

Teachers Learning Together

Large-scale approaches to teacher communities of practice

Highlights from an initial research study in Rwanda

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Welcome to Education Development Trust

About us

Education Development Trust, established over 50 years ago as the Centre for British Teaching and later known as CfBT Education Trust, is a large educational organisation providing services for public benefit in the UK and internationally. Our work involves school system improvement through reforms in accountability, school workforce development and school collaboration for governments and partners worldwide.

We have successfully implemented education programmes for governments in the Middle East, sub-Saharan Africa, South East Asia and the UK, using evidence-informed solutions which we co-design with clients and partners according to local need and context. Our partners include donors such as the Department for International Development and the Department for Education in the UK, the European Commission and the World Bank, and research partners such as the University of Oxford, University of Durham, Brookings Institute and the Education Commission.

Our commitment to research and learning

Education Development Trust's large scale delivery is underpinned by evidence and research. As a registered charity, we reinvest a percentage of our surplus into a publicly available programme of educational research. We also invest in an ongoing Research and Development cycle to rigorously review the impact of our own programmes, generate new evidence on what works, and share insights to support broader debate and policy.

The evidence and lessons shared in this report are part of this ongoing commitment to Research and Development.

Foreword

35,000 teachers across Kenya and Rwanda are currently taking part in an exciting new professional development programme, with the potential to impact the learning of over 2.6 million learners. Through two ambitious UK-aid funded initiatives, teachers have the opportunity to participate in school and cluster-based communities of practice (CoPs) where, in collaboration with their colleagues, they take charge of their professional development agenda by sharing experiences and supporting each other to improve their teaching practice.

The CoPs take place in a wide range of challenging contexts, from urban slum settings in Mombasa to isolated village schools on the shores of Lake Kivu. They cover numeracy, literacy and English teaching techniques from early to late primary, and cross cutting practices such as inclusive pedagogies. More than 3,300 schools are taking part, and stakeholders at all levels of the Rwandan and Kenyan education systems – including head teachers, coaches and school-based mentors – are involved in supporting the CoPs to thrive.

Early signs have been promising. An external evaluation of the first phase of the programme in Kenya found gains in girls' literacy outcomes compared to a control group.¹ In Rwanda, just a few months into the programme, both English and maths teachers' competencies in inclusive pedagogies have improved.

We believe these two initiatives in Kenya and Rwanda are a vital opportunity for the global education community to learn more about 'what works' at scale to improve quality teaching and learning.

This research, *Teachers Learning Together*, is Education Development Trust's investment in this learning agenda. As an evidence-led organisation, we invest annually in a programme of research and

35,000
TEACHERS
TAKING PART

2,600,000+
LEARNERS
REACHED

3,300+
SCHOOLS
INVOLVED

development to generate new evidence on what works, and share insights to support broader debate and policy.

Over the next 18 months, our aspiration is that *Teachers Learning Together* will help us to share lessons on the potential of CoPs as a low cost intervention to transform teaching and learning, and to understand more about the local system conditions under which they can flourish.

This report outlines some of our early insights as we begin to analyse the findings from the baseline research phase in Rwanda carried out in early summer 2019. The results from the Kenya baseline will be available in early 2020.

Charlotte Jones
Global Head of Research and Development

1. Introduction

The global learning crisis – why a focus on communities of practice?

CoPs are a promising response to the global learning crisis. A large body of evidence affirms that teaching quality is the single most important school-based influence on student learning outcomes.² As a result, there is a global consensus that improved teaching must be at the centre of education reforms. Most donors and governments have responded with large investments in teacher training; for example a recent analysis of World Bank funding shows that two thirds of education programming in recent years has included an element of teacher professional development (PD).³

Yet a lot of investment in teacher PD fails to improve teaching quality and student outcomes. Despite this large expenditure, recent studies show a dramatic and worrying variation in its effectiveness.⁴

However, there remains an urgent need to understand ‘what works’ in teacher development, and under which system conditions, so that policymakers can focus their investment with confidence.



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The latest international evidence shows that a highly promising area of practice is collaborative professional development: when teachers learn together and work collegiately in CoPs, their professional learning is more effective.⁵ Alongside other critical factors, such as strong subject knowledge, learning collaboratively can accelerate improvements in teaching quality. It helps to reignite teachers’ motivation, build confidence and generate sustainable improvements in teaching practice and, ultimately, student learning outcomes.

Why is research in this area important?

Firstly, there is a lack of evidence on low cost adaptations of teacher development solutions, which have potential to scale in lower resource contexts. Most evidence on collaborative teacher professional development is from high income contexts, and there are few studies which look at low cost adaptations. What should these teacher networks structures look like to be cost effective at scale?

Secondly, it is not enough to understand what makes an effective CoP meeting. In order to go to scale, we need a better understanding of the contribution of wider education system actors – school leaders, coaches, district officials – to the success of CoPs. What is the role of local change agents in facilitating the CoP experiences? How should we build the capacity of school leaders and other stakeholders to optimise impact? These kinds of questions are at the centre of current debates on successful scaling in education systems, and a call for more evidence on the contribution these members of the education workforce can make.⁶

What are the research aims?

The Teachers Learning Together research will help to fill this evidence gap by investigating promising CoP models in two large scale programmes in sub-Saharan Africa, asking:

Question 1 What is the impact of CoPs on teaching practice and teacher motivation?

Question 2 What are the features of effective CoPs?

Question 3 What is the role of system level actors – such as school leaders, coaches and subject supervisors – which help CoPs to flourish at scale?

The results will be used to create a model for effective CoPs, with success indicators for implementation at school and system level. A draft of this model is shared in this report. As well as contributing to the wider policy debate on effective teacher development, findings from the study are being shared on an ongoing basis with delivery teams and local education agencies, to feed into ongoing programme adaptations.

About the communities of practice in Kenya and Rwanda

The two initiatives in Kenya and Rwanda are particularly interesting case studies of teacher CoPs. Both programmes aim to improve foundational learning outcomes for all learners in challenging contexts by offering continuous and practical support to educators with CoPs at the heart of their professional development. The CoPs are based on the best international evidence. They support teachers to discuss learning from recent training, coaching or their own teaching activity, and to share their experiences of implementing new techniques. Both programmes seek to build the capacity of local education system actors – such as school leaders or coaches – to deliver and support the CoPs.

There are some interesting differences, which take account of the local education system roles and capacity. More details on these local models are shown overleaf.

Research methodology

Overall methodology

The research uses a mixed-methods approach, combining both qualitative and quantitative methods. The design will help to test the connection between various features of teacher collaborative learning and teaching outcomes over a year-long period, and to explore how and why CoPs support changes in teaching practice and motivation.

Since the CoP design differs across the two programmes, we had an opportunity to apply different models of quantitative research to generate more robust findings on best practice in teacher collaboration. In Kenya the research uses an experimental design which compares treatment and control groups; in Rwanda the research employs a quasi-experimental design which compares the impact of CoPs on teaching practice and motivation for participants with different exposure levels due to phased programme roll-out.⁷

Baseline methodology for Rwanda study

The baseline insights in this report are derived from surveys with almost 100 schools across the 30 districts in Rwanda, and 270 teachers. In addition, in-depth qualitative interviews were conducted with 27 teachers and focus groups with 10 headteachers.

At this baseline stage, teachers were asked in a survey about the effectiveness of their CoPs and this information was used to group CoPs into three categories (high, medium and low performing). Quantitative analysis (principal component analysis)⁸ was used to create indexes for thematic areas, which are discussed in the findings section.

About the programmes in Rwanda and Kenya

Both the Girls' Education Challenge-Transition (GEC-T) in Kenya and Building Learning Foundations (BLF) in Rwanda are funded by DFID and implemented by consortia led by Education Development Trust (including Ananda Marga Universal Relief Team (AMURT), Concern Worldwide, Kesho Kenya and Pastoralist Girls Initiative (PGI) in Kenya and VSO and the British Council in Rwanda). The GEC-T programme aims to reach 63,000 girls currently in primary school. The BLF programme aims to improve learning outcomes in English and mathematics of 2.6 million children enrolled in grades P1-P3. The CoPs in Kenya and Rwanda are highly tailored to local needs, with contrasting models:

In Kenya

CoPs are cluster-based, with 100 CoPs operating across 500 schools. They combine maths and literacy teachers. Teachers meet monthly in their clusters, and the CoP is facilitated by an itinerant Instructional Coach who also works with teachers on a 1:1 basis. The coach identifies key challenges and good practice before each CoP, supporting teachers to discuss their practice. There is currently no major role for school leaders in the model.

In Rwanda

CoPs are school-based. There is a mathematics and an English CoP in each of the 2,600 schools (5,000+ CoPs in total). The CoP meetings are monthly and led by teachers themselves and are scheduled for the end of each unit which they follow in their subject specific toolkit. School leaders, School Mentors, School Subject Leaders, and district officials have a formal role in supporting and enabling the CoPs.





2. The key characteristics of effective communities of practice

A draft model for communities of practice success at scale

Preliminary findings from Rwanda have allowed us to address research questions 2 and 3. We have identified four characteristics associated with effective CoPs:

1 Teachers use **high quality content** in the CoP meeting to have a **professional dialogue** on teaching and learning

2 Teachers foster a **culture of collaboration** in the CoP meetings

3 There is appropriate **governance, leadership and facilitation** of the CoP meetings

4 Key **enabling conditions** are in place for the CoP meetings

Within these four areas, we have identified 15 success indicators. These are discussed in more detail in the sections that follow. There are many areas of overlap between the indicators and several factors are also mediated by cross cutting considerations which we will discuss in the following sections, such as the maturity of the CoP. These are marked by an asterisk.

The model suggests that CoP effectiveness depends on wider institutional and enabling factors, as well as how the CoP meeting functions itself. These insights could be particularly useful for policymakers when considering how to scale CoPs within different local education systems.

1. HIGH QUALITY CONTENT AND PROFESSIONAL DIALOGUE

The discussion is structured through the use of high quality resources, such as toolkits and videos

There is a professional dialogue which includes sharing common problems, providing collegiate challenge and discussing solutions to classroom experiences

Teachers spend time planning action points to implement after the meeting

2. A COLLABORATIVE CULTURE

Individuals feel there is active participation in the CoP

Individuals feel there is equal opportunity to participate

Participants trust, support and encourage each other

3. APPROPRIATE GOVERNANCE, LEADERSHIP AND FACILITATION

Subject leaders provide subject specialist support to CoPs

School leaders empower teachers to lead the CoPs*

Teachers are free to set the topic for discussion*

Teachers play a role in deciding the format and organisation of the CoP

School leaders enable and support teachers to attend

School leaders put in place accountability structures to follow up on learnings and actions from the CoPs

4. KEY ENABLING CONDITIONS ARE IN PLACE

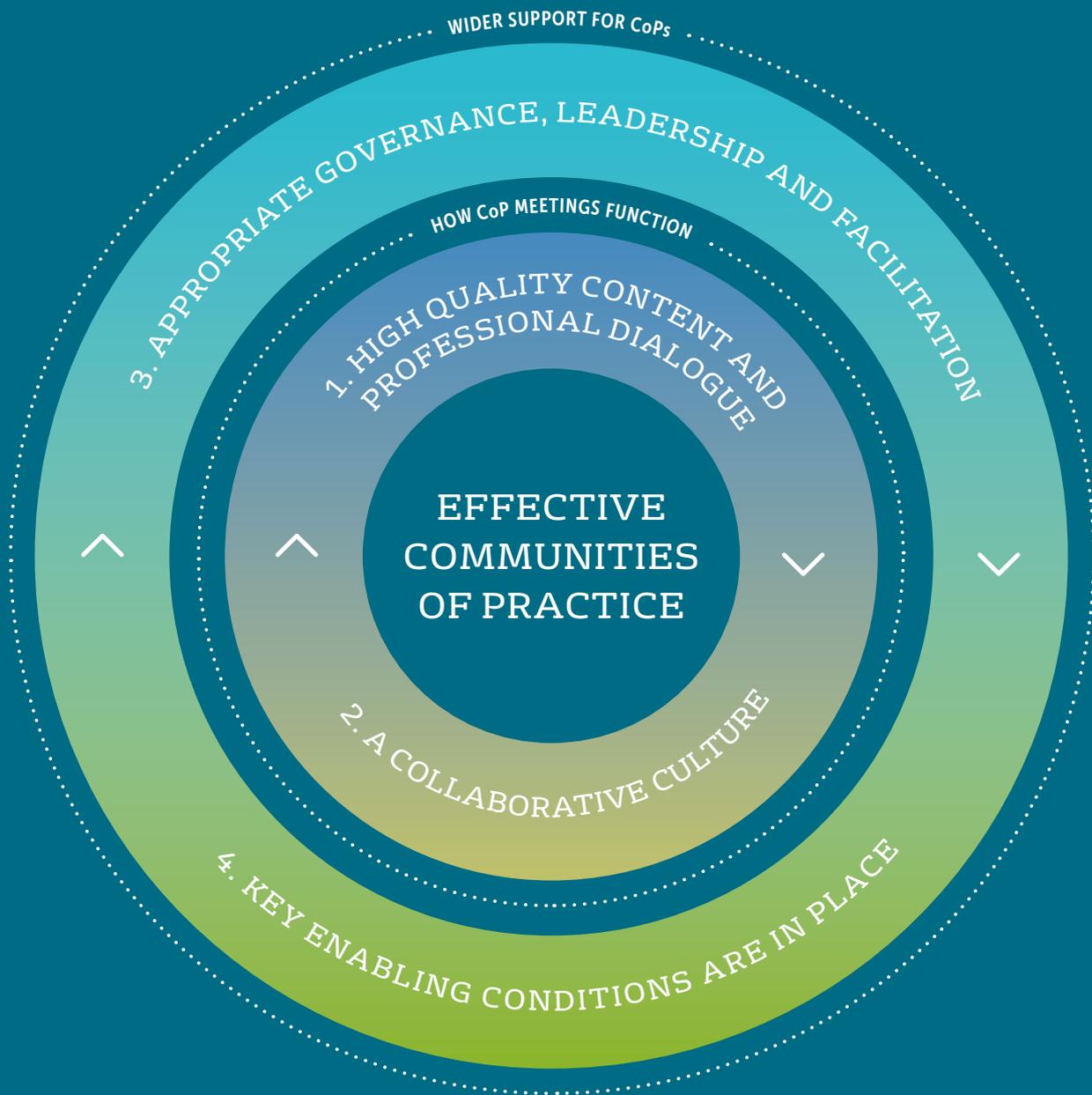
There is adequate time and space allocated for the meeting

Teachers have access to resources needed for the meeting

Teachers are given flexibility over the language of discussion

* Mediated by wider factors such as the maturity of the CoP (see discussion in the sections which follow)

Success indicators for effective
CoPs based on preliminary results
from the *Teachers Learning Together*
study in Rwanda



3. Highlights – preliminary findings from Rwanda

This section offers highlights of preliminary findings, based on quantitative and qualitative results from Rwanda in autumn 2019. Full results and technical papers, including the statistical analyses underpinning the model in section 2, will be published in 2020.

Finding 1: CoPs are most effective when the teachers have access to materials which model good teaching practice and this is used to stimulate professional dialogue.

Wider international evidence from high resource contexts suggests that CoPs need access to high levels of external expertise, to avoid recycling and reinforcing poor practice: they ‘should not be content agnostic.’⁹ Evidence also suggests that CoPs thrive where there is a robust professional dialogue and professionals work together to solve educational issues.¹⁰

79%

OF TEACHERS IN HIGH PERFORMING CoPs STATE A CLEAR UNDERSTANDING OF HOW TO USE AVAILABLE RESOURCES VS JUST 33% IN LOW PERFORMING CoPs

Our early results show that teachers in Rwanda respond well to stimulus material. Higher performing CoPs use available resources (toolkit, phones, videos, teaching guides) much more frequently than medium and low performing CoPs. For example, 85% of high performing CoPs used videos, compared to only 56% of the lower performing CoPs. Additionally, teachers in high performing CoPs state a better understanding of how to use available resources (79% say they are clear against just 33% in low performing CoPs).

Our teacher survey results also show the importance of a strong professional dialogue: we found a moderate positive correlation between the strength of ‘professional dialogue’ (as measured by an index) and CoP effectiveness ($r=0.651$; $n=268$; $p < 0.001$). More detailed quantitative analysis¹¹ suggests that the following items are statistically significant components of this ‘professional dialogue’:

Teachers discuss common problems faced in the classroom

Teachers discuss and share solutions to common problems faced in the classroom

There are opportunities for sharing classroom experiences

There are opportunities to share feedback with colleagues

There are opportunities to provide collegiate challenge

There is the opportunity to plan action points to be implemented after the meeting for improving teaching and learning

The content being discussed is relevant

The qualitative findings shed light on how this worked to help teachers find solutions to challenges and to generate new knowledge through group reflections:

'We hold discussions according to the problems we have encountered in our [toolkit] studies... we agree with what to discuss.'

Teacher, Rulindo district

'CoPs are very good when I encounter any challenge. When I face a challenge while reading the toolkit, I can bring this in the CoP and my colleagues help me understand better.' Teacher, Gisagara district

'We are able to share different ideas and on some instructions that we are not able to explain ourselves, our colleagues are able to help us out.' Teacher, Rutsiro district

Finding 2: Building a collaborative culture is critical to CoP success

Teachers repeatedly shared with us the importance of high quality peer relationships within the CoPs. They emphasized that a culture of collaboration was being built, and how this was critical to the CoP functioning well.

Quantitative analysis from the teacher survey confirms the significance of a collaborative culture to CoP success. An index on 'CoP culture' was created from survey results and we found a moderate positive correlation with CoP effectiveness ($r= 0.501$; $n=272$; $p < 0.001$). More detailed quantitative analysis¹² suggests that the following items are statistically significant components of this 'collaborative culture':

Levels of trust within the CoP

Levels of active participation

Equal opportunities to participate

Teachers explained to us why this kind of atmosphere was so important. They described how, with the right levels of trust, teachers could solve real problems of teaching practice:

'What I learnt in CoP is to be free to my fellow teachers, being free to express myself and being free to ask questions where I do not understand or [I] have a problem.'

Teacher, Gicumbi district

'In my opinion the CoPs has increased our collaboration on both our relationship because before the CoPs everyone used to do their things on their own but now we are more open to each other like if its certain difficulty, you are free to ask your colleague for guidance so in my opinion I think our collaborations have improved.' Teacher, Bugesera district

This is a promising finding and it potentially bodes well for sustaining learning and school improvement in the future. International evidence¹³ suggests that strong levels of teacher trust can have wider benefits, helping teachers feel more connected and able to seek assistance from peers outside of CoP meetings. In this way, collaborative learning becomes institutionalized and teachers build their professional resilience.

We are unable to conclude at this early stage whether this is yet happening in Rwanda, but there are promising signs that collaborative working is becoming 'the way we do things around here', as captured in the following reflections from teachers:

'When we meet in the CoPs we discuss about different issues and difficulties encountered in class [...] but in addition to that even when you meet your colleague outside the school maybe break time you are able to, there is this communication or this assistance you are free to ask your colleague like how can I deal with such and such a problem so there is such a collaboration between us.' Teacher, Nyamagabe district

'When it was first introduced we used to say that we don't have time but the school head teacher showed us that actually we were doing CoPs before they were introduced in our school, because every time we encounter a certain difficulty we were able to tell your colleague [...]. The CoP helps us because you can't keep difficulties to yourself, when you encounter a certain challenge your colleague helps you and this also helps our students and even the parents because we are improving their children's knowledge.' Teacher, Nyanza district

Finding 3: CoPs need appropriate governance, leadership and facilitation to thrive, but there are complexities in 'what works' depending on context

How should CoPs be facilitated to ensure that they are effective? What should school leaders be doing to support their success? Our early findings from Rwanda offer several insights into these questions.

Firstly, at a basic level, our findings suggest that school leaders can support CoP performance through **basic management effectiveness**. They should enable teachers to attend by removing timetabling barriers, for example. School leaders in high performing CoPs were more likely to allow teachers to attend CoP meetings (93%) than in low (81%) performing CoPs.¹⁴ Other management techniques, such as following up on CoP meetings were also effective. School leaders and teachers alike described the importance of putting in place accountability structures to follow up on actions from the CoPs, such as making classroom visits



for instructional support and tracking the implementation of meeting action points:

'They make a summary of what they have talked about, discussed about and then they attach the attendance of those who came.' Head teacher, Kayonza district

'There are times like in a trimester he [head teacher] attends my class twice to see how we are teaching and how students are doing and give feedback.' Teacher, Karongi district

Secondly, through correlation analysis, we have been able to explore the importance of **different leadership roles** played by school leaders (head teachers) and school subject leaders in supporting CoPs:

School leaders (head teachers) are effective when they purposefully step back and delegate CoP responsibility to teachers, acting in more of a 'distributed leadership' style. This is characterised by less frequent involvement in CoPs for example.

School subject leaders play a very different role, providing subject-specific expertise to CoPs. When they have a more 'directive' style of leadership – for example participating in CoPs and providing direct feedback – this is associated with high performing CoPs.

Different leadership roles played by school leaders

	School Subject Leads' leadership style		School Leaders' leadership style	
	Directive	Distributed	Directive	Distributed
CoP high performing	0.231	-0.213	-0.229	0.265
CoP low performing	-0.293	0.228	0.362	-0.317

Correlation analysis between self-evaluated CoP performance, and leadership styles (p < 0.001)

A maturity model for CoPs?

The qualitative analysis suggests that CoPs' needs – in terms of governance, leadership and facilitation – may change over time.

Teachers described how, as capacity was built, they could take on more management themselves. They were more autonomous in designing the agenda and moderating meeting discussions. They described how they decided on key roles, often rotating positions to ensure equity.

School leaders and teachers both recognized that the way that CoPs were managed therefore needed to evolve over time, as teacher capacity grew.

The best school leaders clearly recognized the need to gradually adjust their leadership style over time, standing back as the CoP model embedded.

This is a potentially an important nuance for CoP success indicators: more research is needed to understand how these indicators may be mediated by the maturity stage of the CoP.

It is also potentially an important finding for policymakers and programmers designing school leadership training: leaders should be equipped with the skills to recognize teacher capacity and to evolve their leadership styles over time to optimize their impact throughout the CoP lifecycle.

'Our CoPs are conducted in a way that after each CoP, we choose someone who will chair the next CoP but nowadays we do a semester plan... like a timetable showing each one and the date they will chair the meeting so when the date comes they prepare the meeting, they prepare the agenda and what we have to discuss in that meeting.' Teacher, Nyamagabe district

'When the CoP first started, our presence in the CoPs was key, but now that the system has strengthened, we do not need to be in CoPs for them to actually happen or for the teachers to put the effort in it the system is now stronger, we don't need to supervise these CoPs whether you are there or you are not the CoPs happen like effectively.' Headteacher, Kayonza district

Finding 4: Key enabling conditions need to be in place to ensure CoPs are effective

The findings suggest that a range of basic conditions need to be in place to ensure that CoPs are effective. Most of these come as no surprise: teachers need the right time and space. Teacher survey results show a clear correlation between these factors and CoP effectiveness:

63% of teachers in high performing CoP strongly agree that there is an **adequate venue** for CoP meetings vs. 41% in low performing CoP

56% of teachers in high performing CoP strongly agreed that **time allocation is adequate** vs. just 28% in low performing CoP

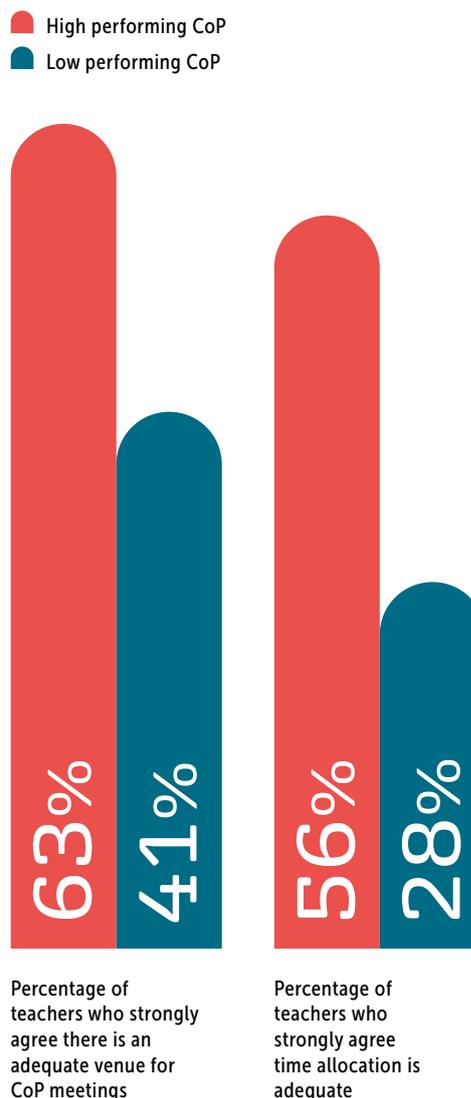
What is less clear at this early stage is whether other factors – such as the language of discussion or teacher subject knowledge – make a difference to CoP effectiveness.

In terms of language, teachers in Rwanda are currently advised to use the language of instruction (English) for CoPs focusing on English teaching skills, in order to support language practice. However, early feedback from teachers suggests that more flexibility to code switch may be beneficial. Teachers repeatedly told us that, in practice, both Kinyarwanda and English are used, and that Kinyarwanda is more popular. The teachers explained that they mix the languages to aid their comprehension:

‘We mostly use Kinyarwanda but in English CoPs we try to mix with some English but the most language we use here is Kinyarwanda.’ Teacher, Bugesera district

‘In English CoP we often use English, but we also mix with Kinyarwanda to make us understand better but in Maths we use Kinyarwanda.’ Teacher, Huye district

Teacher survey results show a clear correlation between key enabling conditions (space and time) and CoP effectiveness:



This is worth further exploration during the final phase of the research, to understand whether use of language effects CoP impact over time.

A further area of enquiry in the baseline was teacher subject knowledge (self-assessed). At this early stage we found no simple relationship between teacher subject knowledge and CoP effectiveness. In the final phase of the research, we would like to explore whether this can be a limiting factor for CoP effectiveness, and whether there are differences between English and maths subject knowledge.

4. Next steps

This report outlines preliminary insights from the *Teachers Learning Together* baseline research in Rwanda. Findings are already being used to support ongoing programme adaptations and improvements across Rwanda. Results from the Kenya baseline will be available in early 2020. The final phase of the *Teachers Learning Together* research will include:

1 An overall impact analysis of the Rwanda and Kenya CoPs in relation to teacher level outcomes, to address Research Question 1.

2 Testing of the draft CoP model and the 15 success factors, drawing on findings from Kenya and the impact analysis at endline.

3 An exploration of the similarities and differences between the CoPs in Kenya and Rwanda.

The early findings have also raised key lines of enquiry which we will seek to explore in the final research phase:

4 How far have the CoPs cultivated a wider and more sustainable school improvement culture?

5 What further evidence is there of a CoP maturity model and do CoP success factors change over time?

6 Are there further enabling – or limiting – factors for CoPs? Can we explore the significance of factors such as the language of discussion and teacher subject knowledge?

References and notes

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7. CoP roll out in Rwanda happens in 3 waves over the course of one academic year. A second implementation phase in Year 2 will then deliver a more reflective approach for the facilitation of the CoPs. This analysis will be driven by a hypothesis around the differences in exposure level between teachers in Wave 1 and Wave 3, and a related hypothesis around a 'maturity model' as the intervention moved into its second, reflective phase.
8. Principal component analysis (PCA) is a statistical technique that is used to analyse the interrelationships among a large number of variables and to explain these variables in terms of a smaller number of variables, called principal components, with a minimum loss of information. <http://www.real-statistics.com/multivariate-statistics/factor-analysis/principal-component-analysis/>
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