. Nevertheless, the share female teachers is higher in government than private and community schools (second panel of Figure 11).

Figure 8 **Distribution of Teachers by Gender and Education Level**



Source: ASC 2018.

The potential reasons behind the predominant number of male teachers in Sierra Leone are many. According to a TSC report, there was a gender balance in the teacher force before the increase in teacher recruitment in 2004/5 and 2010/11. However, in a climate of high unemployment, teaching became an alternative for male breadwinners in communities, creating the current

gender imbalance. TTCs offer an alternative story, arguing that the teaching force has always been dominated by men because of social norms that pressure men to pursue professions with stable salaries at a higher rate than women.

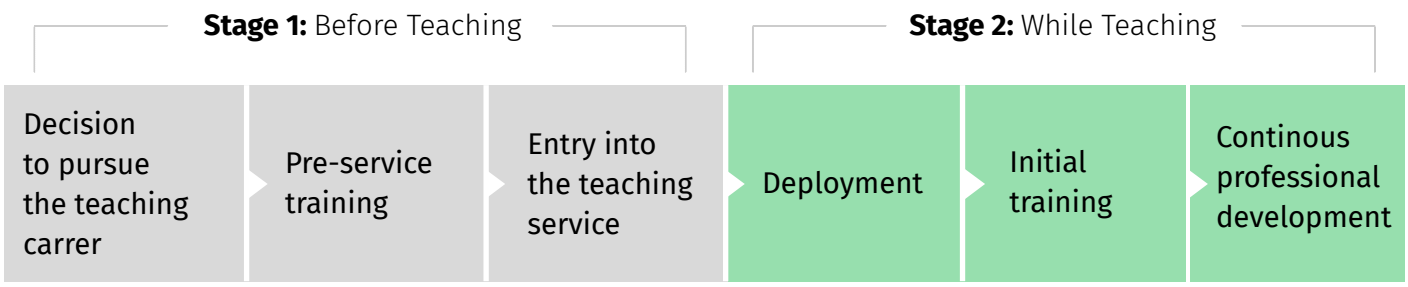
The restricted supply of secondary education limits the number of female graduates, reinforcing the gender imbalance. There are only slightly more than 1,500 junior secondary schools to absorb graduates from 7,002 primary schools. Moreover, most secondary institutions are day schools, with considerable distances between them (e.g., some chiefdoms do not have secondary schools). This means that students have to find their own accommodation if they want to attend school. Some report that girls have a harder time finding and maintaining accommodation than boys, as parents do not want to send their daughters far away since they are more vulnerable to abuse and pregnancy.

Although not necessarily negative, having a mostly male teacher cadre could be associated with the lower enrollment of girls in secondary schools. The reason for this is could be that there would not be enough role models for girls, and many may feel more at risk when attending an all-male teacher school during their teenage years. Other factors that may contribute to the low enrollment of girls in school are child marriage, teenage pregnancy, and gender-based violence in school.

3.2 Stage 2: Experience While Teaching

The career of practicing teachers in Sierra Leone consists of three major stages. After finding a job, teachers are usually first deployed to a specific school before they receive their initial training, which is later complemented by CPD (Figure 9). However, teachers are restricted by the resources and opportunities available at their respective schools.

Figure 9 | **Stages of the Teaching Career – While Teaching**



Teacher Deployment

Effective teaching requires reasonably sized classes. Evidence shows an association between classes that have more than fifty students per teacher and lower reading scores in several countries in SSA (Bashir et al. 2018). Although class size is not the only condition to improve learning, classes with more than fifty students makes it virtually impossible to learn in early grades. To improve learning outcomes, Sierra Leone must avoid overcrowding schools, which will require effective teacher deployment both across and within schools.

At the national level, Sierra Leone does not have high PTRs. With over 87,000 teachers, the PTR ranges from one teacher for every twelve pupils in pre-primary schools to one teacher for every twenty-seven pupils in primary education (Table 10). Regardless of the approval status of schools, the average PTR seems acceptable, as the average PTR in OECD countries is 1 teacher for every fifteen students, ranging from one teacher for every nine students in Greece and Luxembourg to one teacher per every 26 students in Mexico.

Table 10 | Teachers and PTRs by School and Approval Status

	Approved schools	Not Approved Schools	Grand Total
Teachers			
Pre-Primary	2,509	4,770	7,279
Primary	30,139	19,711	49,850
Junior Secondary	12,384	7,945	20,329
Senior Secondary	5,928	4,239	10,167
PTR			
Pre-Primary	13	13	12
Primary	29	25	27
Junior Secondary	18	11	16
Senior Secondary	25	14	20

Source: 2018 ASC.

While the pupil-to-qualified-teacher ratio (PQTR), which only considers qualified[18] teachers, is significantly higher than the PTR, it is still within international standards. The PQTR is 25 in pre-primary, 45 in primary, 22 in junior secondary, and 28 in senior secondary education (Table 11). The ratios also vary between approved and non-approved schools: the PQTR is higher in non-approved pre-primary and primary schools and in approved secondary schools. By comparison, the PTQR is 65 for Malawi (2019)[19], 54 for Tanzania (2009),[20] and 121 in Mozambique (2004).[21]

18. Defined as teachers who have a TC, HTC for primary, HTC for secondary, bachelor of education, or postgraduate training in education.
19. https://www.globalpartnership.org/sites/default/files/document/file/2020-04-gpe-country-level-prospective-evaluation-year-2-malawi.pdf
20. https://dakar.iiep.unesco.org/sites/default/files/fields/publication_files/chapter7.pdf
21. https://people.umass.edu/educ870/teacher_education/Documents/Tchrs%20for%20Rural%20Schools%20-%20Africa.%20Mulkeen%20WB.pdf

Table 11 | Number of Teachers and PQTRs by Education Level and Approval Status

	Approved schools	Not Approved Schools	Grand Total
Teachers			
Pre-Primary	1,553	2,147	3,700
Primary	21,076	9,290	30,366
Junior Secondary	9,504	4,715	14,219
Senior Secondary	4,562	2,932	7,494
PQTR			
Pre-Primary	20	28	25
Primary	41	52	45
Junior Secondary	23	20	22
Senior Secondary	33	19	28

Source: 2018 ASC.

However, average national PTRs mask important variations between districts. For example, primary schools in Western Area Urban has an average of twenty students per teacher, while Karene has an average of thirty-six students per teacher in its primary schools (Table 12). Differences are greater between districts when only considering government-approved schools, and they are even greater when only considering government-paid teachers in government-approved schools.

>> While there are thirty-eight students per government-employed teacher in Western Area Urban, there are more than seventy students per teacher in Kambia, Kono, and Karene.

As a result, non-approved schools have smaller class sizes than approved schools, and there are a significant number of non-approved teachers working in government-approved schools. To improve educational outcomes, the Standards Commission recommends forty students per qualified teacher.

Table 12 | Pupil-to-Teacher Ratios in Primary Schools by District

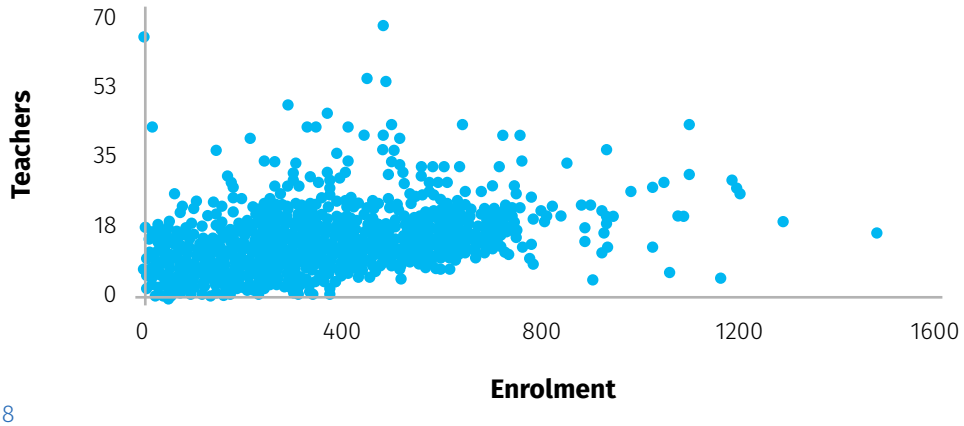
	Average	In government approved schools	Upper-secondary school
Bombali	25	27	44
Western Area Rural	22	24	46
Tonkolili	27	29	50
National	27	29	52
Bo	28	30	53
Koinadugu	30	30	54
Kenema	28	28	55
Bonthe	29	31	55
Moyamba	31	31	55
Falaba	27	27	59
Pujehun	32	34	60
Port Loko	32	34	61
Kailahun	29	30	62
Kambia	34	35	72
Kono	32	35	74
Karene	36	38	78

Source: 2018 ASC.

The average PTRs also mask variations within education levels. For instance, if we organize all schools that have a solid classrooms[22] by deciles according to the number of students per classroom, we find that while schools in the first decile in pre-primary have 7 learners per classroom, schools in the highest decile have 56 learners. The disparity is higher in primary but highest in senior secondary where teachers in schools in the first decile attend to an average of nine students in a class while teachers in schools in the highest decile must bear 88 students. Even though evidence shows that small class sizes are vital for small children to learn, 60 percent of pre-primary schools have class sizes greater than 20 students.[23] In primary education, 60 percent of schools have class sizes larger the nationally prescribed 40 students.

While the PTR and PQTR are relatively low in Sierra Leone, many of the country's teachers are not allocated according to enrollment. An analysis of teacher allocations in twenty-five SSA countries between 2000 and 2008 reveals that, on average, 28 percent of the variation in teacher allocation in the region cannot be attributed to variation in enrollment.[24] In Sierra Leone, 63 percent of the variation in the allocation of teachers cannot be explained by variation in enrollment,[25] higher than in any other country in SSA, with the exception of Benin and Zambia (average of about 85 percent). For example, small primary schools can have the same number of teachers as large schools, and vice versa (Figure 10). Having a large share of the variation in teacher allocation not related to the variation in enrollment is an indication of an inefficient allocation of resources, as teachers are not being distributed to schools most in need. This suboptimal utilization of teachers can affect the quality of education and result in a waste of resources (e.g., the workload for teachers in schools with the lowest PQTR will likely be low) (Box 5).

Figure 10 | **Distribution of Teachers and Students in Approved Primary Schools**



Source: ASC 2018

Note: R2 represents the relationship between the number of approved teachers per school and the number of students.

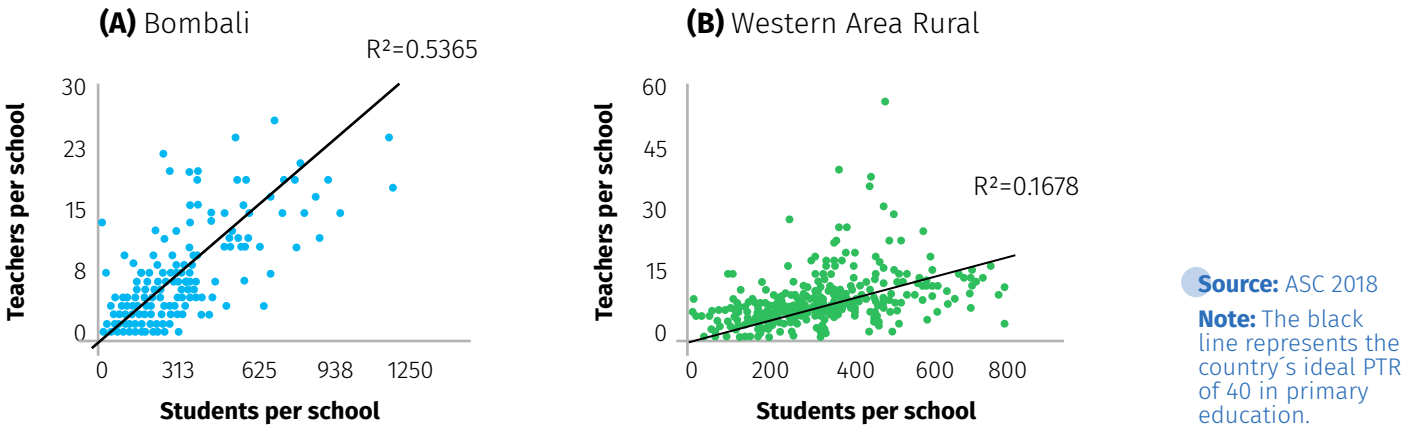
22. Sierra Leone has three types of classrooms: i) solid classrooms, which have access to black walls that teachers can use to demonstrate concepts or write notes during lessons; ii) non-solid classrooms, which may have walls and roofs made of iron sheets; and iii) makeshift classrooms, which are made of reeds and twigs. While temporary classrooms provide teachers and learners with shelter, they often lack the necessary teaching equipment such as chalk boards.
23. Chonkoff, J & Philips, D (2000). From Neurons to Neighborhoods: The Science of Early Childhood Development. Washington, DC: National Academy Press; Finn, D (2002). School Size reduction in in K-3. In Molnar (Ed.), School reforms Proposal: The Research Evidence.
24. Majgaard and Mingat 2012.
25. The variation in teacher allocation that cannot be explained by variation in enrollment is calculated as 1 minus the R2.

The misallocation of teachers is more pronounced in urban than rural areas, especially in the capital city. This is common in many other African countries (e.g., Kenya and Sudan). In Sierra Leone, 83 percent of the allocation of teachers in Western Area Rural, which is close to the capital of Freetown, cannot be explained by the number of students, while the same is true for only 46 percent of the allocation of teachers in Bombali, one of the districts farthest away from the capital (Figure 11).

Box 5
Teacher Approval and Deployment Process

Teacher deployment in Sierra Leone is determined based on school approval. This means that approved schools can immediately become eligible to receive government-paid teachers. Since there is no systematic approach to approving schools, the TSC does not know how many schools will be approved within a given period and cannot prepare for the corresponding teacher approval process. Teachers send their applications to the TSC to join schools that have been granted recognition by the ministry. In fact, the TSC has a list of 16,000 qualified teachers already working in approved-schools but who are not on the government payroll. The TSC usually adds qualified teachers to the government payroll on a school-by-school basis until a school's quota is reached. This has resulted in some schools having the ideal PTR ratio while others have no teachers. The TSC could achieve a better PTR by hiring the same number of teachers in all approved schools. However, since some teachers meet the minimum qualifications and have volunteered in schools for a considerable period of time, it has been difficult for the TSC to provide concrete reasons why one teacher in the school cannot be added to the government payroll while another in the same school can. The misallocation of teachers generates important efficiency losses, as many teachers may have a very light workload while others may be very busy.

Figure 11 | Distribution of Teachers and Students in Approved Primary Schools



Source: ASC 2018

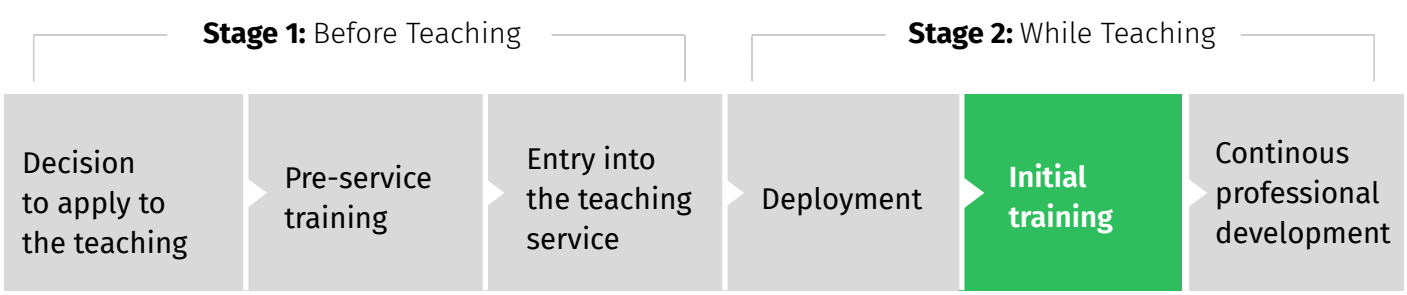
Note: The black line represents the country´s ideal PTR of 40 in primary education.

The World Bank is working with the TSC to improve the allocation of teachers through the adoption of a systematic teacher deployment protocol that assigns teachers to the schools with the greatest needs. The protocol has two phases. In the first phase, the number of teachers allocated per education level is defined according to the distribution of the student population (i.e., enrollment) in non-private schools in each grade. Given that the distribution of the student population is a proxy for the demand of educational services, using enrollment to allocate teachers increases the likelihood that new teachers are placed in schools with the greatest needs. The focus is on non-private schools because they are potentially eligible for government support, and teachers newly hired by the government will be deployed to recently approved schools. The second phase of the deployment protocol focuses on determining the number of teachers allocated per school within each education level. The procedure aims to equalize the PTR both between and within districts, which means that the TSC hires teachers to match the national PTR with a district quota.

The assignment of new teachers should ideally consider the gap between the current and recommended PTR for each grade level. However, since the country does not yet have an ideal PTR per level (there is only a norm of a PTR of 40 for primary schools), the proposed methodology can be used to guide teacher allocation while the TSC and the Ministry of Education determine the ideal ratio for each grade level. Furthermore, in junior and senior secondary education, there is a need for more robust deployment norms based on teachers' workload, the subjects offered and the number of students in each school. However, class periods do not have a standard length in Sierra Leone, as some periods can last 20 minutes while others up to an hour. In this context, allocating teachers based on a school's workload can be difficult. The ongoing process to establish standards in the education sector should address this challenge to ensure an efficient and practical allocation of teachers in secondary schools.[26]

Initial Training

Figure 12 | **Stages of the Teaching Career - Initial Training**



26. Refer to Annex 1 for more details on the Teacher Deployment Protocol.

Although Sierra Leone does not have a national induction program for new teachers, it plans to develop a national framework for induction and orientation. Currently, individual schools organize their own induction programs with varying quality. In the government's Education Sector Plan 2018-2020, the TSC recognizes that incoming teachers need mentoring support to develop their skills and teaching practices. To ensure teachers have the necessary skills, the Plan instructs the TSC to work with educational institutions to develop a national framework for induction and orientation of new teachers.[27]

The TSC has already decided that teachers should receive induction training during the probation period (during the first year after being hired). Teachers will receive their first training immediately after graduation from a teacher education institution, before receiving a second induction training within the initial six-month period of employment. This initial training is an important first step in ensuring all teachers receive some guidance before they start teaching, as well as in preparing them for CPD.

In-Service Training

Sierra Leone's in-service training is mostly ad-hoc and not linked to teachers' career progression. Multiple providers offer their own training programs, with little coordination between them and limited impact on teachers' career development and classroom practices. According to Wright (2018), the government encourages teachers to take paid leave and apply for scholarships to pursue formal qualifications or studies not available in the country. Additionally, Sierra Leone Teachers Union collaborates with the Canadian Teachers' Federation to organize annual in-service training courses.

Nevertheless, the TSC is moving toward establishing more coherent professional development programs and linking them to teachers' career progression. It plans to have teachers develop their own professional development plans and facilitate and support appropriate mentorship opportunities. According to the TSC, teacher training should be viewed as a continuous process throughout the teaching career that is linked to reward structures and advancement. For example, the TSC defines a vertical career path for teachers with management and leadership potential who aspire to leadership positions (e.g., principal), as well as a horizontal path for gifted teachers to advance in their careers as teachers while mentoring incoming teachers. Advancement under the new professional career structure is determined not only by the years spent at each career stage but also on the amount of professional development credits a teacher has accumulated. The new structure consists of four career stages:

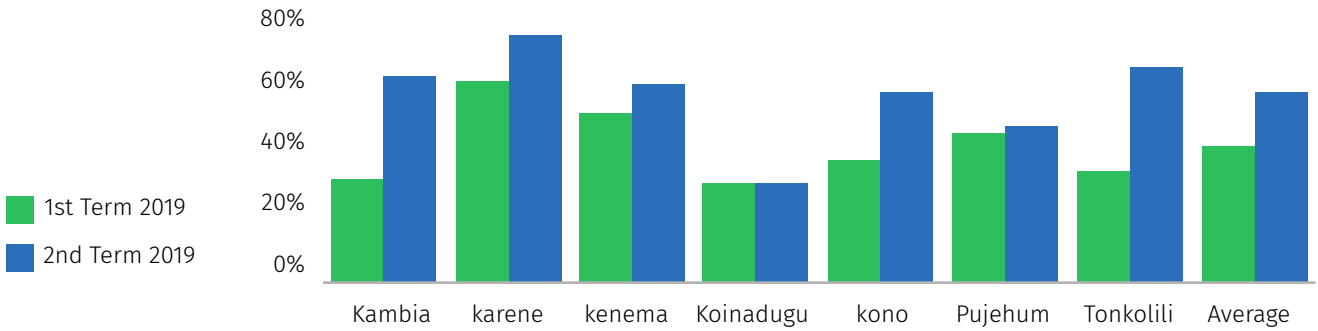
1. **New teacher** with 3-4 years of teacher education
2. **Proficient teacher** with 5 years of teaching experience and 50 credits of professional development
3. **Highly accomplished teacher** with 5 years as a proficient teacher and 50 credits of professional development
4. **Distinguished teacher** with 5 years as a highly accomplished teacher and 50 credits of professional development

27. Education Sector Plan, 2018-2020, pg 75.

The TSC's professional development programs would address the needs and limitations of existing teachers to improve their teaching practices. The World Bank is working with the TSC to design a CPD model to improve the knowledge, skills, and pedagogical practices of teachers in core subjects.[28] The proposed CPD model is scalable, continuous, and focuses on primary school (grades 1-6). It plans to strengthen teachers' pedagogical skills in mathematics, English, and science.[29] Easy-to-understand task- and problem-oriented modules will be made available to all teachers in a standard and low-cost format. Additionally, timely and continuous support to teachers will be provided through a cluster-based communities of practice model, potentially involving JSSs at the district level. The intervention will first be subject to a feasibility study and a pilot, and it will then target all government, community, and mission-managed institutions involved in the full basic education cycle.[30]

The practice of having principals observe teachers in their classrooms is not widespread in Sierra Leone. The feedback provided by heads of school constitutes a vital component of the CPD model. However, in six out of every ten schools in the country covered by performance-based financing, principals do not carry out classroom observations. Even when they do, they lack the proper training to provide evidence-based feedback to teachers.[31] The number of principals who actively observe their schools' classrooms varies widely between regions: from only one in three in Koinadugu to three in four in Karene (Figure 13). Nevertheless, there was an increase the number of heads of school who observed teachers in their classrooms between December 2018 and March 2019.[32]

Figure 13 | **The Share of Teachers Observed by Principals by Region, 2019**



Source: ASC 2018.

28. Annex 2 includes further details.
29. Learning gaps will be identified through an analysis of the WAEC exam.
30. It will target 30,600 teachers and 4,370 schools, representing around two-thirds of all primary institutions.
31. Documentation on principals observing classes and providing feedback was checked during random school visits.
32. The first set of term data was collected in December 2018, while the second set was collected in March 2019.

Box 6
Working Conditions: Staffrooms

The quality and capacity of a school will determine the impact teachers can have on student learning. For example, Kigenyi et al. (2017) find that the school environment, including staffrooms, explains up to one-third of the disparity in teacher performance in Uganda. Research shows that teacher facilities like staffrooms are important for teachers to receive social, cultural, and emotional support from their peers (Hunter et al. 2011).

A significant number of teachers in Sierra Leone do not have access to staffrooms. This can make lesson preparation more difficult and reduce the ability of teachers to support their peers. Fewer than one in three primary schools have a staffroom, and fewer than two in three junior secondary schools and fewer than four in five senior secondary schools have staffrooms. Moreover, many existing staffrooms are not in usable condition, as less than 20 percent of primary schools have usable staffrooms. While staffrooms exist in 67 percent of junior secondary schools, only about half of them are usable.

Table 13 | Working Conditions: Staffrooms

Level of School	School has a staffroom			Total	% with Staffrooms	% with usable staffrooms
	Usable	Not Usable	No room			
Primary	1,989	1,358	4,972	6,961	28.6%	19.5%
Junior Secondary	1,031	846	493	1,524	67.7%	55.5%
Senior Secondary	459	411	119	578	79.4%	71.1%
Total	3,479	2,615	5,584	9,063	38.2%	28,7%

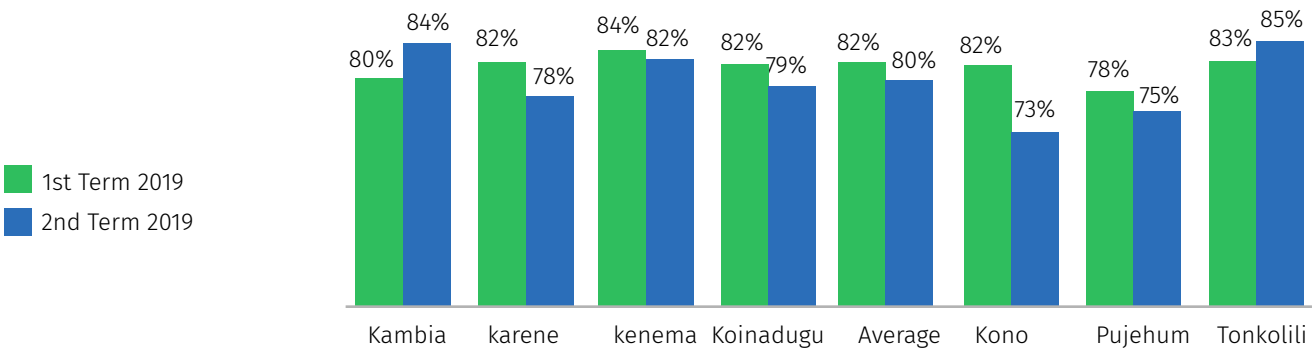
Source: ASC 2018.
Note: Fifty schools are missing

4 Teaching Practices

There has been no systematic observation of classrooms in Sierra Leone to better understand teaching practices and learning conditions. To evaluate the conditions in the country's classrooms, this study uses the following sources: (i) observations gathered during unannounced visits made to more than 1,800 schools twice in 2019 under the Revitalization Education Development in Sierra Leone (REDiSL) project's results-based financing (RBF) program; (ii) baseline information collected by Sharwal et al. (2014) from unannounced classroom visits to 828 schools in 2008;[33] (iii) classroom observations made by Allen et al. (2018) from 40 classroom lessons in 7 rural schools; (iv) classroom observations made by Hersbach et al. (2014) from 43 classrooms at end-2011; (v) classroom observations made by Mbayo (2011) from 7 schools; and (vi) classroom observations collected by Pedersen (2013) from 12 primary schools in the Tonkolili district between 2009 and 2012.

Information from available sources shows that teacher absenteeism is high. In the most recent unannounced school visits under the RBF program (March 2019), 20 percent of teachers in beneficiary schools were absent (Figure 14). While this rate is high, it represents a fall in absenteeism of 2 percentage points from the previous school term, and it is slightly lower than what was observed by Sharwal et al. (2014) in 2008, who found that 23 percent of teachers were absent. Teacher absenteeism is also high in hard-to-reach rural schools, which may be due to difficult teaching conditions and the low or non-existent pay received by volunteer teachers (Allen et al. 2018).

Figure 14 | **Average Teacher Attendance**



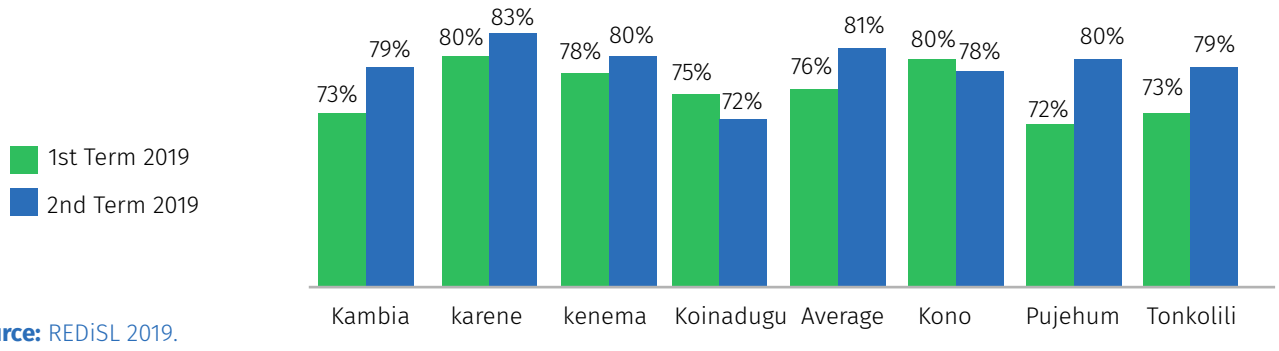
Source: REDiSL 2019.

33. The paper contains an impact evaluation for a program focused on the distribution and use of textbooks. It included baseline information on teacher practices in grades 4 and 5 collected through unannounced visits to a randomized sample of 828 schools.

Even when teachers are in school, a significant share of them are not teaching. Data from schools visits collected under the REDiSL project show that out of the 80 percent of teachers who are present, 19 percent are not in class teaching, which means that only 65 percent of employed teachers are engaged in teaching. In the second term of 2019, the share of teachers who were teaching varied from 72.0 percent in Koinadugu to 83.4 percent in Karene (Figure 15). This represents an improvement from the findings of Sharwal et al. (2014), who observed that only 54 percent of teachers were actively teaching in 2008. The rate of teachers not teaching was higher in rural areas such as Pujehun, where only half of the teachers were teaching.

>> (...)only 65 percent of employed teachers are engaged in teaching.

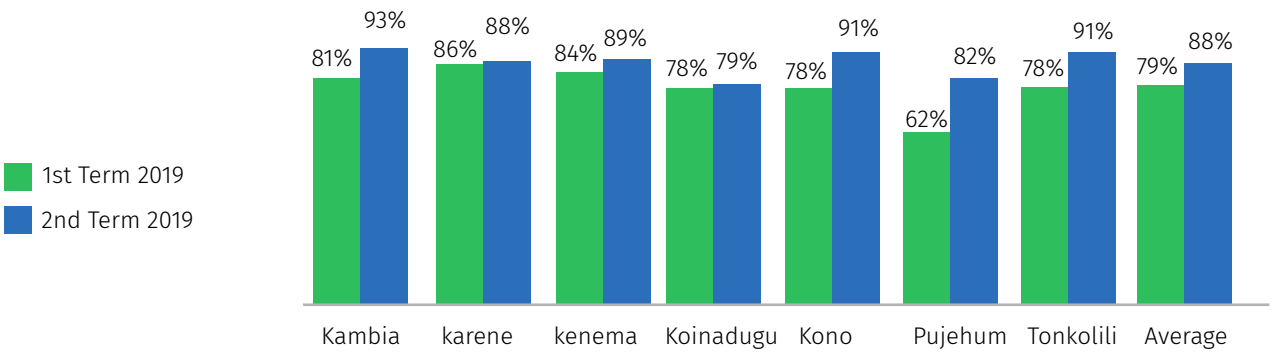
Figure 15 | **Share of Teachers who Teach**



Source: REDiSL 2019.

Teachers in Sierra Leone seem to assess their students on a regular basis. About 90 percent of teachers under the RBF program assess their students regularly. While random school visits do not assess the quality of assessments or student performance, efforts to measure and assess student progress are essential to evaluate and improve the performance of teachers. Sharwal et al. (2014) find that 93 percent of the country's teachers assigned homework from textbooks in 2008. Since there are not enough textbooks, teachers appear to copy the questions on the blackboard and ask students to copy and answer them at home as part of their homework.

Figure 16 | **Share of Students Assessed Regularly**



Source: REDiSL 2019.

Lessons, however, tend to be highly structured and teacher-centered, consisting mainly of lectures, recitation, repetition, and copying textbooks. In their classroom observations, Allen et al. (2018) find that schools in rural areas are routinized, systematic, and orderly; teacher-centered methodologies are widespread, and classes almost never involve children reading books or writing. Reading lessons "occurred mostly through choral reading of texts that they [teachers] wrote onto the chalkboard" (pg. 200). Herbach et al. (2014) report similar findings, as they find that most teachers use whole class instruction (which involves all students participating in the same activity), with teachers dedicating more than half of the lesson time to instruction. While giving instruction, teachers mostly write on the blackboard (45 percent of the time), give oral instructions and ask questions (24 percent), or instruct students to write on the blackboard (22 percent). Mbayo's (2011) findings also show that lectures are the main method of teaching, and a large portion of class time (around one-third) is spent copying passages on the blackboard. Finally, Pedersen (2013) finds that classrooms in Sierra Leone are characterized by teacher monologues, rote learning, and repetition.

Teachers also seem to only rarely use lesson plans. Allen et al. (2018) find that that, "many of the teachers wrote on the top of the chalkboard, a lesson scheme that identified the topic of study and the objectives for the day. Lesson planning beyond the lesson scheme seemed to be a novel concept" (pg. 200). Consistent with this, Mbayo (2011) mentions that during all his visits, teachers were unable to show him lesson notes or lesson plans. However, close to half of all teachers (52 percent) observed by Sharwal et al. (2014) had a lesson plan.

Although teachers ask their students questions, they seldom incentivize critical thinking. Mbayo (2011) documents teachers asking simple recall and closed-ended questions. He also mentions that students never asked questions and had little opportunity for critical thinking. Similarly, Allen et al. (2018) mention that although teachers integrated many questions into their lessons, almost all questions required exact repetition of information, with no need for logic or inference. Finally, Herbach et al. (2014) observe that for reading, teachers focused on pronunciation, learning new words, and memorization, with no apparent use of reading strategies (i.e., summarizing and identifying the main ideas).

There seem to be opportunities to improve the classroom environment. A school and classroom culture conducive to learning involves a supportive learning environment where students are treated with respect, where positive language is used, and where harmful gender and other stereotypes are not followed. In a positive classroom environment, teachers clearly define expectations (e.g., listen when its someone else's turn to speak; be on time; give your best effort; be kind to others; and keep the classroom clean), recognize positive behavior, and modify inappropriate behavior through feedback. Research has found that establishing positive behavioral expectations helps students reach their academic potential and foster positive behavior, social skills, and self-control (Jones et al, 2013; OECD, 2009). In Sierra Leone, however, Allen et al (2018) fond that "discipline often consisted of harsh words, criticism, and sometimes physical punishment with a long pole" (pg. 203). According to the Center for Disease Control in the United States, exposure to school violence can result in multiple negative health outcomes, including depression, anxiety, fear, alcohol, and drug use.[34]

34. https://www.cdc.gov/violenceprevention/pdf/school_violence_fact_sheet-a.pdf

Box 7
Basic Inputs: Students Desks

It is important to understand the physical conditions under which teachers work. One proxy of school conditions is the number of desks per student in the classroom. While inputs such as desks per student are not directly for teachers' use, the lack of appropriate seating for students may limit a teacher's ability to adequately teach.

In Sierra Leone, students have to share desks at a higher rate than they should. Desks in the country's schools are built to accommodate at most two learners. However, a desk is shared, on average, between four students in pre-primary, five students in primary, and three students in junior and senior secondary education (Table 14). In some schools (those in the 90th percentile in pre-primary and primary schools), the desk-to-student ratio is 9, leaving few seats available for learners.

Table 14 | Desk-to-Student Ratio

Level of School	Mean	Schools in the 10th percentile	Schools in the 90th percentile	Std. Dev
Primary	4	1	9	7.2
Junior Secondary	5	1	9	12.4
Senior Secondary	3	1	4	26.8
Total	3	1	4	11.6

Source: ASC 2018.

5 Planning for Teacher Needs

To accurately plan the deployment of teachers, the authorities need access to accurate data on the number of current students and on expected future enrollment. This is particularly important for the TSC, which is responsible for ensuring that there are enough teachers to provide quality education under the FQSE flagship program. This section will, therefore, analyze the projected demand for.

Estimating the Size of the Future Student Population

School-Aged Population

There are currently 3,039,000 school-aged children (pre-primary to senior secondary) in Sierra Leone (Table 15). This number is projected to increase at an annual rate of 1.05 percent,[35] reaching 3,443,000 children by 2030. In September 2018, the government reformed the basic and senior secondary education system. For example, it changed the definition of school-aged children from children aged 3-18 to children aged 3-17, and it reduced the length of senior secondary schooling by one year.

35. United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision.

Table 15 | Projected Basic and Senior Secondary School Age Population

Age	2018	2020	2022	2024	2026	2028	2030
3	227,091	231,560	237,303	239,639	243,588	246,783	248,997
4	224,497	227,601	232,902	237,376	240,280	243,666	246,081
5	221,822	224,114	228,937	233,583	237,040	240,613	243,243
6	219,025	220,993	225,343	230,001	233,864	237,614	240,469
7	216,063	218,131	222,015	226,607	230,747	234,659	237,744
8	212,992	215,420	218,849	223,374	227,671	231,745	235,054
9	209,869	212,754	215,971	220,201	224,622	228,869	232,382
10	206,153	210,191	213,393	216,985	221,604	225,981	229,729
11	201,601	207,791	210,933	214,088	218,533	223,054	227,093
12	196,470	204,615	208,467	211,639	215,310	220,101	224,392
13	191,277	200,223	206,103	209,382	212,390	217,078	221,585
14	185,944	195,008	202,905	207,010	209,951	213,892	218,697
15	180,612	189,830	198,420	204,680	207,714	210,944	215,721
16	175,413	184,555	193,065	201,455	205,305	208,394	212,569
17	170,293	179,218	187,742	196,871	202,901	205,994	209,591
Total	3,039,122	3,122,004	3,202,348	3,272,891	3,331,520	3,389,387	3,443,347

Source: United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision, DVD Edition.

To calculate the proportion of children who are likely to attend school, this study estimates the projected rate of out-of-school children and calculates possible enrollment scenarios. Given that there is an important share of out-of-school children in Sierra Leone, the proportion of the projected population that is likely to attend school is calculated from current participation rates and trends, including enrollment trends, access rates, internal efficiency, etc. Moreover, given that the FQSE program will likely result in increased enrollment rates in primary education, three possible enrollment scenarios are calculated:

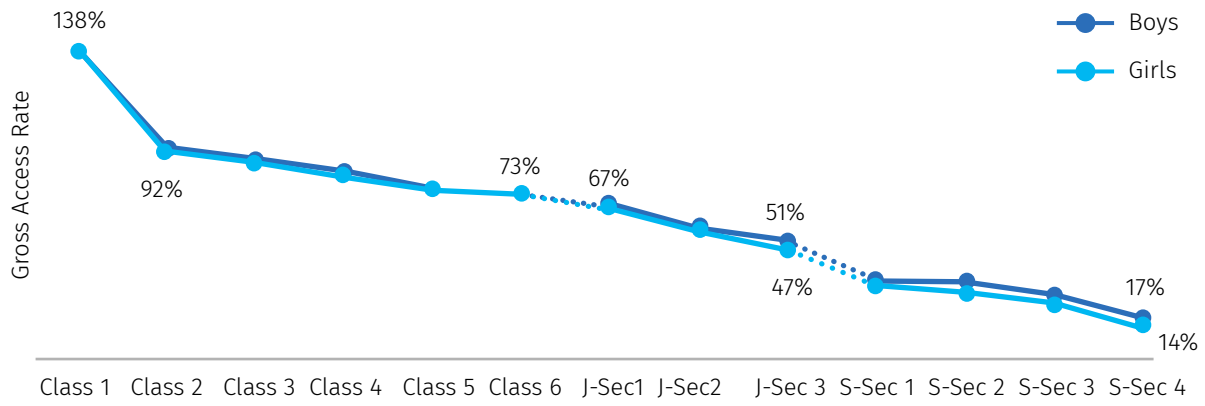
Scenario A, which assumes that there will be no changes in enrollment, retention or transition

Scenario B, which assumes that there will be considerable improvements, but not universalization, in enrollment rates. It considers the government's efforts to mainstream pre-primary education into basic education and the FQSE program through slightly higher transition and retention rates

Scenario C, which assumes universalization. While this scenario is aligned with the government's implementation of the FQSE program, it may be fiscally and operationally unfeasible

A model of future enrollment must consider the country's retention profile. Sierra Leone's gross access rate in first grade (class 1) is 138 percent, which implies that there are underage and overage children enrolled in school. This could be the result of low access to pre-primary services, a high number of children repeating the first grade, and/or parents enrolling overage children in school. The gross access rate will likely change as pre-primary enrollment increases due to the government's efforts to mainstream pre-primary into basic education, train pre-primary instructors, and review the pre-service training of pre-primary teachers.[36] Moreover, the high dropout rate is partly due to end-of-cycle examinations.

Figure 17 | **Retention Profile in Basic and Senior Secondary Schools by Gender**



Source: ASC 2018

36. Education Sector Plan 2018-2020

Table 16 | **Projected Progression Parameters for Basic and Senior Secondary Education District**

Indicators	Scenario A			Scenario B			Scenario C		
	2018	2021	2023	2018	2021	2023	2018	2021	2023
Pre-Primary GER	13.5%	13.5%	13.5%	13.5%	14.4%	15.0%	13.5%	23.4%	30.0%
Access to Primary 1	138.5%	138.5%	138.5%	138.5%	133.4%	130.0%	138.5%	127.4%	120.0%
Primary Retention									
Between C1-C2	94.9%	94.9%	94.9%	94.9%	95.9%	97.0%	94.9%	96.4%	98.0%
Between C2-C3	94.9%	94.9%	94.9%	94.9%	96.2%	97.0%	94.9%	96.8%	98.0%
Between C3-C4	93.2%	93.2%	93.2%	93.2%	93.7%	94.0%	93.2%	94.3%	95.0%
Between C4-C5	92.2%	92.2%	92.2%	92.2%	92.7%	93.0%	92.2%	93.9%	95.0%
Between C5-C6	97.0%	97.0%	97.0%	97.0%	97.6%	98.0%	97.0%	98.2%	99.0%
Transition									
C6 to JSS1	91.3%	91.3%	91.3%	91.3%	92.3%	93.0%	91.3%	95.0%	95.0%
JSS3 to SSS1	67.3%	67.3%	67.3%	67.3%	68.9%	70.0%	67.3%	71.9%	75.0%
Secondary Retention									
JSS1-JSS2	84.9%	84.9%	84.9%	84.9%	86.1%	87.0%	84.9%	87.9%	90.0%
JSS2-JSS3	86.5%	86.5%	86.5%	86.5%	87.4%	88.0%	86.5%	88.6%	90.0%
SS1-SS2	92.8%	92.8%	92.8%	92.8%	93.5%	94.0%	92.8%	94.1%	95.0%
SS2-SS3	82.5%	82.5%	82.5%	82.5%	84.6%	86.0%	82.5%	87.0%	90.0%

Source: Authors' calculations using data from the ASC 2018.
Note: GER=gross enrollment ratio.

Projected Enrolment in Basic and Senior Secondary Education

Based on the projected population, the student population will increase by an estimated factor of around 1.4 by 2023 under all scenarios. Between 2018 and 2023, the growth in enrollment is expected to be the highest in junior secondary education, which is estimated to increase between 42 percent (scenario A) and 58 percent (scenario C), followed by primary education, which is projected to increase between 32 percent (scenario A) and 43 percent (scenario B) (Table 17). While the increase in pre-primary enrollment is modest under scenarios A and B in the same period, it is expected to more than double under scenario C.

Table 17 | **Projected Learners in Basic and Senior Secondary Education**

Indicators	Scenario A			Scenario B			Scenario C		
	2018	2021	2023	2018	2021	2023	2018	2021	2023
Pre Primary	90,701	93,077	95,178	90,701	99,425	105,997	90,701	161,620	211,994
Primary	1,369,738	1,774,522	1,956,482	1,369,738	1,730,313	1,872,698	1,369,738	1,706,650	1,814,015
Junior Secondary	315,500	376,503	446,755	315,500	384,672	468,636	315,500	395,302	498,136
Senior Secondary	206,536	193,475	203,796	206,536	208,222	233,629	206,536	219,046	261,946

Source: Authors' calculations using the ASC 2018 and UNDESA Population Projections.

The feasibility of successfully increasing the school enrollment rate will depend on a myriad of factors. These include the country's fiscal capacity, the availability of classrooms and associated facilities, and the availability of school inputs. Therefore, it is critical that while the TSC focuses on teacher requirements and needs, a parallel process takes place at the Ministry of Education to identify and provide infrastructure and other critical inputs.

Projected Enrolment in Government and Government-Approved Schools

Before determining the number of teachers required to sustain the public education system, the student population of public and government-approved schools needs to be calculated. Under the FQSE program, the government is responsible for the teacher payroll in both public schools and government-approved community or religious schools. Since the launch of the program in 2018, the government has begun the process of approving schools that meet the minimum standards. However, the approval process will be gradual, as the government faces operational and fiscal limitations. The share of students in government-approved schools would stay the same under scenario A, but it would increase, particularly in pre-primary schools, under scenario B. Under scenario C, the government achieves full coverage of all community and mission schools. Specifically, the number of students that the government will be responsible for under the FQSE program would grow from 1.27 million in 2018 to 1.7 million under Scenario A, 1.8 million under Scenario B, and 2.6 million under scenario C by 2023. These are the enrollment rates that the TSC has to plan for in the medium term, ensuring there is enough staff to maintain or even improve the quality of learning throughout the education system.

Table 18 | Proportion of Enrolment in Public and Government-Approved Schools

Indicators	Scenario A			Scenario B			Scenario C		
	2018	2021	2023	2018	2021	2023	2018	2021	2023
Pre Primary	34.7%	34.7%	34.7%	34.7%	43.9%	50.0%	34.7%	73.9%	100.0%
Primary	63.2%	63.2%	63.2%	63.2%	67.3%	70.0%	63.2%	85.3%	100.0%
Junior Secondary	70.2%	70.2%	70.2%	70.2%	76.1%	80.0%	70.2%	88.1%	100.0%
Senior Secondary	72.7%	72.7%	72.7%	72.7%	77.1%	80.0%	72.7%	89.1%	100.0%

Source: Authors' calculations.

Table 19 | Projected Learners in Approved Basic and Senior Secondary Schools

Indicators	Scenario A			Scenario B			Scenario C		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Pre Primary	31,511	32,336	33,066	31,511	43,644	52,999	31,511	119,432	211,994
Primary	865,726	1,121,565	1,236,570	865,726	1,164,181	1,310,888	865,726	1,455,457	1,814,015
Junior Secondary	221,612	264,461	313,807	221,612	292,722	374,909	221,612	348,248	498,136
Senior Secondary	150,156	140,660	148,164	150,156	160,499	186,903	150,156	195,128	261,946

Source: Authors' calculations using the ASC 2018 and UNDESA's population projections.

Estimating the Required Number of Teachers

An accurate estimate of the teacher requirement requires an analysis of the distribution of teachers, the difference between qualified and unqualified teachers, and the attrition rate. The projected teacher requirement follows the preliminary norms defined by the MBSSE's standards committee: a PTR of 1:25 for pre-primary and 1:40 for the remaining levels of education. However, the process to determine the number of teachers needed requires more than information on the projected student population. First, it needs to consider that public schools and government-approved schools both have government-paid teachers and teachers who are paid from other sources. Indeed, less than 56 percent of all teachers were paid by the government in 2018. Second, it also needs to consider the difference between qualified and unqualified teachers. The TSC has clearly stated that they will only add teachers who meet the minimum qualifications on the government payroll. While it is unclear what will be done with unqualified teachers who are already being paid by the government, they will most likely remain on the payroll, as efforts to remove them could entail additional political costs. Finally, the process to determine the teacher requirement needs to consider the teacher attrition rate. Using the ASC 2018, the share of 59-year-old teachers is the highest in pre-primary education at 10 percent, followed by the primary level at 8 percent and junior and senior secondary education at 5.6 percent.

With these additional considerations, the teacher requirement can be calculated based on the different scenarios. Scenario A assumes that the share of government-paid teachers is the same until 2023. Scenario B allows for the government to gradually absorb the burden of paying teachers. Between 2018 and 2023, the share of government-paid teachers is expected to increase from 24 percent to 30 percent in pre-primary; from 55 percent to 60 percent in primary; from 51 percent to 60 percent in junior secondary; and from 56 percent to 60 percent in senior secondary. Finally, Scenario C assumes that all qualified teachers are absorbed by the government.

In Sierra Leone, the authorities will need to recruit an estimated 11,400 to 29,500 additional teachers over the next five years to deliver quality education (Table 20Table 20). Scenario A is very unlikely, as it assumes that the FQSE program has no effect. Scenario B assumes an increase in enrollment, resulting in the need for around 540 additional qualified teachers in pre-primary; 11,160 additional teachers in primary; close to 2,700 additional teachers in junior secondary; and around 1,500 additional teachers in senior secondary education. Scenario C is the ideal outlook in terms of the implementation of FQSE program (assuming unlimited resources). It would require more than 5,100 new teachers in pre-primary; more than 18,000 teachers in primary; more than 4,000 teachers in junior secondary; and more than 2,200 teachers in senior secondary education. However, the country currently only has 2,700 pre-primary school teachers, and the new additional primary school teachers would be more than half of the existing labor force (close to 30,000 teachers for approved schools and close to 50,000 for all schools). Moreover, these are macro-level projections, so the authorities need to determine the specific needs of each community. The additional teachers to be recruited also need to be considered alongside the efficient re-distribution of teachers in the education system.


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Table 20 | Projected Teacher Requirement in Approved Basic and Senior Secondary Schools

Indicators	Scenario A			Scenario B			Scenario C		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Pre-Primary									
All Teachers in approved pre-primaries	2,509	2,662	2,786	2,509	3,547	4,507	2,509	8,300	16,960
Teachers paid by TSC	602	639	668	602	979	1,352	602	3,287	8,480
% of TSC paid teachers	24.0%	24.0%	24.0%	24.0%	27.6%	30.0%	24.0%	39.6%	50.0
Qualified teachers paid by TSC	569	604	632	569	946	1,325	569	3,215	8,480
% of Qualified teachers paid by TSC	94.5%	94.5%	94.5%	94.5%	96.6%	98.0%	94.5%	97.8%	100.0%
Pupil Teacher Ratio (All teachers)	13	12	12	13	12	12	13	14	13
Pupil Teacher Ratio (TSC Teachers)	52	51	49	52	45	39	52	36	25
Pupil Teacher Ratio (Qualified TSC Teachers)	55	54	52	55	46	40	55	37	25
Additional Teachers Required	0	74	78	0	227	312	0	1,482	3,709
Primary									
All Teachers in approved primaries	30,139	42,500	49,796	30,139	44,876	55,172	30,139	47,647	60,467
Teachers paid by TSC	16,497	23,263	27,256	16,497	25,981	33,103	16,497	31,873	45,350
% of TSC paid teachers	54.7%	54.7%	54.7%	54.7%	57.9%	60.0%	54.7%	66.9%	75.0%
Qualified teachers paid by TSC	14,262	20,112	23,564	14,262	22,702	29,131	14,262	30,146	45,350
% of Qualified teachers paid by TSC	86.5%	86.5%	86.5%	86.5%	87.4%	88.0%	86.5%	94.6%	100.0%
Pupil Teacher Ratio (All teachers)	29	26	25	29	26	24	29	31	30
Pupil Teacher Ratio (TSC Teachers)	52	48	45	52	45	40	52	46	40
Pupil Teacher Ratio (Qualified TSC Teachers)	61	56	52	61	51	45	61	48	40
Additional Teachers Required	0	3,791	4,037		5,055	6,106	0	7,711	10,310

Indicators	Scenario A			Scenario B			Scenario C		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Junior Secondary									
All Teachers in approved JSS	12,384	15,811	19,678	12,384	14,089	16,443	12,384	13,996	16,605
Teachers paid by TSC	6,265	7,999	9,955	6,265	7,923	9,866	6,265	9,130	12,453
% of TSC paid teachers	50.6%	50.6%	50.6%	50.6%	56.2%	60.0%	50.6%	65.2%	75.0%
Qualified teachers paid by TSC	5,583	7,128	8,871	5,583	7,341	9,373	5,583	8,733	12,453
% of Qualified teachers paid y TSC	89.1%	89.1%	89.1%	89.1%	92.6%	95.0%	89.1%	95.6%	100.0%
Pupil Teacher Ratio (All teachers)	18	17	16	18	21	23	18	25	30
Pupil Teacher Ratio (TSC Teachers)	35	33	32	35	37	38	35	38	40
Pupil Teacher Ratio (Qualified TSC Teachers)	40	37	35	40	40	40	40	40	40
Additional Teachers Required	0	1,326	1,391	0	1,304	1,388	0	1,849	2,226
Senior Secondary									
All Teachers in approved SSS	5,928	6,053	6,782	5,928	6,901	8,653	5,928	6,806	8,732
Teachers paid by TSC	3,301	3,370	3,777	3,301	4,022	5,192	3,301	4,579	6,549
% of TSC paid teachers	55.7%	55.7%	55.7%	55.7%	58.3%	60.0%	55.7%	67.3%	75.0%
Qualified teachers paid by TSC	2,847	2,907	3,257	2,847	3,559	4,673	2,847	4,327	6,549
% of Qualified teachers paid by TSC	86.2%	86.2%	86.2%	86.2%	88.5%	90.0%	86.2%	94.5%	100.0%
Pupil Teacher Ratio (All teachers)	25	23	22	25	23	22	25	29	30
Pupil Teacher Ratio (TSC Teachers)	45	42	39	45	40	36	45	43	40
Pupil Teacher Ratio (Qualified TSC Teachers)	53	48	45	53	45	40	53	45	40
Additional Teachers Required	0	191	514	0	468	1,021	0	718	1,553

Source: Authors' calculations using the ASC 2018 and proposed staffing norms.

6 Key Recommendations

This chapter presents recommendations for the authorities in Sierra Leone to improve the quality of education by supporting and elevating the country's teachers. The recommendations focus on: (i) each stage of the teacher career cycle; (ii) teaching practices; and (iii) the capacity and coherence of the education system based on projected teacher requirements.

6.1 Teaching Career

Recommendations focusing on the teacher career cycle affect aspiring as well as current teachers. They are segmented along the six different career stages and divided between the period before a teacher starts to teach (stage 1) and the period during which a teacher is teaching (stage 2) (Figure 18).

Figure 18 | **Key Recommendations throughout the Teacher Career Cycle**

Stage 1: Before Teaching

Stage 2: While Teaching

Decision to pursue the teaching carrer	Pre-service training	Entry into the teaching service	Deployment	Initial training	Continous professional development
Advertise the favorable conditions of governemnt employment in high schools and universities	Work with the six institutions to institute minimum standards	Strictly avoid incorporating unqualified teachers in government payroll	Institutionalize teacher deployment protocol	Create a policy which takes on account the new instruments created by the TSC and the probationary period	Implement practical and continuous classroom-based teacher training
Communicate the importance of the career	Improve entry and exit exams	Consider selecting teachers using a test	Consider rural or hardship allowances		Implement the professional development standards
Incentivize fair pay among non-government hires	Make training content more practical and competency based	Design a process for upskilling unqualified government-paid teachers			Revamp the role of the principal
	Expand the mentoring pilot	Encourage non approved schools to hire qualified teachers			
	Coordinate the supply of teachers with the TSC	Use the probationary period wisely			
	Adapt based on graduates' performance	Favor female hires			
	Attract female students				

Stage 1: Before Teaching

Decision to Pursue a Teaching Career

Improve the pool of graduates interested in the teaching service to increase the quality of the country's education system. While this process will take time, the hiring of 15,000 teachers under the FQSE program presents a unique window of opportunity. The authorities should ensure high school students are aware of the competitive salaries[37] and flexible hours offered in the government sector and the transparent process that exists in hiring public-sector workers. High school graduates need to know that teachers work fewer hours than educated workers in non-teaching jobs, and they should be familiar with the TSC's learning and career advancement opportunities.

Ensure that the FQSE program's communications campaigns include the message that teaching is a complex and intellectually demanding career with an immense social contribution. Similar campaigns have been implemented in several countries. For example, the District of Columbia in the United States has posters all over the city stating, "You don't need to be famous to be unforgettable," and schools in Delhi, India, organize an event on Teacher's Day to talk about the challenges faced by teachers, students, and parents (Beteille et al. 2019). Moreover, Chile created a campaign called Choose to Teach (Elige Educar) that used social media to create a cultural shift with regard to the value of teachers.

Incentivize private, community, and mission schools to reward qualified teachers to improve the prestige of the teaching career. This is important given that more than half of all teachers are not employed by the government. The share of teachers who are on the government payroll is 24 percent in pre-primary, 55 percent in primary, 51 percent in junior secondary, and 56 percent in senior secondary education. Teachers not paid by the government earn, on average, less than their government-paid counterparts (e.g., 30 percent less for volunteer teachers), as they hope to eventually be added to the government payroll. Alarmingly, more than half of all teachers admit going to work hungry (Bennell and Akyeampong 2007).

Pre-Service Training

Explore ways to improve pre-service training in Sierra Leone. Pre-service training is often ignored in government educational reforms in African countries. Instead, countries often engage in expensive in-service training, trying to remediate the shortcomings of pre-service training (Martin 2019). This results in a system that is never in equilibrium—constantly trying to address the low quality of graduates of teacher training institutions. With only six pre-service providers in Sierra Leone, supervision and coordination becomes much easier than in other countries with a multitude of providers. Also, these six institutions are already coordinating their work, including on standards for exit exams. However, additional efforts are needed to improve teachers' content knowledge, pedagogical skills, and teaching practices and guarantee minimum standards in service provision.

Make it more selective to be admitted to pre-service training programs and guarantee the quality of graduates from the country's TTCs. TTCs need to signal to graduates that the teaching career is both a rewarding and demanding career path, which could lead to fewer graduates than needed in the short term. Graduation exams should also be modified to follow international best practices, making sure that

37. Primary-level government-employed teachers earn more (122 percent) than other comparable educated professionals in non-teaching jobs, and those working in secondary schools earn slightly less (98 percent).

they evaluate competencies of students training to be teachers, and that the competency required to get a teacher diploma is raised. For example, students should be required to answer more than 25 percent of the questions on the exit exams correct to receive their TC or degree.

Strengthen the curriculum to guarantee minimum standards for teacher training graduates. The curriculum should follow the new national basic education curriculum and syllabi. It should also be linked to the new teacher standards developed by the TSC, which specify the competencies that teachers must effectively master. Classes should shift their focus from the theory of teaching to practical strategies applicable to the reality of classrooms in Sierra Leone, including how to deal with underage and overage children, overcrowding, lack of teaching materials, and students with lack of foundational skills. Moreover, there should be time for students to practice the strategies and receive real-time feedback from teachers and mentors. The European Union-supported Mentoring Pre-service Teacher Training Program in Sierra Leone represents a step in this direction, and it is currently being piloted in Bo, Kenema, Port Loko, and Makeni. The program relies on school mentors who support student teachers during a practicum experience, demonstrating to students what it means to be an effective teacher in real-life settings. The practicum will count toward graduation requirements.

Ensure that the TSC coordinates with TTCs so that the supply of teachers matches the demand from schools in terms of both quantity and subject-matter expertise. For instance, the fall in the number of students with HTCs for secondary, along with increased enrollment in secondary education, may foreshadow a lack of secondary education teachers. Increased coordination between the TSC and TTCs will be particularly important givent hat the demand for teachers will also increase as a result of efforts to mainstream preschools and the implementation of the FSQE policy.

Encourage TTCs to learn from the performance of their graduates. For example, TTCs can monitor their graduates and assess their performance, or a mechanism can be created to ensure that information gathered by school principals and supervisors is systematically shared with TTCs, which can use the information to improve their services over time. Since the collection and transfer of data on graduates may not be feasible in the short term, the TSC could share general trends in knowledge gaps with TTCs, or the TTCs can approximate the gaps in content knowledge by analyzing Basic Education Certificate Examination (BECE) and WASSCE results.

Attract, recruit, and retain more female teachers so they can mentor girls and encourage them to stay in school. More than 70 percent of teachers in Sierra Leone are men, which could mean that there are fewer role models for girls, and girls may be more at risk in a male-dominated environment, lowering the school enrollment rate for girls. Strategies to counter this include a communications campaign highlighting the potential of girls to become teachers in the future; scholarships for girls entering TTCs; hiring rules that favor women when two equally prepared candidates apply for a teaching post; and special incentives to attract and retain female teachers.

Entry into the Teaching Service

Reduce the share of unqualified teachers in the education system. The TSC should encourage private, community, and mission schools to refrain from recruiting unqualified teachers, which may be difficult

in the short term. Eventually, when the government's capacity to supervise the TSC is stronger, schools with unqualified teachers should not be allowed to operate.

Avoid adding teachers to the government payroll who do not meet the minimum standards. The quality of learning depends on the quality of teachers. In the past, school administrators have accepted unqualified teachers to meet the growing demand for teachers throughout the country, and these teachers tend to stay once hired. The TSC should continue its efforts to regularize the teaching force by only incorporating teachers who meet the minimum standards.

>> While high-stake tests for adults are difficult to design and administer, the Mexican experience shows that even teacher entry tests which are not good at predicting who will be a good teacher, can improve the quality of applicants

Consider testing applicants to improve the selection of government-hired teachers. For example, the current first in, first out system of hiring teachers could be modified to one that tests teachers with the minimum qualifications and ensures only the ones with the highest scores are added to the government payroll. While high-stake tests for adults are difficult to design and administer, the Mexican experience shows that even teacher entry tests which are not good at predicting who will be a good teacher, can improve the quality of applicant because many ineffective candidates are likely to be discouraged from applying due to the mere existence of the test.

Make the registration and licensing process mandatory for new and existing teachers. Currently, many government schools have non-approved teachers. Under the FQSE program, these schools will likely ask for the regularization of these teachers, many of whom are unlikely to meet the minimum qualifications. The TSC should ensure that only qualified teachers are hired. It should also supervise the process of approved-teacher deployment so that government-paid teachers are not placed in non-approved schools and the quality of education is guaranteed in government-approved schools. Until now, the enforcement of practice requirements has been hampered by a largely non-functional TSC.[38] With the recruitment of new officers in the 16 districts, the TSC should be able to improve its oversight of teacher recruitment.

Establish a grace period in which teachers are expected to present their certification documents to continue teaching. In the short term, it is unrealistic to expect schools will be able to remove all untrained or uncertified teachers, as there are currently not enough trained professionals to fill more than 30 percent of the country's classrooms. Additionally, untrained teachers have been present in classrooms (often volunteering) for years and have acquired immense knowledge, which must be harnessed. Therefore, there should be a mechanism to upgrade the skills of teachers who do not meet the minimum standards. The TSC is currently working with the Education Commission to harness the potential of untrained and unqualified teachers, including finding potential pathways for professionalization,[39] designing professionalization packages,[40] and implementing pilots in several district with the greatest needs.[41]

38. While the commission was established in 2011, it was not until recently that the independent TSC started to operate.
39. Such as the creation of new roles like learning assistant, community education worker, itinerant special needs support.
40. Including job description, position in the pay scale, selection process, deployment strategy training and development approach, implementation plan and costs.
41. Education Workforce Initiative, 2019, "Terms of Reference: Initial Country Partner Sierra Leone."

Leverage the probationary period of all newly hired government-employed teachers to ensure only effective teachers are kept on the government payroll. The probationary period, which many countries do not have, can be used to evaluate the potential of newly hired teachers and dismiss those that are not demonstrating sufficient knowledge and skills. This is especially important since research shows that, on average, teachers do not dramatically improve after their first few years on the job (Beteille et al. 2019). Given that Sierra Leonean teachers accept the probationary period, the TSC should make careful use of it to assess the effectiveness of teachers, help failing teachers to improve, and have a system in place to remove nonperforming teachers.

Deployment

Ensure a systematic teacher deployment process that allocates newly recruited teachers to schools with the greatest needs (e.g., higher PQTR, lowest learning levels). According to the current deployment protocol, developed jointly by the World Bank and the TSC, newly hired teachers are distributed throughout the education system based on enrollment rates (e.g., if 60 percent of the students are in primary schools, these schools receive 60 percent of the newly hired teachers). New teachers are deployed to schools with the highest PTRs. Since all new teachers are qualified, this process also increases the PQTR. Given that the expected workload for teachers has not been defined by the Standards Committee, the current deployment protocol does not consider other needs such as subject-matter expertise, which is crucial to consider to improve the quality of learning. In addition, retiring teachers should not be automatically replaced, unless the school can demonstrate the need. In the medium term, teachers should also be able to be relocated to maximize the efficiency of the education system.

Institutionalize the teacher deployment process and improve the collection and use of data to inform the allocation of teachers. The decentralization process envisioned in the FQSE program poses a risk to the implementation of a systematic teacher deployment process. In large or expanding education systems, adherence to norm-based staffing allocations tends to weaken when decision-making is transferred to lower levels of administration. The experience of many African countries highlights that teacher allocation rules need to be carefully institutionalized so that they are applied over time. Also, the authorities need access to comprehensive and regular data (e.g., the ASC) to ensure that the allocation of teachers is efficient and follows the rules. Equipped with relevant data, ministries can prioritize understaffed schools during the allocation of newly hired teachers and hold discussions with key stakeholders (e.g., elected officials, village leaders, unions, etc.) based on uncontested data. In Sierra Leone, efforts to improve the teacher allocation process will be limited by the size of the government-paid teacher cadre.

Consider the implementation of rural or hardship allowances to incentivize teachers to serve in the most disadvantaged areas. This is important given the difficult conditions of some rural areas and the lack of teachers in these areas. There are many types of allowances that the government can consider. For instance, government-paid teachers in Sri Lanka receive a flat-rate cost of living allowance and a percentage special allowance, and teachers in India receive both cost of living and city compensatory allowances, among others. The additional fiscal burden of these allowances may be hard to absorb in Sierra Leone, as the government is implementing the FQSE program and already allocates 20 percent of the public budget to education. The TSC should, therefore, evaluate creative solutions to incentivize teachers to serve in disadvantaged areas, including career progression benefits and other non-pecuniary incentives.

Stage 2: While Teaching

Initial Training

Strengthen initial and in-service training. To ensure in-service training. To ensure in-service training is not ad hoc, the induction program for new teachers should be piloted and rolled out across the country. This program should inform teachers of their rights and responsibilities and clarify the rules of the probationary period.

Implement an effective professional development that is practical, face-to-face, linked to incentives. This program should be based on the TSC's vision of professional development, which is aligned with best practices for effective in-service training, including: (i) face-to-face interaction; (ii) linkage to professional incentives; (iii) practice with other teachers; and (iv) follow-up visits in the teacher's own classroom (Beteille et al. 2019). The TSC's training program aims to implement continuous, classroom-based, and practical training that aims to target teachers' weaknesses, improve their motivation and morale, and incentivize accountability and responsibility.[42] Training sessions should be action-oriented and initially focus on the core subjects. The authorities should explore ways to use technology to improve the quality of training, and the program should also constitute a mechanism for career advancement. An in-service training proposal that fits these criteria based on a community of practice model is explained in Annex II.

42. Professional Standards for Teachers and School Leaders in Sierra Leone.

Box 8
The Importance of Setting Clear Expectations

The education system needs to clearly define what is expected of teachers and how they will be assessed during their careers. Some teachers believe that their responsibility is to teach instead of ensuring that their student learn. These are distinctly different tasks, as teaching may not necessarily result in all students mastering the content knowledge. According to Wright (2018), there are "two distinct sets of expectations: (i) a minimalist set of expectations stresses content and pedagogy (what to teach and how to teach), including a donor-funded project on the use of prescribed lesson plans, and (ii) a maximalist set of expectations has a wider array of competencies, including why teach and what is the outcome of successful teaching. This continues to be an integral part of three-year teacher education courses" (pg. 13).

The Professional Standards for Teachers and School Leaders in Sierra Leone, launched in 2017, should be taught and reinforced in the continuous professional development program. These standards specify the expectations for Sierra Leone's teachers, establishing three competencies that teachers must have: professional knowledge, professional practice, and professional engagement. The TSC is making efforts to communicate these expectations to professional teachers.

6.2 Teaching Practices

Reduce teacher absenteeism. The authorities should scale up the RBF program, which incentivizes both teachers and students to attend school by tying grants to observed behavior during announced visits. This should be paired with principals having a more active role in supervising teachers and incentivizing appropriate behavior. Many head teachers in Sierra Leone state that they cannot enforce teacher attendance because some teachers are unpaid. The large share of unpaid teachers should fall when the number of approved schools (and in turn teachers' pay) increase under the FQSE program.

Leverage assessments and homework assignment to improve educational outcomes. The TSC should try to systematize the use of assessments and homework assignments among teachers. It should also take advantage of the experience of trained teachers to teach their peers how to effectively use tests and homework to maximize learning.

To increase the quality of teaching in Sierra Leone, the authorities should consider improving current pedagogical practices:

Current	Vision
Lesson facilitation	
Teacher-centered pedagogy	Student-centered pedagogy
No lesson plans	Lesson plans with clearly articulated lesson objectives and contextually relevant classroom activities linked to lesson objectives and real-life applications.
Checking for understanding/ critical thinking	
Close-ended and repetition-based questions	Questions that help students determine if they understand the material and incentivize students to think (e.g., explain, generalize, summarize, compare, contrast, etc.).
No identification of underperforming students	Lessons that target underperforming students.
A significant share of the lesson time is spent on copying textbooks	With the FQSE program, textbooks will be delivered to all schools, freeing up time for more substantive work.
Feedback	
Students do not participate in class	Students are incentivized to ask questions and contribute during class, and teachers will clarify concepts and topics to students to avoid misunderstandings.
Classroom culture	
Harsh discipline, sometimes involving physical punishment	Teacher should treat all students respectfully, using positive language and reinforcement.

Note: Adapted from TEACH 2018.

6.3 Size of the Education System

Develop and implement a strategy for the TSC to ensure that the PTR determined by the Standards Committee is followed during the deployment of qualified teachers. w of teachers in Sierra Leone, with a PTR ranging from 12 in pre-primary to 27 in primary education, but more than one-third of them are unqualified. The country will not be able to immediately reduce unqualified teachers, as the expected expansion of the education system (through the FQSE program and efforts to mainstream pre-primary into basic education) will increase the demand for teachers. Therefore, the TSC needs to ensure that there are no "ghost teachers," follow a deployment protocol based on current PTR in all districts, and freeze the recruitment of unqualified teachers.

Evaluate options for the authorities to meet the teacher requirements while ensuring only qualified teachers are added to the government payroll. The full implementation of the FQSE program would

require adding more than 29,500 new teachers to the government payroll over the next five years. Under a more conservative scenario, more than 11,400 teachers would need to be added to the teaching force. Due to fiscal limitations, only 25,000 new teachers will be joining the government cadre over the next five years under the FSQE program. To ensure there are enough teachers in Sierra Leone, the government should consider:

1. Hiring more than the planned 25,000 teachers. The decision to hire more than the planned number of teachers has important fiscal implications and needs to be accepted by the Ministry of Finance. Assuming an average monthly teacher salary of US$119, hiring the extra 29,500 teachers would imply a total cost of more than US$40 million per year

2. Changing the standard for the PTR. Preliminarily, the Standards Committee estimates a PTR of 1:25 for pre-primary and 1:40 for all remaining education levels. The government could increase the PTR or the PQTR for secondary schools by adding assistant teachers (under contract) until the education system is fiscally strong enough to rely solely on trained teachers. These assistant teachers could be unapproved volunteer teachers, who would later likely ask to be formally added to the government payroll. If class sizes need to be adjusted, the authorities should avoid increasing the size of pre-primary or primary classes, as research shows that early education has a lasting impact and is critical for creating a foundation of literacy, numeracy, and socio-emotional skills. Alternatively, TTCs could designate teachers in training as "class assistants" and deploy them to schools. This way they can learn the craft of teaching under the supervision of an experienced teacher while helping to address the teacher shortage. In the United Kingdom, for example, educational training institutions require their students to spend a large proportion of their time in schools

3. Reducing the rate of approval of new schools. This can be done by ensuring that only schools that meet all the minimum standards are approved

Box 9
Coherence in the Education System

Since a significant part of Sierra Leone's education system is not run by the government, the TSC has a critical role in ensuring a minimum quality of the country's schools and that education policies are coherent. A critical first step is the creation of standards, guidelines, and protocols for the entire education system. However, the TSC also needs a strong supervision mechanism to guarantee that standards, guidelines, and protocols are followed and that a minimum quality is attained throughout the system.

Annex I

Simple Protocol for Teacher Deployment

In fulfilment of the Free Education Policy, the Government is approving schools that qualify for government support. As mentioned in the main text above, the TSC has the mandate to recruit teachers for these newly approved schools. The following sections describe proposed methodology for selecting the institutions where teachers should be hired and for determining the number of teachers that should be employed in each school. We propose a two-phased process in which the number of teachers allocated per level is defined first, and the number of teachers allocated to each school is determined second.

Phase 1: Define the number of teachers allocated per education level

We recommend defining the number of teachers per grade level according to the distribution of the student population in non-private schools (see Table 21). Using enrollment will guarantee that new teachers serve the current student population in the best possible way, given that the distribution of the student population is a proxy for demand of educational services per level. We focus on non-private schools because they are potentially eligible for government support, and newly hired teachers will be deployed to recently approved schools.

If one follows the proposed rule and defines the number of teachers per grade level according to the distribution of student enrollment in non-private schools, and the Government decided to hire 5,000 teachers to schools whose approval status is changing from 'non-approved' to 'approved', these would be assigned as follows: 150 in pre-primary; 3,550 in Primary; 800 in junior secondary; and 500 in senior secondary.

It is important to note that the assignment of new teachers to each level should ideally be done based on the gap between the current and the recommended PTR for each educational level. However, since the country does not yet have an ideal PTR per level (there is only a norm of PTR of 40 for primary), the proposed methodology can be used to guide teacher allocation while the TSC and the Ministry of Education determine the ideal ratio per level. Further, in junior and senior secondary, there is need for more robust deployment norms based on school-by-school subject load establishment. For instance, if school A offers 10 subjects with a total enrolment of 100 students, there is need to consider how many students are separately enrolled in the 10 subjects and determine the curriculum load for the 10 subjects and deploy teachers accordingly rather than the simplistic computation of a PTR. Using the PTR approach would mean deploying 3 teachers based on the national norm for primary of 40 pupils per teacher. This may end up affecting the delivery of many of the subjects offered at secondary.

Table 21 | **Distribution of student population across education levels**

Level	Distribution of student population
Pre-Primary	3%
Primary	71%
Junior Secondary	16%
Senior Secondary	10%
Total	**100%**

Note: Calculations taking on account schools which are not approved and not private.

Phase 2: Define the number of teachers allocated to each school

Acknowledging the existence of potential political barriers to different teacher allocation methods, we propose two alternative approaches: i) Hiring teachers to match the National PTR with District Quota; and ii) hiring teachers to match the district level PTR.

Option 1: Hire teachers to match the National PTR with District Quota

The proposed methodology aims to equalize the pupil-teacher ratio both between and within districts. To do so, it proposes to hire teachers in the most deprived schools nationwide through the following steps:

1. Calculate the National PTR for approved schools by dividing the total enrolment in all approved schools by the total number of government teachers in approved schools. (See the variable Nat. PTR_Apvd in the Simulation file)

$$PTR_{National(Apvd)} = \frac{Enrollment\ in\ approved\ schools_{National}}{Teachers\ of\ government\ employed\ teachers_{National}} \quad \textbf{(1)}$$

2. Calculate the PTR in each school based on government supplied teachers by dividing the total number of students by the total number of governments employed teachers. In cases where there is no government teacher, the ratio is taken to be the total number of learners/students in that school.

$$PTR_{School(govt)} = \frac{Enrollment_{School}}{Government\ employed\ teachers_{Shool}} \quad \textbf{(2)}$$

3. Calculate the additional teachers required in each school by dividing enrollment over the National pupil-teacher ratio and subtracting the number of existing teachers from that.

$$New\ teachers_{School(govt)} = \frac{Enrollment_{School}}{PTR_{National\ (Apvd)}} - Existing\ teachers_{School} \quad \textbf{(3)}$$

This equation results from the following:
As stated above, the objective is to reach a state where the PTR of each school equals the average PTR at a national level with government supplied teachers:

$$PTR_{National(apvd)} = PTR_{School(govt)} \quad \textbf{(4)}$$

Subtituting (2) into (4)

$$PTR_{National(Apvd)} = \frac{Enrollment_{School}}{Government\ employed\ teachers_{School}} \quad \textbf{(5)}$$

The total number of teachers in the school will be the existing teachers plus the newly hired teachers:

$$Government\ employed\ teachers_{School} = Existing\ teachers_{School} + New\ teachers_{School} \quad \textbf{(6)}$$

Subtituting (6) into (5)

$$PTR_{National(Apvd)} = \frac{Enrollment_{School}}{Existing\ teachers^{School} + New\ teachers^{School}}$$

Solving for the number of new teachers in the school:

$$(PTR_{National(Apvd)})^{*}\ (Existing\ teachers_{School})=Enrollment_{School}$$

$$Existing\ teachers_{School} + New\ teachers_{School(govt)} = \frac{Enrollment_{School}}{PTR_{National(Apvd)}}$$

Note: existing teachers plus new teachers is variable Required_Trs_Nat in the Excel file.

$$New\ teachers_{School(govt)} = \frac{Enrollment_{School}}{PTR_{National(Apvd)}} - Existing\ teachers_{School}$$

4. Compute the quota of teachers for each district and for each level: Having computed the demand for each school (the required number of teachers to ensure that non-approved schools conform to the national PTR) and having computed the quota for each school level (Phase 1 above), we compute the provision for each district proportionate to its demand by dividing the total number of teachers required by non-approved schools in a given district to move to the national PTR by the number of teachers required nationally and multiply by the overall quota for respective level schools. The following equation describes the procedure:

$$District\ Quota = \left(\frac{Number\ of\ teachers\ Required\ in\ the\ District}{Number\ of\ teachers\ Required\ in\ the\ Country}\right) * School\ level\ quota \qquad \textbf{(7)}$$

5. Allocate teachers to recently-approved Schools: The final step is to allocate teachers to schools drawing from the district quota. Using the school PTR (based on government teachers), we rank the schools from the highest to the lowest PTR and allocate teachers to schools iteratively for as long as the balance in the quota after allocation in one school allows us to allocate top the next school. We perform a stepwise summation of all teachers allocated so that as we allocate teachers we constantly check that the cumulative sum of teachers allocated so far is still within the district quota. The allocation in a district stops as soon as the quota in the district is exhausted.

Table 22 Resulting allocations in pre-primary, allocation based on national PTR

District	Total Schools	Schools Covered	% Schools Covered	Allocated Teachers	PTR Before Allocation	PTR After Allocation
Bo	42	4	9.5%	10	55	49
Bombali	39	4	10.3%	7	38	35
Bonthe	20	4	20.0%	5	70	58
Falaba	4	1	25.0%	2	76	64
Kailahun	34	3	8.8%	11	84	63
Kambia	20	4	20.0%	5	71	59
Karene	8	1	12.5%	3	84	59
Kenema	28	3	10.7%	6	48	44
Koinadugu	10	1	10.0%	3	55	47
Kono	87	11	12.6%	35	293	113
Moyamba	16	2	12.5%	3	47	42
Port Loko	40	3	7.5%	14	48	41
Pujehun	8	1	12.5%	1	72	63
Tonkolili	56	5	8.9%	11	48	42
Western Area Rural	59	8	13.6%	17	249	121
Western Area Urban	72	8	11.1%	17	52	47
National	**543**	**63**	**11.6%**	**150**	**115**	**66**

Source: 2018 ASC.

In primary, the allocation would reach more than 1,200 schools, representing 47% of the non-private schools (See Table 6). Although the PTR would improve (from 77 to 58 learners per teacher), it would still be higher than the nationally recommended norm. Future hiring processes should focus on decreasing this PTR by increasing the number of teachers that go to primary.

Table 23 Resulting allocations in primary, allocation based on national PTR

District	Total Schools	Schools Covered	% Schools Covered	Allocated Teachers	PTR Before Allocation	PTR After Allocation
Bo	209	82	39.2%	253	57	51
Bombali	181	80	44.2%	194	56	49
Bonthe	101	49	48.5%	115	66	54
Falaba	145	85	58.6%	180	128	67
Kailahun	192	89	46.4%	243	73	59
Kambia	169	91	53.8%	283	93	69
Karene	154	90	58.4%	289	126	74
Kenema	165	64	38.8%	178	59	54
Koinadugu	108	58	53.7%	165	76	58
Kono	292	140	47.9%	461	103	68
Moyamba	238	102	42.9%	265	69	56
Port Loko	187	92	49.2%	247	70	60
Pujehun	105	45	42.9%	88	65	57
Tonkolili	278	118	42.4%	266	60	52
Western Area Rural	104	51	49.0%	204	65	52
Western Area Urban	76	32	42.1%	120	39	37
National	**2,704**	**1,268**	**46.9%**	**3,551**	**77**	**58**

Source: 2018 ASC.

In junior secondary, the allocation would reach 166 schools, representing 36% of the non-private junior secondary schools (See Table 7). Overall, the PTR would go from 49 to 40 students per teacher. Districts like Kono and Moyamba would have an improvement of more than 14 units of the PTR following this allocation.

Table 24 | Resulting allocations in junior secondary, allocation based on national PTR

District	Total Schools	Schools Covered	% Schools Covered	Allocated Teachers	PTR Before Allocation	PTR After Allocation
Bo	25	7	28.0%	23	29	29
Bombali	36	10	27.8%	37	31	29
Bonthe	16	8	50.0%	23	45	38
Falaba	6	3	50.0%	10	54	44
Kailahun	16	5	31.3%	32	54	48
Kambia	37	15	40.5%	73	58	45
Karene	18	6	33.3%	24	52	45
Kenema	24	8	33.3%	48	54	50
Koinadugu	10	4	40.0%	11	45	42
Kono	59	23	39.0%	141	74	48
Moyamba	36	14	38.9%	61	59	45
Port Loko	67	21	31.3%	87	41	36
Pujehun	8	4	50.0%	25	61	49
Tonkolili	27	9	33.3%	46	44	40
Western Area Rural	47	19	40.4%	90	54	43
Western Area Urban	36	10	27.8%	71	32	31
National	**468**	**166**	**35.5%**	**802**	**49**	**40**

Source: 2018 ASC.

In senior secondary, the allocation would reach 89 schools translating to 70 percent of the eligible schools (See Table 8). Overall, the PTR will improve by 18 PTR units from the current 64 to 46 students per teacher. We note that in Senior Secondary, the allocation to non-approved schools will not exhaust the available quota of teachers – computed on the strength of school population at each of the school levels. The 98 teachers could be: (i) deployed to approved schools with high PTR (such as those in Western Area Rural); or (ii) deployed to other educational levels that still have high PTR such as primary.

Table 25 Resulting allocations in senior secondary, allocation based on national PTR

District	Total Schools	Schools Covered	% Schools Covered	Allocated Teachers	PTR Before Allocation	PTR After Allocation
Bo	12	3	25.0%	9	37	36
Bombali	9	7	77.8%	43	50	44
Bonthe	5	5	100.0%	13	45	40
Falaba	0	0	0.0%	0	0	0
Kailahun	7	5	71.4%	11	53	49
Kambia	2	0	0.0%	0	39	39
Karene	4	2	50.0%	4	50	46
Kenema	7	6	85.7%	19	54	51
Koinadugu	3	1	33.3%	2	52	51
Kono	19	15	78.9%	101	74	47
Moyamba	5	1	20.0%	1	26	26
Port Loko	7	4	57.1%	14	39	37
Pujehun	1	0	0.0%	0	26	26
Tonkolili	4	1	25.0%	1	41	41
Western Area Rural	20	18	90.0%	87	140	67
Western Area Urban	23	21	91.3%	97	47	43
National	**128**	**89**	**69.5%**	**402**	**64**	**46**

Source: 2018 ASC.

In junior secondary, the allocation would reach 166 schools, representing 36% of the non-private junior secondary schools (See Table 7). Overall, the PTR would go from 49 to 40 students per teacher. Districts like Kono and Moyamba would have an improvement of more than 14 units of the PTR following this allocation.

Annex II

Continous Professional Development (CPD) Program

There are many possible models for CPD. What follows describes the one alternatively originally designed with the Government of Sierra Leone. It will be adjusted based on a feasibility study and the results of a pilot.

Four neighboring schools will be grouped into a cluster. Teachers will receive daily highly structured and detailed lesson plans; examples of rapid student assessment tools; and other useful resources.[43] They will participate in cluster meetings at the beginning of each term, obtaining training and an explanation of the content in their package of tools. Once in school, they will participate in structured weekly after-school meetings where Lead Teachers (LT) will reinforce concepts and tackle practical problems.Teachers will also receive face-to-face practical and immediately relevant feedback after classroom observations from their headmaster (at least once per month), and from a knowledgeable district coach (twice per term). In each school, teachers will be incentivized to meet in-between visits to discuss their challenges and lessons learned. Finally, they will also have the possibility of accessing additional one-on-one interaction through phone and short message services with their LT and Coach.

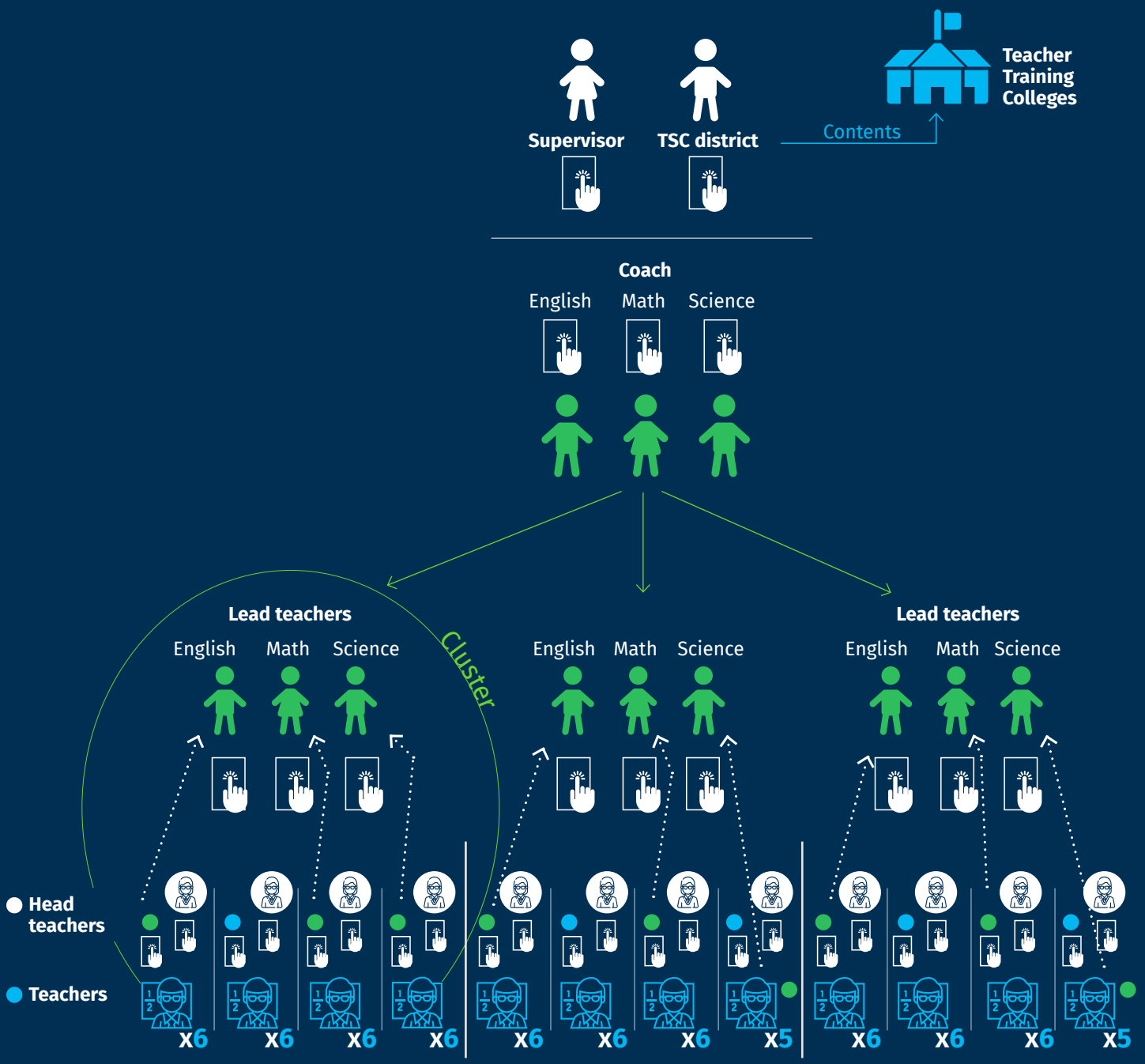
LTs and coaches will be recruited based on merit and will be thoroughly prepared. In each cluster, a knowledgeable teacher in mathematics, English and science will be designated as LT. They will receive monetary and career incentives to perform after-school activities, as well as additional materials in pre-loaded solar tablets: methodological guides; easy-to-understand detailed lesson plans for after-school meetings which will be aligned to the lesson plans received by teachers; short videos of other Sierra Leonean teachers exemplifying subject-specific strategies to explain difficult-to-understand topics and general pedagogical techniques.[44] They will also receive just-in-time support from district coaches, and special in-depth trainings. Experienced and knowledgeable experts will be recruited competitively at the district level as coaches to provide pedagogical support in core subjects. In addition to offering training and guidance to teachers and LT, coaches will also train Head Teachers on how to perform classroom observation and provide feedback. Coaches will receive tablets with methodological guides and three yearly in-depth trainings on how to perform

classroom observation and identify instructional quality following the TEACH protocol and how to provide grade-specific guidance for the subject-matter of their expertise.

To improve the management of the system, in addition to receiving training on management and pedagogical leadership, school principals will also receive a pre-loaded solar-powered tablet containing relevant management tools. These include the profile of the schools in relation to similar schools, data on teacher performance resulting from classroom observation tools, data on the school's performance with regards to the performance-based school grants, teacher performance management materials, etc. District supervisors and TSC District Officers will oversee the work of coaches and ensure the effective implementation of the model. They will receive a tablet with the ASC results for each school in the district, a checklist for school support, and a dashboard with the results of classroom-observations and the intensity of use of the lesson plans, videos, etc. They will be trained on how to use the data for decision-making and provide support to all actors in the chain. Finally, seeking to strengthen pre-service training, all training materials will be shared with the TTCs in the country so that they can incorporate these modules into their student training.

43. Additional materials include the summary of the national teacher guide/national curriculum framework and guidelines for basic education..
44. To avoid overburdening LTs and to allow for adaptation and continuous improvement, materials will be loaded into the tablets each term.

Figure 19 | **Proposed Community of Practice model**



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Our Daily Schedule
Circle
10-15 min
Shapes
square
Circle
star
rectangle
triangle
heart
diamond
Animals Sounds
cock
elephant
goat
bird
crows
trumpets
bleats
chirps
PEOPLE IN A CIRCLE

Teachers and Teaching in Sierra Leone

Teacher Quality and Management Study

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