

**Training school
leaders to support
teaching practice –
evidence from
March 2020**

Leaders in Teaching
Research and Policy
Paper Series

Authors

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About Laterite and the REAL Centre

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Training school leaders to support teaching practice in Rwandan secondary schools – pre-COVID evidence (March 2020)

Purpose of the study:

This study explores the continuous professional development (CPD) programmes offered by Government of Rwanda institutions and Leaders in Teaching implementing partners to school leaders in the 12 months prior to March 2020 (i.e. before schools closed due to COVID-19). The study focuses on which training topics school leaders received, and whether they passed this training on to the teachers they lead. It is based on surveys of 350 school leaders (Directors of Studies and head teachers) at 350 Rwandan secondary schools in January - March 2020, located in the 14 districts where Leaders in Teaching operates.

Key findings

- **Which school leaders received CPD?** In the 12 months preceding March 2020, 85% of school leaders surveyed reported receiving CPD on at least one topic. The most experienced school leaders, and those managing non-schools of excellence, were most likely to have received CPD. Fewer female (74%) than male (88%) school leaders received CPD - which is concerning, as only 1 in 5 school leaders in our sample are female.
- **Which topics were school leaders trained in?** The main training topics were the competence-based curriculum (received by 79% of school leaders) and inclusive teaching (49%), in line with the Government of Rwanda's policy on building teachers' capacity in these areas. However, only a quarter of school leaders were trained in gender-sensitive teaching practices. Teachers in schools of excellence were more likely to receive CPD on student behaviour and classroom management; while teachers in urban schools were more likely to receive training on teaching in English.
- **Did school leaders pass on what they learned to the teachers they lead?** Most school leaders (83%) reported providing CPD to their staff, with more experienced school leaders and those in schools of excellence the most likely to report doing so.

Implications

- Providing training to female school leaders is an important area of focus, as they are under-represented both as school leaders and as recipients of CPD.
- There is evidence that more CPD is being provided to less-resourced schools (such as non-schools of excellence and those in rural areas), but opportunities remain to further deepen this focus. A broader capacity and training needs assessment could improve the targeting of CPD across different groups and schools, especially among less-resourced schools.
- Increased efforts to train school leaders in gender-sensitive teaching practices could contribute to closing the student performance gender gap.
- There is an opportunity to focus on providing training to less experienced school leaders, who are less likely to have received training than those with 5+ years of experience.

Introduction

Context

The Mastercard Foundation's Leaders in Teaching initiative aims to improve the quality of teaching and learning in secondary schools to empower African youth with the skills and competencies to succeed in the 21st century. In Rwanda, this initiative is implemented by the African Institute for Mathematical Sciences (AIMS), VVOB Rwanda, the University of Rwanda – College of Education (URCE), Inspire, Educate, Empower Rwanda (IEE), UNICEF, and Carnegie Mellon University-Africa.

This paper explores various continuous professional development (CPD) programmes offered by Government of Rwanda institutions and Leaders in Teaching implementing partners to school leaders (Directors of Studies and head teachers). More specifically, the paper looks at CPD provided in the 12 months prior to March 2020, when schools closed as a result of COVID-19. It examines the type of CPD school leaders received, and in turn gave to the teachers they lead.

The analysis relates to three priorities in Rwanda's Education Sector Strategic Plan's (2018/19 – 2023/24) (Ministry of Education, 2019): (i) strengthened CPD and management of teachers across all levels of education in Rwanda; (ii) strengthened Science, Technology, Engineering and Mathematics (STEM) capabilities across all levels of education in Rwanda to increase the relevance of education for rural and urban markets; and (iii) enhanced use of ICT to transform teaching and learning and to support the improvement of quality across all levels of education in Rwanda.

In December 2020, the Rwanda Basic Education Board (REB) established five professional standards for school leaders: (i) Creating strategic direction for the school, (ii) Leading learning, (iii) Leading teaching, (iv) Managing the school as an organisation, and (v) Working with parents and the wider community (REB, 2020).

In order to meet the expectations of their role, it is crucial that school leaders access CPD. School leaders need to have updated “knowledge, skills and values”, and the tools to respond and align to changes in policy and reforms in the education sector, be proficient in educational technology, and contribute to both “students and teacher learning” and “supportive school communities” (Şenol, 2020, p.4).

Investigating CPD provision for school leaders, together with identifying whether school leaders pass this training on to teachers in their schools, is important given that the Rwandan Government sees school leader and teacher development as being essential to raising the quality of teaching and learning in schools (Rwanda Education Board, 2019). Insights on the type of training available and its uptake could help identify CPD priorities for future training programmes.

Key findings

- In the 12 months prior to March 2020, 85% of school leaders surveyed reported receiving CPD on one or more of the following themes: competence-based curriculum, English language, STEM, inclusive teaching, and coaching teachers.
- A greater share of male than female school leaders received CPD during this period (88% and 74%, respectively). This is the case irrespective of the CPD training received. This is a cause for concern, particularly as only 19% of school leaders in our sample were female. As such, only a very small number received any CPD.
- The most experienced school leaders, and those managing non-schools of excellence, are the most likely to have received CPD.
- The majority of school leaders reported receiving CPD from VVOB/URCE, Sector Education Officers and school-based mentors, with the main training topics being competence-based curriculum and inclusive teaching (reported by 79% and 49% of school leaders, respectively). This aligns with the Government of Rwanda's policy on building the teachers' capacity in these areas.
- Most school leaders reported providing CPD to their staff. More experienced school leaders and those in schools of excellence were the most likely to report training their teachers.
- School leaders were more likely to train their teachers on knowledge of the competence-based curriculum if they had benefited from CPD on this topic beforehand. However, this pattern does not hold for other thematic areas, including inclusive teaching and STEM.
- Teachers in schools of excellence were more likely to receive CPD in student behaviour and classroom management. Teachers in urban schools were more likely to receive CPD in teaching in English.

Implications

- Providing training to female school leaders is an important area of focus, as they are currently under-represented both as school leaders and as recipients of CPD.
- While the evidence that CPD is being provided to less-resourced schools (such as non-schools of excellence and those in rural areas) is encouraging, there are opportunities to further focus on providing CPD to schools with the greatest resource needs. Assessing the training needs and capacity at non-schools of excellence could inform this focus.
- While half of the school leaders surveyed reported receiving CPD on inclusive teaching, only a quarter of them were trained on gender-sensitive teaching practices. Efforts to train Rwandan school leaders in this subject could contribute to closing the student performance gender gap.
- There is an opportunity to focus on providing training to less experienced school leaders, who are less likely to have received training than those with 5+ years of experience.

Methodology

This paper draws from data collected prior to school closures triggered by the COVID-19 pandemic. Specifically, it is based on surveys of 350 school leaders at 350 Rwandan secondary schools between January and March 2020 located in the 14 districts where the Leaders in Teaching initiative operates (see Figure 1).

This paper draws primarily on the school leader survey data to identify the extent to which school leaders were able to access CPD, for what purpose and from whom. It also explores the extent and type of CPD they in turn provided to their STEM teaching staff in their schools. Both Leaders in Teaching implementing partners (Laterite, 2019a; Laterite, 2019b; Laterite, 2019c) and REB (REB, 2019) adopted the cascade model of “training of trainers”. This means that, after their initial training, school leaders would in turn pass on the knowledge they gained to their teaching staff.

A cascade training model offers cost-effectiveness when training large numbers of in-service teachers especially in low-resourced contexts (Leu, 2004; Moulakdi and Bouchamma, 2020), but this model requires a system which ensures knowledge is accurately transferred from one level of trainees to the next (Leu, 2004; Moulakdi and Bouchamma, 2020) found that teacher training is most successful when delivered in schools through professional learning communities. Leaders in Teaching implementing partners – such as AIMS and VVOB – have adopted both a cascade training model and professional learning communities in their programming, making them a good case study from which to explore the extent to which knowledge transfer took place between school leaders and teachers.

This paper reports the disaggregation of the data by gender, school status (school of excellence versus non-school of excellence), school location and years of experience as a school leader to enable an understanding of where CPD is reaching. These are explained further in sections below.

The paper is structured in two sections. In the first section, we outline the characteristics of school leaders who received CPD, and the type of training they received. For this purpose, we ran Pearson chi-square tests to determine significant differences across school leaders’ personal characteristics, positions, their respective school statuses (comparing schools of excellence and other schools), and the rural/urban location of their schools.

In the second section, we discuss school leaders’ provision of CPD to teachers within their schools (as part of the cascade model). In this section we use both chi-square tests, and logistic regressions to examine school leaders’ likelihood of providing CPD on a specific topic when they have previously received similar training. Statistics reported in this paper are significant at the 5% level unless otherwise specified.

Figure 1: Leaders in Teaching intervention districts



CPD offered to school leaders

This section discusses the characteristics of school leaders who received CPD, who provided the CPD to them, and the type of training they were offered. Note that when we refer to school leaders, we are referring to both Directors of Studies and head teachers.

Overview of CPD programmes, providers and topics

Providers of CPD

Leaders in Teaching implementing partners are implementing two main CPD programmes which aim to target educators at one or multiple levels of the education ecosystem: Rwandan districts, sectors, and schools. The programmes are as follows:

1. **AIMS' Teacher Training Program** is designed to increase STEM teachers' ability to teach Mathematics, Physics, Biology, Chemistry, and information communication technology (ICT), using the Competence Based Curriculum (CBC).¹ For this purpose, AIMS recruits STEM school subject leaders in targeted sectors who, once trained, are responsible for delivering this training to STEM teachers in their schools' sectors. AIMS' intervention also involves training school leaders as well as district and sector education officials to help teachers implement formative assessments.
2. **VVOB's Leading, Teaching and Learning Together** programme focuses on school leadership, coaching and mentorship. In collaboration with URCE, VVOB implemented three programmes:
 - *CPD Diploma in School Leadership*, designed for District Directors of Education, District Education Officers, head teachers and deputy head teachers
 - *CPD Certificate in Educational Mentorship and Coaching (EMC)*, rolled out for the benefit of Sector Education Officers and School Based Mentors
 - *STEM CPD Certificate in Educational Mentorship and Coaching (STEM EMC)*, which targets STEM school subject leaders.

This study also investigates whether school leaders received training from REB, which is responsible for ensuring “teachers’ development, build[ing] their capacities and monitor[ing] their management.” (REB, 2022).

¹ The CBC was introduced in 2015 in Rwanda to “promote a learner-centred approach and replace a teacher-centred and passive learning. Thus, learners should participate in their learning, construct knowledge themselves, and develop new knowledge. This act allows them to conceive learned knowledge and transform it into skillful output and value its usefulness in their daily life.” (Ndihokubwayo et al., 2021, p.82)

In addition to the CPD programmes led by implementing partners and REB, local government officials (including District Directors of Education, District Education officers and Sector Education officers) as well as head teachers, Directors of Studies and school-based mentors provide CPD at the community and school levels. In this paper, we refer to these providers as “community and school-based CPD providers”. Table 1 provides an overview of these training providers.

Table 1: Community and school based CPD providers

CPD providers	Description
Sector Education Officers	Sector Education Officers manage the “delivery of services and management of schools in their respective sectors.”
District Education Officers	District Education Officers work on the “planning, delivery and monitoring of education and training in their districts”.
District Directors of Education	The District Director of Education is the “focal point for education at the district level.”
Head teachers, Directors of Studies, school subject leaders, school-based mentors, other teachers.	“These are school teaching staff who play an important role in dispensing CPD in schools.”

Source: Information extracted from REB, 2019.

CPD themes and topics

We sought to identify the main CPD topics delivered to school leaders, in schools which were supported by Leaders in Teaching CPD programmes. Within these five broad themes, we further identified specific topics that were covered in the training that was received (Table 2). We identify the extent to which these themes and topics were covered in training in the sections that follow.

Table 2: Teaching areas covered by CPD

Themes covered through CPD	Individual topics delivered by CPD providers
Competence based curriculum (CBC)	Assessment; Knowledge of the CBC; Student-centred learning strategies; Teaching cross-curricular skills; Supporting teachers in developing their understanding of the CBC
STEM	Science inquiry, Use of micro-science kits; ICT proficiency; Mathematical content knowledge; Science content knowledge; Supporting teachers in developing their ICT skills; Supporting teachers in developing their teaching skills in STEM
Inclusive teaching	Teaching/supporting students with disabilities; Gender inclusive teaching practices/strategies; Teaching/supporting students who are slow learners; Teaching/supporting students from very poor backgrounds; Teaching/supporting students in multi-cultural or multilingual settings.
English language	Use of English as a medium of instruction; Supporting teachers in developing their English language skills
Coaching teachers	Supporting teachers who face challenges; Coaching and mentoring of teachers; Student behaviour and classroom management

Which school leaders received CPD?

During the period of March 2019 to March 2020, 85% of school leaders surveyed received CPD, with a greater share of men (88%) being trained than women (74%). Female Directors of Studies were least likely to participate in CPD (65% compared with 88% of males) (Table 3).

Given only 19% of our sample of school leaders are female, the lower percentage of them receiving CPD is a particular cause for attention as it means only a very small number of female school leaders are receiving training.

Table 3: School leaders trained by gender and position

Gender	Head teachers	Directors of Studies	All school leaders
Male	88%	88%	88%
Female	82%	65%	74%

The least experienced school leaders – those with less than five years in the position – were slightly less likely to receive training. Of these, 80% reported benefitting from CPD compared to 86% of school leaders who had led their schools for a minimum of five years.

It is important to distinguish between two types of secondary schools in Rwanda: schools of excellence and non-schools of excellence. The Government of Rwanda sought to establish at least one school of excellence in each of the country's 30 districts in 2011. These schools were designed to focus on STEM subjects and to attract the highest-performing science students. As model schools in their districts, they benefit from the best infrastructure and equipment including ICT equipment, laboratories, and libraries (The New Times, 2011). These schools have “more qualified teachers and provide a higher educational experience” to Rwandan students (Williams, 2013, p.9). In our sample, 13% of the schools are schools of excellence. We found that 79% of leaders in schools of excellence received CPD compared to 86% of those leading schools that are not schools of excellence, which suggests that some effort could be being made to focus on schools with greater resource needs.

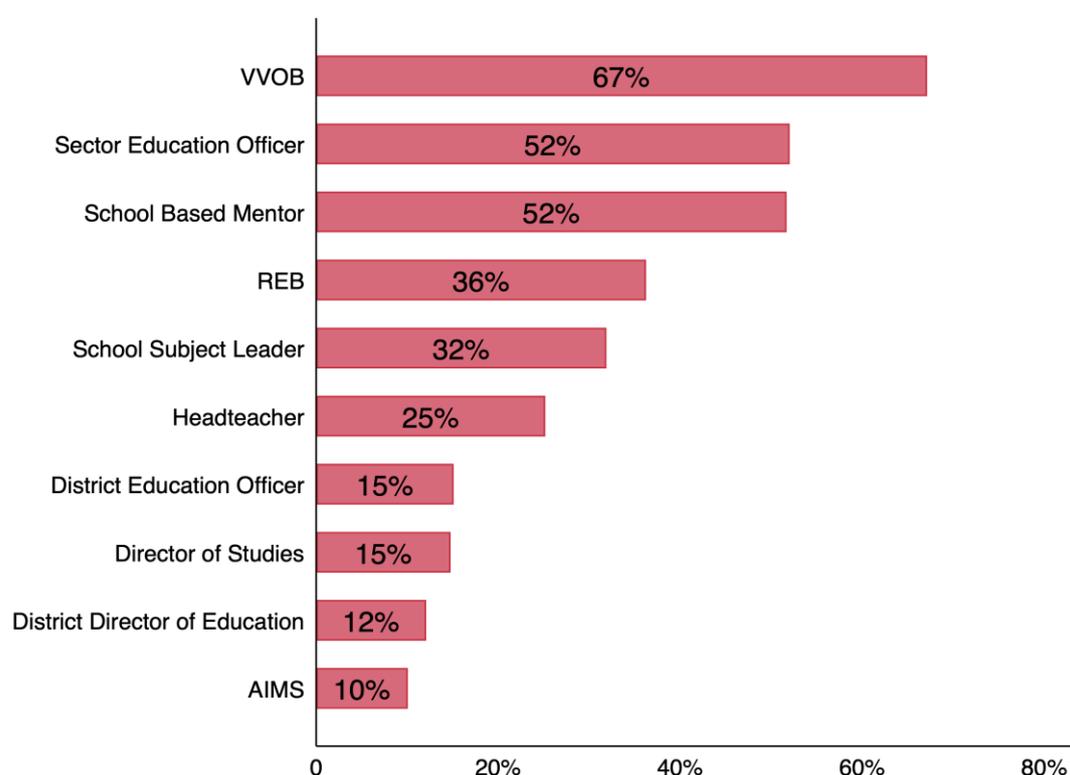
Who provides CPD to school leaders?

We asked school leaders to identify which organisation - either VVOB/URCE, AIMS or REB – they received CPD from in the period of March 2019 to March 2020. We also aimed to establish whether school leaders received CPD from providers at the community or school levels.

Among the school leaders who reported benefitting from CPD in the 12 months period from organisations, 67% were trained by VVOB/URCE compared to 10% by AIMS (Figure 3). This is likely to be because VVOB's focus is on school leaders, while AIMS predominantly supports teachers. In addition, 36% reported receiving training from REB.

A reasonably large proportion of school leaders received training from community and school-based CPD providers; in particular from Sector Education Officers or school-based mentors: 52% of school leaders trained reported receiving training from one of these providers. Only 12% of District Directors of Education were reported to have provided training. In addition, some school leaders received training from colleagues within schools, with 32% receiving training from school subject leads, and 25% from head teachers.

Figure 2: CPD providers to Rwandan school leaders



Note: School leaders who confirmed receiving CPD were asked to state all organisations, government officials and school staff they received CPD from. This figure represents the proportion of all school leaders who received CPD from each of the providers listed.

Does CPD provision differ for head teachers and Directors of Studies?

VVOB/URCE train both head teachers and Directors of Studies evenly – around 67% of each group reported being trained by these implementing partners.

AIMS and REB have focused more on Directors of Studies. Seven percent of head teachers reported being trained by AIMS compared to 15% of Directors of Studies. This is in line with the intentions of the AIMS Teacher Training Program (TTP), which intends to train school leaders to ensure that they could support STEM teachers when implementing formative assessments and the TTP program within their respective schools and sectors (Laterite, 2019c). With respect to REB training, 33% of head teachers reported attending training, compared to 41% of Directors of Studies.

At the community level, Sector Education Officers are the most likely to train school leaders. Sector Education Officers trained 65% of head teachers who reported receiving CPD versus 33% of Directors of Studies. This could be the case because Sector Education Officers are expected to work closely with school leaders to build their capacities and ensure that teacher CPD takes place (REB, 2019).

A quarter of school leaders surveyed reported being trained by another head teacher. In total, 34% of head teachers confirmed receiving training from a fellow head teacher while 11% of Directors of Studies interviewed also reported receiving training from a head teacher. This suggests that Professional Learning Communities – promoted by VVOB’s program as well as REB’s policy on Teacher’s CPD (REB, 2019) - may be active in some localities.

Table 4 presents proportions of head teachers and Directors of Studies who reported being trained by CPD providers identified in this paper.

Table 4: Share of school leaders receiving CPD from each training provider

Who is providing CPD?		Who are they training?	
		Head teachers	Directors of Studies
<i>Implementing Partners</i>	VVOB/URCE	68%	66%
	AIMS	7%	15%
<i>Government of Rwanda Institution</i>	REB	33%	41%
<i>Community based CPD providers</i>	District Director of Education	12%	12%
	District Education Officer	14%	17%
	Sector Education Officer	65%	33%
<i>School based CPD providers</i>	Head teacher	35%	12%
	Director of Studies	17%	12%
	School Subject Leader	31%	33%
	School based mentor	50%	54%

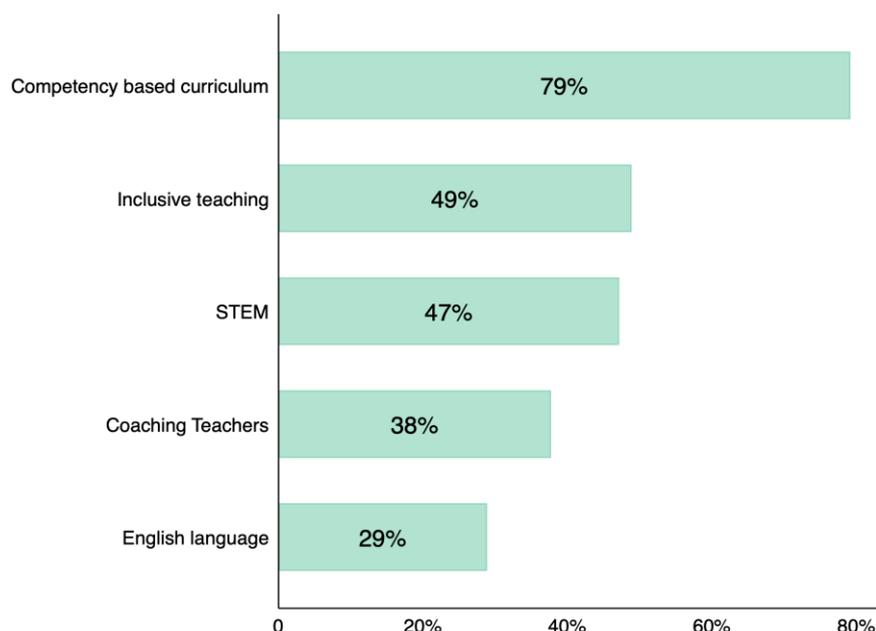
Note: Head teachers and Directors of Studies were asked to state all organisations, government officials and school staff from who they received CPD. The figures in this table represent the share of head teachers and Directors of Studies, respectively, who confirmed receiving CPD from each of the providers listed.

Finally, fewer head teachers in schools of excellence reported receiving CPD from a fellow head teacher compared to non-schools of excellence. 26% of head teachers in schools of excellence reported receiving CPD from a fellow head teacher, compared with 36% of head teachers in other schools.

What type of CPD was delivered to school leaders?

Training offered to school leaders covered five thematic areas including CBC, inclusive teaching, STEM, coaching teachers and English language. Most school leaders reported being trained in CBC (79%) and receiving training related to inclusive teaching (49%). Training in English language was the least reported amongst school leaders surveyed.

Figure 3: Incidence of CPD received by thematic area



Note: School leaders were asked to list all CPD providers from whom they received training (see table 4) and up to three main topics on which they were trained (see table 2).

School leaders at schools of excellence were less likely to have received CPD in CBC, English Language and Teacher Coaching compared to their counterparts in other schools. However, school leaders at schools of excellence and other schools reported no significantly distinctive pattern regarding differences in receiving CPD on STEM.

More experienced school leaders are more likely to be trained in the competence-based curriculum than those with less experience.

The sections below outline the findings relating to topics within each of the five training themes (see Table 2).

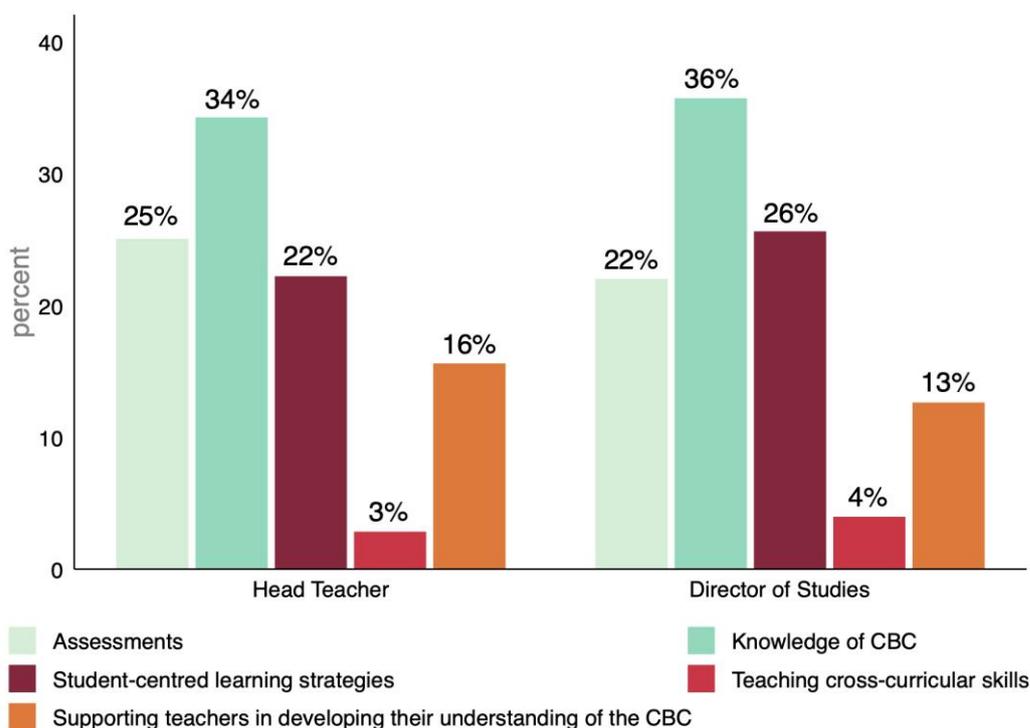
Competence based curriculum (CBC)

Most school leaders reported receiving CPD on CBC. Within this area, 70% of school leaders surveyed reported “Knowledge of CBC” as the main topic for which they received training, while 48% reported receiving training on “Assessment” and 47% on “Student-centred learning strategies”.²

We found that on average both head teachers and Directors of Studies reported a similar rate of training for each of the CBC thematic areas (Figure 4).

² Results do not sum to 100% because school leaders were asked to state the three main topics on which they received training from each CPD provider.

Figure 4: School leaders' reports of CBC training received by position



A higher proportion of male school leaders benefited from CPD on CBC-related topics compared to female school leaders: 83% of male school leaders reported receiving this training compared to 65% of the female school leaders. Among those who did receive CBC-related training, there are differences by gender. For instance, 57% of female school leaders reported receiving CPD on knowledge of CBC compared to 73% of their male counterparts. Furthermore, 37% of female school leaders were trained on student-centred learning strategies compared with 50% of their male counterparts.

The more years that the school leader has in this position, the more likely they are to have received CPD on CBC. 82% of school leaders with at least five years of experience accessed this training compared with 70% of school leaders who had less than five years' experience in leading schools.

Finally, school leaders at schools of excellence were less likely to have received CBC-related training than those at other schools – 74% compared to 80% respectively.³ Over the period March 2019 to March 2020, 32% of school leaders at schools of excellence were trained in student-centred learning strategies compared to

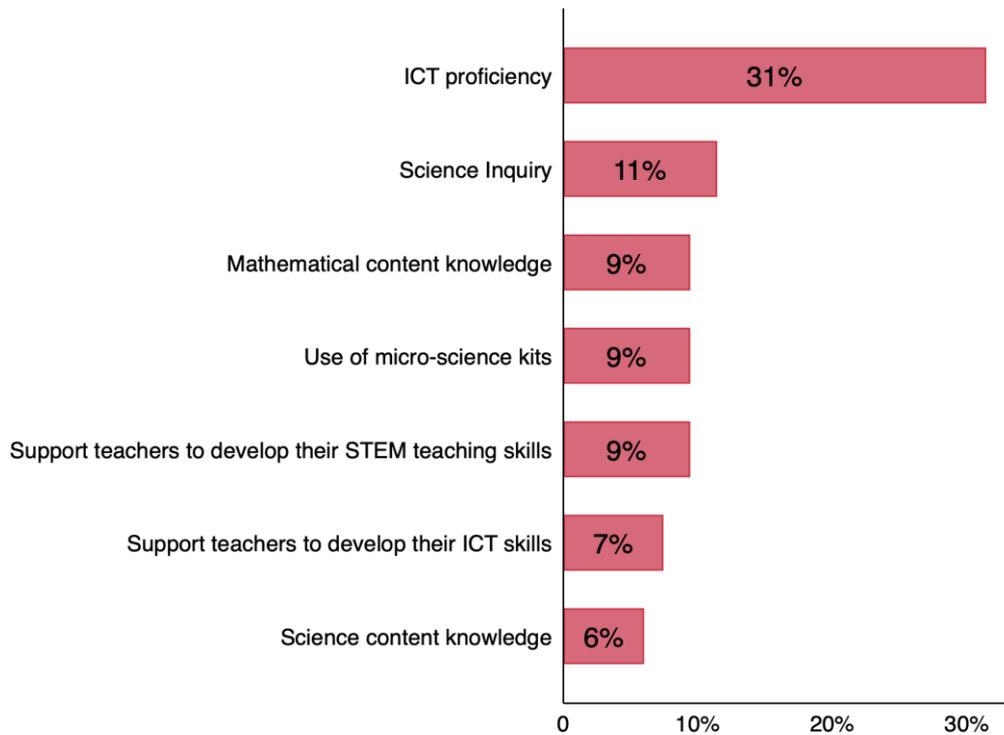
³ Result is not significant at the 5% level.

49% of school leaders at other schools. We did not observe any significant differences on uptake of training in CBC between school leaders in urban and rural areas.

Science, Technology, Engineering and Mathematics (STEM)

Almost half (47%) of school leaders interviewed received some form of CPD on STEM-related topics. The main providers of “ICT proficiency” CPD were VVOB/URCE (38%), REB (17%) and District Directors of Education (13%) (Figure 5).

Figure 5: STEM CPD delivered to school leaders



Half (49%) of male school leaders compared to 38% of female school leaders were trained on STEM related topics in the 12 months prior to this study. Female school leaders were significantly less likely to be trained in ICT proficiency than their male counterparts – 22% compared to 34%, respectively. We observed the same pattern for the topic “mathematical content knowledge,” on which 3% of female school leaders received CPD relative to 11% of male school leaders.

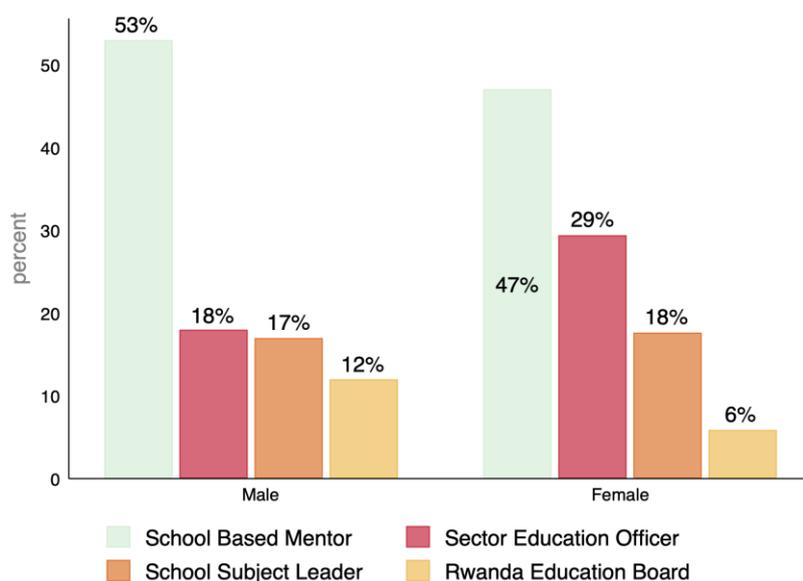
There were no significant differences between Directors of Studies and head teachers in terms of who received CPD on STEM. There were also no significant differences between school leaders of varied experience in the job, teaching in rural and urban areas, or at schools of excellence and other schools.

Training in English language

Overall, 29% of school leaders have received CPD focusing on mastering the English language. This includes those who reported being trained in “English as a medium of instruction” or “Supporting teachers in developing their English language skills”.

Community and school-based providers were more likely to deliver training on the English language: 17% of school leaders reported receiving training from school-based mentors while 7% reported that they were trained by Sector Education Officers. A quarter (24%) of Directors of Studies accessed English language CPD compared with a third (33%) of head teachers. 22% of female school leaders received CPD in this subject, compared with 31% of their male counterparts, with fewer females receiving training across all types of English training topics (Figure 7).

Figure 7: English language CPD providers by gender

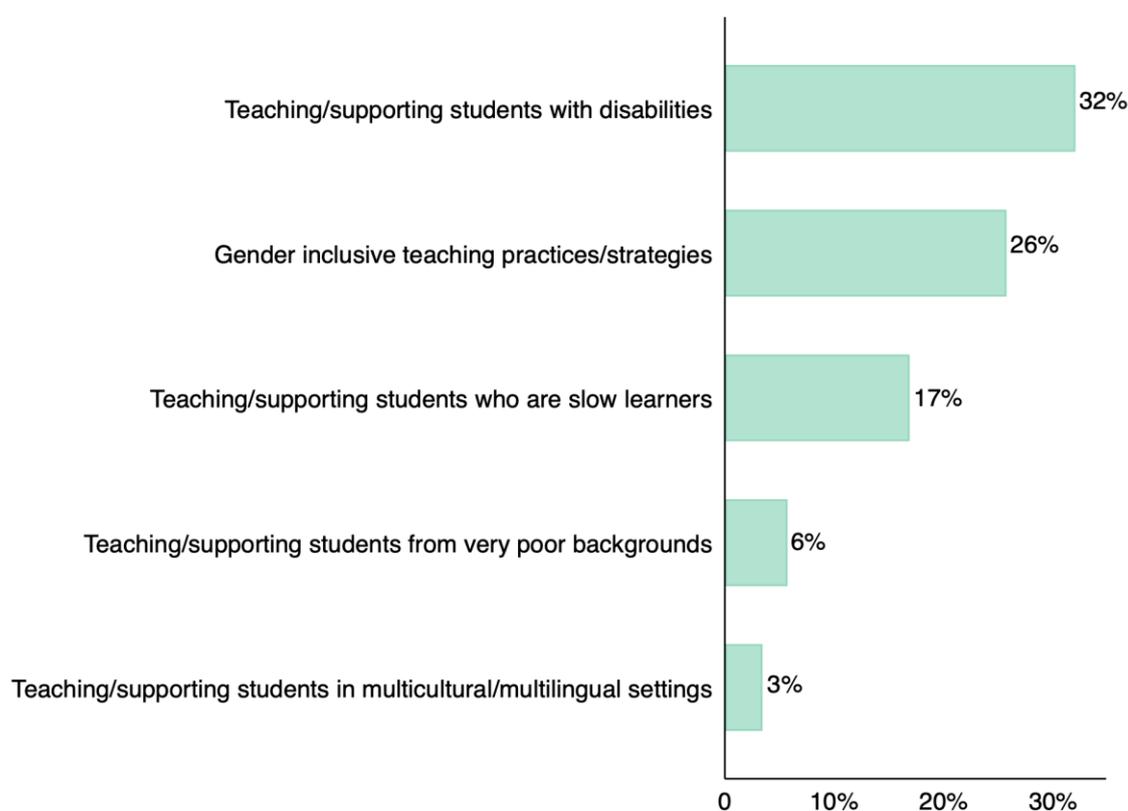


Fewer leaders in schools of excellence (19%) have received CPD on English language skills compared to their counterparts in other schools (30%). A slightly greater share of rural (29%) than urban (24%) school leaders have received training on English language skills. However, we found no significant difference between the share of school leaders with 5 or more years of experience on the job and their less experienced counterparts.

Training on inclusive teaching

Almost half (49%) of school leaders who received training were trained in inclusive teaching. One third (32%) of them reported attending training on “teaching/supporting students with disabilities” while 26% were trained on “Gender-inclusive teaching strategies” (Figure 8).

Figure 8: CPD topics delivered within the inclusive teaching thematic area



VVOB/URCE and sector education officers were the main providers of CPD on inclusive teaching. Our study indicates that a cascade model was adopted in rolling out this type of CPD as 7% of school leaders reported being trained by a school-based mentor.

School leaders' access to training in inclusive teaching varied according to the specific topic for which they received CPD. For instance, school leaders at schools of excellence were more likely to receive CPD on “Teaching/supporting students who are slow learners⁴” compared to their counterparts in other schools – 23% and 16%, respectively. By contrast, only 17% of school leaders at schools of excellence received training on “Teaching/supporting students with disabilities” compared to 34% of leaders at other schools. Moreover, the less experienced school leaders (23%) were more likely to report training on “teaching/supporting students who are slow learners” compared to 15% of their more experienced colleagues.

A quarter (26%) of school leaders in rural areas received training on “gender inclusive teaching practices” compared to 17% of their colleagues in urban schools.

⁴ The Rwandan Government defines slow learners as learners with special educational needs (Ministry of Education, 2007).

We also observed that male school leaders were more likely to have received CPD on inclusive teaching than their female counterparts - 51% of males compared to 40% of females.

Training on teacher coaching

This study also explored CPD pertaining to teacher coaching. 38% of school leaders who confirmed receiving CPD were trained on at least one of the following thematic areas: “Supporting teachers who face challenges”, “Coaching and mentoring of teachers” and “Student behaviour and classroom management”.

17% of school leaders who accessed CPD on teacher coaching, reported receiving this training from VVOB/URCE. The next most likely CPD provider on this thematic area were Sector Education Officers cited by 11% of trained school leaders.

Male school leaders were more likely to be trained in teacher coaching than female leaders (40% compared to 30% respectively). Head teachers were significantly more likely (43%) to have attended this type of training than Directors of Studies (31%).

However, there was not a significant difference between experienced school leaders and those with fewer than 5 years in the job. There were also no significant differences between school leaders in schools of excellence and those in other schools, or between school leaders in urban and rural schools in terms of receiving CPD on teacher coaching.

Summary

Leaders in Teaching implementing partners VVOB/URCE were the main providers of CPD to school leaders in the 12 months preceding March 2020, followed by school and community based CPD providers, REB and AIMS. VVOB/URCE trained both Directors of Studies and head teachers evenly, while AIMS and REB focused more on Directors of Studies. CPD was provided across five broad themes: the competence-based curriculum; STEM; inclusive teaching; English language; and coaching teachers. School leaders were most likely to receive training in the areas of the CBC and inclusive teaching.

Most school leaders received CPD between March 2019 and March 2020, though a greater share of male than female school leaders were trained, which is a key inequity that should be addressed. More experienced school leaders (those with five years or more in the position) were more likely to have received training. More school leaders at non-schools of excellence received training than their counterparts at schools of excellence, suggesting schools with greater resource needs are being targeted for CPD. However, there is scope to improve the focus of CPD on these schools.

CPD offered to teachers by school leaders

The National Teacher CPD framework states that the head teacher assumes overall responsibility for “ensuring that teachers have enough time, resources and support” (REB, 2019) to pursue professional development at their place of work.

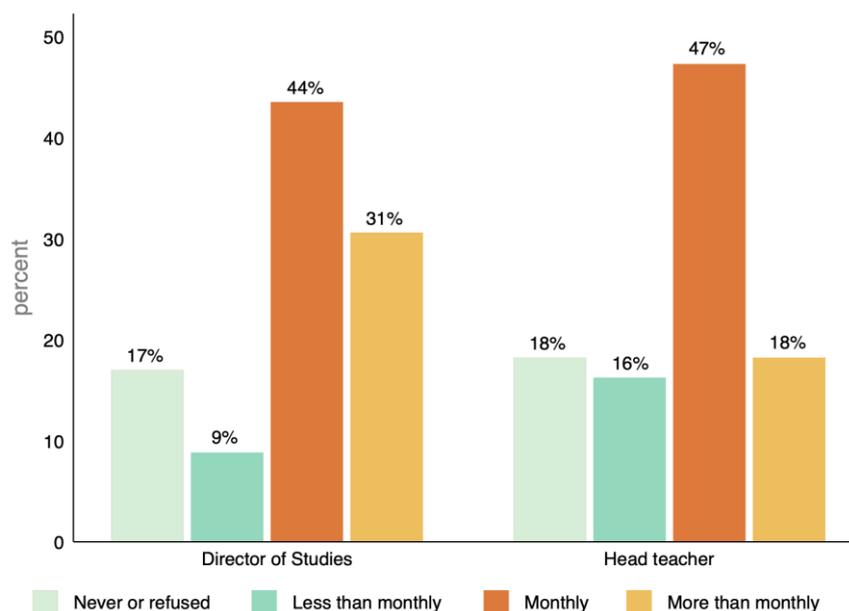
Within the CPD framework, head teachers particularly rely on the support of Directors of Studies – alongside school subject leaders and school-based mentors – to implement CPD plans. Some responsibilities of Directors of Studies pertaining to CPD include leading the implementation of CPD, sourcing and making relevant resources available to teachers, producing reports, observing teachers’ lessons, and teaching at least 240 minutes of classes per week to enable school-based mentors to provide CPD (REB, 2019).

The following sections focus on the frequency and type of CPD school leaders gave to their teaching staff and aims to find evidence of knowledge transfer to teachers following CPD providers’ training of school leaders.

How often did school leaders offer CPD to their teachers?

Most school leaders (83%) reported providing CPD to their staff. Almost half (46%) reported providing monthly training, and 23% did this more frequently. Directors of Studies provided CPD to teachers more regularly than head teachers (Figure 8).

Figure 8: Frequency of school leaders' CPD provision to teaching staff

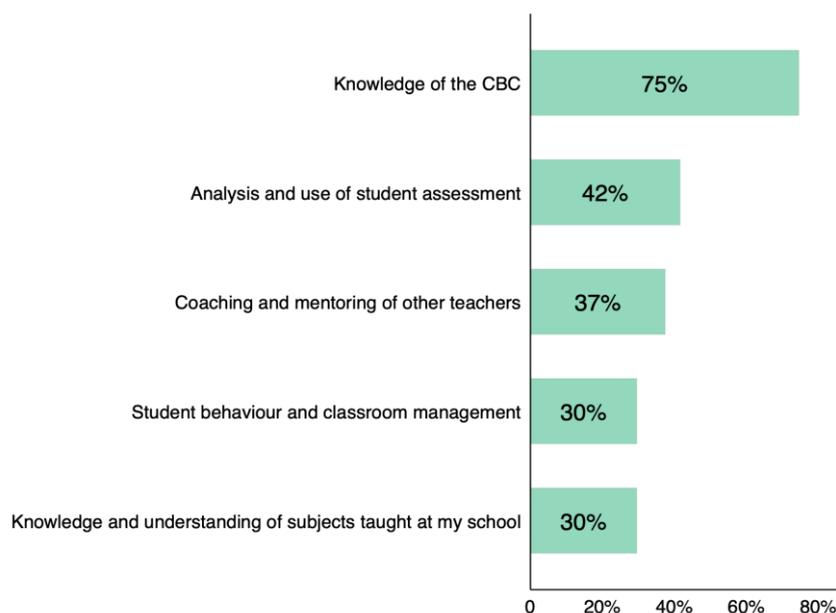


School leadership experience and whether the school is a school of excellence appear to play an important role in terms of whether school leaders provided CPD to teachers in their schools. The most experienced leaders (five years or more in a leadership position) were more likely to provide training to staff (85%) than their less experienced colleagues (77%). 91% of those leading schools of excellence trained their staff compared with 82% of those leading non-schools of excellence.

What type of CPD did school leaders offer their teachers?

School leaders reported generally focusing on providing training on pedagogy as well as teaching and management practices in the classroom. Irrespective of their specific role at the school and gender, school leaders mostly focused on delivering topics related to CBC and teacher coaching (Figure 9).

Figure 9: Main CPD topics covered by school leaders in their training to teaching staff



Note: Figure 9 only reports the 5 main topics which were listed by school leaders when prompted about the CPD topics they deliver to teachers. Table 2 provides a detailed list of all topics school leaders could have selected.

Did school leaders pass on the CPD training they received to their teachers?

To determine whether CPD delivered to school leaders was passed on to teachers, we examined the relationship between the types of training which CPD providers delivered to school leaders, and the CPD school leaders reported delivering to their teachers.

We determined this relationship using a logistic regression of the dependent variable, which is the topic on which school leaders reported delivering CPD to teachers (i.e. the variable is coded as 1 if the school leader reported delivering CPD to teachers in that topic, zero otherwise) and the independent variable which refers to a similar CPD training delivered to school leaders by either (i) VVOB/URCE, AIMS or REB, (ii) community-based CPD providers, (iii) school-based CPD providers.

We use control variables including school leaders' gender, experience in the job, position at the school, school status and school location to determine the extent to which these factors may affect the likelihood of training being passed on to teachers.

We provide our model in the equation below:

$$CPDtr = \alpha + \beta_1 CPDsl + \beta_2 gender + \beta_3 experience + \beta_4 position + \beta_5 location + \beta_6 status$$

Where *CPDtr* indicates the CPD topic delivered to the teacher, *CPDsl* the CPD topic delivered to the school leader, while *gender* refers to the gender of the school leader. *Experience* refers to the reported years of experience as a school leader while *position* provides information on the school leader role – whether a head teacher or Director of Studies. Finally, *location* and *status* provide information respectively on whether the school is in rural or urban area and whether or not it is a school of excellence.

CPD topics delivered to school leaders were not identical to the specific training school leaders passed on to their teaching staff. We therefore ran multiple logistic regressions involving related CPD topics to determine whether the training initially provided to school leaders was eventually passed on to teachers (see Annexes 1 and 2).

School leaders' reports of CPD provided to teaching staff

Our regression analyses show that CPD on knowledge of the CBC, student behaviour and classroom management and teaching in English have the highest likelihood of being transferred to teachers. The location of the school and its status are also important factors in the transmission of this knowledge.

Considering the topic of "Knowledge of the CBC", we found that school leaders are 1.3 times more likely to provide this CPD to their teaching staff if they have received similar training from school-based training providers. They are also 1.7 times more likely to pass on this training to their teaching staff if their schools are in an urban area. Leaders at schools of excellence are 52% less likely than their counterparts at non-schools of excellence to provide CPD on "Knowledge of CBC".

We found that teaching staff are over 7 times more likely to be trained on student behaviour and classroom management if they work in a school of excellence⁵. Moreover, teachers are 8 times more likely to be trained on Teaching in English if their schools are in an urban area.

Very few school leaders (less than 15% of the sample) reported delivering CPD on either STEM or inclusive teaching. We thus omitted these two thematic areas in our regression analysis.

Summary

Most school leaders in this study reported training their teaching staff. School leaders in schools of excellence and those with five or more years of experience as leaders are the most likely to deliver CPD to their teachers.

School leaders are most likely to provide CPD to their teachers on topics related to the CBC, classroom management practices and coaching and mentoring of teachers. Leaders at schools of excellence, however, are the least likely to provide training on the CBC. Overall, very few school leaders provided CPD to teachers on STEM and inclusive education.

It is also important to note that school leaders' likelihood of transferring the training they received to teachers varies according to the CPD provider, the location of the school and the school status (i.e. school of excellence or not a school of excellence). For example, school leaders were more likely to train teachers on knowledge of the CBC, if they had received CPD on a similar topic from school-based CPD providers.

Teachers were 7 times more likely to receive CPD from school leaders on student behaviour and classroom management when they taught at schools of excellence. They were also 8 times more likely to receive training on the topic "teaching in English" when they taught in urban schools.

⁵ This regression result was observed on a very small sample of participants: N=70.

Conclusions

This paper sought to understand CPD provision to head teachers and Directors of Studies in schools which benefited from the Leaders in Teaching initiative. Specifically, the paper aimed to shed a light on the most likely CPD providers to school leaders and the most likely themes of training. The paper also examined the extent to which the training provided to school leaders was in turn passed on to teachers.

Most school leaders surveyed reported receiving CPD, with more male than female school leaders receiving CPD. We also found that school leaders with at least five years of experience were more likely to be trained than their less experienced counterparts. CPD providers also appear to have prioritised delivering training to school leaders in non-schools of excellence.

Most school leaders reported receiving CPD from VVOB/URCE, Sector Education Officers and school-based mentors, with the main training topics covered being the CBC and inclusive teaching. This supports the Government of Rwanda's policy on building the teachers' capacity on the CBC, which was rolled out in 2015 (Ndiokubwayo et al, 2019).

Most school leaders also reported providing CPD to their staff. While school leaders at schools of excellence were the least likely to receive CPD, they were the most likely to report training their teaching staff. Furthermore, the most experienced leaders were the most likely to deliver CPD to their teachers.

We also examined the likelihood of school leaders passing on the training they received on a range of training topics, to their teachers. We found that school leaders who were trained on Knowledge of the CBC, student behaviour and classroom management and Teaching in English were the most likely to pass this knowledge on to their teaching staff. The limited sample of school leaders reporting delivering CPD on inclusive teaching and STEM to teaching staff did not allow us to determine whether school leaders trained on these topics passed it on to their teachers.

School status and location could also influence the likelihood of teachers receiving CPD. We found that CPD on student behaviour and classroom management was more likely to be passed on to teachers when they worked in schools of excellence, while training on "Teaching in English" was more likely to be passed on to teachers who worked in urban areas.

It is possible that some CPD topics are more effectively transferred to teachers via their school leaders because of school leaders' own competence in these subjects. Furthermore, considering all the CPD they received, and their teachers' needs, school

leaders could select the topics they consider to be most relevant or pressing to pass on to their teaching colleagues. We have also observed that some CPD topics will most likely be passed on to teachers working in schools of excellence or urban schools, suggesting that a school's material resources or proximity to a city centre may influence the likelihood of teachers to receive CPD.

Implications

- Providing training to female school leaders is an important area of focus, as they are currently under-represented both as school leaders and as recipients of CPD.
- While the evidence that CPD is being provided to less-resourced schools (such as non-schools of excellence and those in rural areas) is encouraging, there are opportunities to further focus on providing CPD to schools with the greatest resource needs. Assessing the training needs and capacity at non-schools of excellence could inform this focus.
- While half of the school leaders surveyed reported receiving CPD on inclusive teaching, only a quarter of them were trained on gender-sensitive teaching practices. Efforts to train Rwandan school leaders in this subject could contribute to closing the student performance gender gap.
- There is an opportunity to focus on providing training to less experienced school leaders, who are less likely to have received training than those with five years of experience or more.

Opportunities for further research

It would be informative to understand further why the chances of some CPD topics being delivered to teachers vary according to the initial training provider to school leaders, the latter's school status - school of excellence or other school – or location.

This paper also provides evidence that school leaders working in the Leaders in Teaching districts were able to access and, in some cases, pass on the training they received to their teachers. It will be important to understand further the potential barriers to accessing or delivering CPD, as well as the extent to which CPD offered to teachers translates into improving teaching quality and ultimately students' learning outcomes. Finally, future research could also investigate whether the quality of training delivered through a cascade model is on par with that offered by professional CPD providers.

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Annex 1: CPD offered to school leaders and CPD delivered to teachers by school leaders

Table 1: Types of CPD offered to school leaders, and types of CPD delivered to teachers by school leaders

CPD delivered to school leaders (independent variable)	CPD delivered to teachers (as reported by school leaders) (dependent variable)
Assessment	Analysis and use of assessment
Science inquiry; Science content knowledge; Mathematical content knowledge; Supporting teachers in developing their teaching skills in STEM; Use of micro-science kits	Knowledge and understanding of subjects taught at my school
ICT proficiency; Supporting teachers in developing their ICT skills	ICT for teaching and analysis
Knowledge of the CBC; Student-centred learning strategies; Teaching cross-curricular skills (e.g.: creativity, problem solving, critical thinking); Supporting teachers in developing their understanding of the CBC.	Knowledge of the CBC
Teaching/supporting students with disabilities	N/A ⁶
Gender inclusive teaching practices/strategies (i.e.: providing equal opportunities boys and girls in learning)	N/A
Teaching/supporting students who are 'slow learners'	N/A
Teaching/supporting students from very poor backgrounds; Teaching/supporting students in multicultural or multilingual settings	Teaching students from different backgrounds
Use of English as a medium of instruction, supporting teachers in developing their English language skills	Teaching in English
Supporting teachers who face challenges, Coaching and mentoring of teachers	Coaching and mentoring of teachers
Student behaviour and classroom management	Student behaviour and classroom management

⁶ N/A indicates that there were no corresponding CPD topic which could have been reported by the school leader.

Annex 2: Regression analysis output

Table 1: Regression output A

Independent variables (CPD delivered to school leaders and control variables)	Dependent variables (CPD delivered to teachers by school leaders)		
	Knowledge of CBC	Knowledge of CBC	Analysis and use of student assessment
Knowledge of CBC (provided by IEE or REB)	1		
Knowledge of CBC (provided by community based CPD providers)	2.029 (2.44)*		
Knowledge of CBC (provided by school based CPD providers)	2.349 (3.46)**		
School leader's gender	1.492 (1.19)	0.661 (1.03)	0.928 (0.24)
School leader years of experience	0.643 (1.66)	0.663 (1.32)	1.023 (0.09)
School leader's position (Headteacher)	0.897 (0.47)	0.629 (1.64)	1.115 (0.46)
School's location (urban)	2.720 (2.36)*	3.130 (1.49)	0.787 (0.64)
School status (school of excellence)	0.490 (2.27)*	0.747 (0.64)	1.154 (0.49)
Student-centred learning strategies (provided by implementing partners or REB)	1		
Student-centred learning strategies (provided by community based CPD providers)	1.322 (0.68)		
Student-centred learning strategies (provided by school based CPD providers)	1.564 (1.25)		
Assessment (provided by IPs or REB)	1		
Assessment (provided by community based CPD providers)	1.373 (0.89)		
Assessment (provided by school based CPD providers)	1.118 (0.37)		
Supporting teachers in developing their ICT skills (provided by community based CPD providers)			
<i>N</i>	212	143	153

Note: * $p < 0.05$; ** $p < 0.01$

Table 2: Regression output B

Independent variables (CPD delivered to school leaders and control variables)	Dependent variables (CPD delivered to teachers by school leaders)	
	Student behavior and classroom management	Teaching in English
Student behaviour and classroom management (provided by community based CPD providers)	1.451 (0.61)	
Student behaviour and classroom management (provided by school based CPD providers)	2.882 (1.43)	
School leader's gender	0.517 (0.78)	0.552 (1.07)
School leader years of experience	1.497 (0.77)	0.952 (0.09)
School leader's position (head teacher)	0.464 (1.21)	2.194 (1.49)
School's location (urban)	2.615 (1.71)	9.329 (2.28)*
School status (school of excellence)	8.066 (3.29)**	0.165 (1.69)
Teaching/supporting students from very poor backgrounds		
Teaching/supporting students in multicultural or multilingual settings		
Use of English as a medium of instruction (provided by community based CPD providers)		8.966 (1.38)
Use of English as a medium of instruction (provided by school based CPD providers)		4.980 (1.07)
Coaching and mentoring of teachers (provided by community based school providers)		
Coaching and mentoring of teachers (provided by school based school providers)		
N	70	66

Note: * $p < 0.05$; ** $p < 0.01$



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