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Improving Secondary School Teacher Quality in Sub-Saharan Africa: Framing the Issues

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Improving Secondary School Teacher Quality in Sub-Saharan Africa

Framing the Issues

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Background to the Paper

The MasterCard Foundation intends to develop a new initiative focused on strengthening the quality of teaching at the secondary school level in sub-Saharan Africa. This initiative will complement the Foundation's existing programs in education, financial inclusion and youth livelihoods, which broadly focus on helping economically disadvantaged young people in Africa find opportunities to move themselves, their families and their communities out of poverty to a better life.

This new initiative will form an integral part of the Foundation's Education and Learning program. It will build upon the Foundation's significant investment in the MasterCard Foundation Scholars Program, which provides quality secondary and university education to economically disadvantaged, but academically talented young people living in Sub-Saharan Africa.

In addition to supporting individual young people, The Foundation is committed to addressing the core systemic challenges that make it difficult for all young people to access a quality secondary education in sub-Saharan Africa. The Foundation's current programs provide support to a range of partners piloting innovative approaches to improving quality teaching and learning at the secondary level. This work has highlighted the importance of building new skills and capacities in teachers in order to improve students' learning outcomes.

The Foundation recognizes that teachers are central to an education system and that teacher quality is the single most important school-based variable affecting student performance. The Foundation believes that improving the quality of teaching is a critical prerequisite to improving learner outcomes across Africa. Teachers need the skills and capacities to deliver a relevant and quality secondary education, preparing youth for the challenges and opportunities of the 21st Century.

The Foundation's core principles will guide program design, including putting the people it serves at the center of the design process, using evidence to fine tune program design and taking a holistic and long-term approach to the program work. The University of Bristol is partnering with the Foundation during the design stage of the initiative. This paper represents a key step in the design process, capturing current evidence and strategic guidance from experts.

In particular, it reflects the outcomes of the "Enabling Teachers, Enabling Youth" Meeting, held in Kigali, Rwanda on the 18th-19th February 2016. Co-hosted by the MasterCard Foundation, the University of Bristol and the University of Rwanda the meeting brought together government officials, innovators, practitioners and academic leaders with the goal of identifying strategic opportunities to strengthen teacher quality in secondary schools in Sub- Saharan Africa, particularly in low-resource contexts.

This paper brings together key insights from literature with the insights and suggestions and priorities identified at the Kigali meeting. This paper addresses and explores three critical areas:

- Framing the issue of teacher quality: How should the issue of quality teaching be considered, particularly in the context of the current realities, the myriad challenges as well as promising trends across sub-Saharan Africa?
- Assessing the evidence base: What is the current state of research-based evidence regarding improving teaching quality in Africa, particularly at the secondary level. How does the evidence inform program design and what are important gaps in the evidence base
- Reporting back from Thought Leaders Meeting: what are the important insights on how to improve teaching quality and the key feedback on the Foundation's preliminary strategic thinking.

1. Introduction

A good quality secondary education is critical for developing the required knowledge, skills and attitudes to support health and well-being as well as sustainable livelihoods and inclusive economic growth. The development of higher order cognitive and affective skills is also key, as many low-income countries aspire to become knowledge economies. A key target of the recently adopted Sustainable Development Goal for education (Goal Four) is to ensure by 2030 that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

Whilst there has been progress in expanding access to primary education in the context of the Millennium Development Goals, this has put additional pressure on the urgent need to expand access to secondary education. At present, millions of learners are denied access to a good quality secondary education including girls, learners in urban slum and rural areas, learners with disabilities and members of ethnic minorities. In 2012, the average gross enrolment ratio for lower secondary for sub-Saharan Africa was 50% (53% for boys, 46% for girls) (EFA Global Monitoring Report team, 2015). For those who do gain access, many enter secondary education with low levels of learning including basic literacy and numeracy. Teachers also often have weak subject and pedagogical knowledge on entering the profession contributing to poor learner outcomes. Improving the professional capabilities of educators to deliver quality teaching in challenging delivery contexts is key for raising the quality of education for all including the most marginalised.

There are four reasons for investing in secondary education

- **To respond to expanding primary education:** A large increase in the number of primary graduates has created a demand for secondary education.
- **To promote equity and social cohesion:** As provision of primary education has expanded, economic opportunity for youth is increasingly determined by access to secondary education.
- **To benefit from economic globalisation**: Secondary education develops abstract reasoning and flexible thinking skills needed in high end manufacturing and the service sector (Lewin and Caillods, 2001).
- **To achieve sustainable development**: Critical thinking, creativity and problem solving skills are increasingly needed for managing rural and urban environments and responding to climate change (Bangay and Blum, 2010). Meeting these challenges will require changes to secondary curriculum, pedagogy and organisation (Sterling, 2001; Scott and Gough, 2010)

2. Setting the scene: trends in secondary education and teacher education

Lower secondary is rapidly expanding but still beset by inequalities

This is an exciting time for secondary education in sub-Saharan Africa. In many countries it is expanding and the student population is diversifying. The new education Sustainable Development Goal has set an ambition for lower secondary education to be free and compulsory as part of the basic education cycle. Whilst enrolment rates in secondary education remain low in some countries, they have nonetheless increased significantly. Since 1999, enrolments in secondary have more than doubled from a total of 21.6 million in 1999 to 48.6 million in 2012 (EFA Global Monitoring Report team, 2015: 374). In most countries, secondary enrolment rates have multiplied to threefold over the last 15 years[1]. The least wealthy and those in rural schools are the least likely to participate in secondary education despite disadvantaged students participating in increasing numbers (Verspoor and with the SEIA team, 2008; EFA Global Monitoring Report team, 2015). Gender inequality is greatest in countries and districts with low overall enrolment ratios. Nonetheless

[1] Information from statistical tables pp. 372-375 in EFA Global Monitoring Report team (2015) *Education for All 2000-2015: Achievements and Challenges - EFA Global Monitoring Report 2015*. Paris: UNESCO.

secondary education is increasingly available to young people living in difficult delivery contexts in rural or overcrowded urban areas, many of whom contribute to household labour and incomes.

However, the inequalities that characterise access are also evident in the opportunities to benefit from secondary school once enrolled. The latest Education for All (EFA) Global Monitoring Report reports that students from rural areas are less likely to complete the lower secondary cycle, and that students who work for pay whilst enrolled at school, have lower learning outcomes (EFA Global Monitoring Report team, 2015). The EFA Global Monitoring Report team's compilation of data from across surveys, demonstrates that many primary school graduates are transitioning to secondary school with low levels of proficiency in literacy and numeracy. Some countries like Kenya and Tanzania, run a multi-tier system of secondary education, so that schools managed by the most local level of government have less funding per capita and lower achievement then selective elite schools managed at the national level (Phumbwe, 2012).

Despite curriculum reform, curriculum and pedagogy are often over academic in orientation

> *In many countries in the region, secondary curricula continue to reflect elite traditions of academic schooling; they are unsuited to the demands of mass systems and inappropriate for a society and a labor market that have dramatically changed. (Verspoor & with the SEIA team, 2008:53)*

Over the last 15 years, many governments have introduced competencies-based curricula that encourage use of interactive teaching and learning strategies (Chisholm and Leyendecker, 2008). These are intended to be more inclusive and prepare students with transferable competencies for the world of work, although they often still have an academic content bias. However, The World Bank's Secondary Education in Africa (SEIA) program (Verspoor and with the SEIA team, 2008) found that the impact of these changes on learning was below expectations. This they attributed to academically oriented and content heavy curricula; pedagogy driven by the demands of high-stakes, end of cycle examinations; and unfeasible costs for materials etc. and demands on teacher skills. A four-country study reported that school leavers recommended revision towards more practical and vocational curricula (Al-Samarrai and Bennell, 2007).

Poor learner outcomes and limited instructional time

Standardised data on attainment in secondary schools in Africa is very limited with existing regional cross-country assessment limited to the primary phase. At the secondary level, the Trends in International Mathematics and Science Study (TIMSS) is the only international study with participation from sub-Saharan Africa that provides comparative data and trends for student performance, although only three SSA countries have participated. What the results of these studies reveal is that not only do the three African countries that participated (South Africa, Ghana and Botswana) lag behind other low-income countries included in the survey, they also lag behind comparator North African countries. A key factor that impacts on poor learning outcomes is limited instructional time linked to high rates of teacher absenteeism and relatively low levels of time on task (Verspoor, 2008; Naylor and Sayed, 2014; GMR, 2014).

Rapid expansion puts teacher education under pressure

Expansion of secondary education has placed demands on teacher recruitment, education and deployment. Recruiting teachers is a challenge across a range of countries. However, two factors can make it particularly difficult in under-resourced contexts. First, when education systems expand rapidly recruitment challenges are exacerbated by relative low numbers of academic qualified graduates from higher levels of the education system. The pool of qualified individuals from which to recruit teachers is small compared to the cohort of young people now in school (UNESCO Institute for Statistics, 2006; Lewin, 2007). For example, ten years ago the

UNESCO Institute of Statistics estimated that to achieve universal primary education by 2015, Tanzania would have to recruit 10% of secondary school graduates into teaching (UNESCO Institute for Statistics, 2006). This supply challenge has now been extended to secondary education. Second, education is people-intensive, teachers are employed in large numbers and teachers' salaries account for the largest part of education budgets. Hence, when there is a need to control spending, this largely has to be achieved through controlling wages. Where education has been under-financed for many years, teachers' working conditions and salaries are often unattractive, making teaching a second choice career. Poor salaries and working conditions feed into the perception of teaching as a low status career (EFA Global Monitoring Report Team).

Teachers are often perceived to be less skilled than other graduate occupations because education programmes accept entrants with lower academic qualifications. However, Bachelor programmes in education enrol a higher number of students from low socio-economic backgrounds and more mature students than other higher education programmes (Morley et al., 2010). These are often ambitious resilient individuals, who have reached university against the odds.

Many African countries retain the traditional model of three year residential college or university-based pre-service teacher education although its sustainability in the face of high shortfalls in teaching has been questioned (Perraton, 2010). The demand for ever greater numbers of teachers has meant that teacher training institutions have been expected to prepare too many teachers with too few resources.

Under pressure, teacher educators have continued relying on expository methods, teacher education programmes have not been revised in line with secondary school competencies-based curricula or prepared trainees to meet the needs of diverse learners (Westbrook et al., 2013). Opportunities for school based teaching practice are short and poorly supervised. Even when enough teachers are recruited and trained, geographic distribution may be uneven and shortages may persist in high demand subject areas (Nordstrum, 2013). Living and working conditions in rural, particularly remote locations, impose considerable constraints on teachers' family life and professional development opportunities.

Reliable data on teacher attrition is difficult to find, and many of the published figures are derived from estimates (Mulkeen and Crowe-Taft, 2010). Studies conducted by the World Bank between 2006 and 2007 found attrition rates ranging from 2% to 10% (Mulkeen 2010). Even higher teacher attrition rates are experienced in countries experiencing conflict although this is rarely well recorded (EFA Global Monitoring Report Team, 2014). From the available data it would seem that attrition is higher in secondary than in primary education with the major causes of attrition being resignations and retirement. Attrition rates tend to be higher in the first five years of teaching reflecting the fact that teaching is often considered a stepping stone to another occupation with greater pay and better conditions of service. There is a second, smaller peak in attrition amongst experienced teachers with 20 years or more of classroom experience (Mulkeen and Crowe-Taft, 2010). Some subject areas including science and mathematics experience higher rates of attrition reflecting the greater labour market opportunities available to those with science and maths qualifications. Attrition is also higher in rural areas reflecting the relative undesirability of teaching in these areas. For this reasons, teacher attrition is more likely to affect the disadvantaged.

Changes in the governance and financing of secondary education

The growth in enrolments has placed new pressures on already stretched public finances. The cost of secondary school education in low income countries is three to six times the primary per student cost; a much higher multiple than in most middle income countries. In most countries 50% or more of recurrent expenditure is allocated to primary schooling. Higher education typically absorbs 15-20% leaving some 20-25% for secondary education (Verspoor, 2008). Many countries have adopted a two-pronged strategy of spreading the same resources over larger number of students whilst at the same time

attempting to mobilize private funding. Resources are also often used inefficiently (Lewin, 2008). The cost of teachers is the main cost variable yet teacher deployment is often ineffective with teacher salaries often crowding out other expenditures (Verspoor, 2008). This has led to shortages of instructional materials and supplies, poorly stocked libraries and double or triple shift use of facilities.

More than 13% of the secondary students in sub-Saharan Africa are enrolled in private institutions (including for profit and non-profit, low- and high-cost) (Verspoor, 2008). Some are high cost elite schools, while others are traditionally church sponsored schools that usually offer programs of acceptable quality at medium or low cost. The private cost of public schooling which often includes tuition and boarding fees, contributions to school management committees as well as costs such as textbooks, learning materials, school supplies, private tuition, transportation and clothing present a high financial burden even on middle income families with households shouldering 30-60% of the cost of secondary schooling.

Many forms of public-private partnerships are also developing. Various schemes have been established to help students overcome the financial obstacles to enrolling in secondary education and strategies designed to expand the capacity of private providers to enroll students by providing loans for the construction of additional classrooms, payment of the salaries of teachers in private schools or grants-in-aid to private providers (often churches) (Verspoor, 2008).

Linked to changes in finance have been efforts to decentralize governance of secondary education including strengthening school management committees. These have been contradictory in their effects with some evidence that more disadvantaged sections of the community are less likely to get involved in school governance (Phumbwe, 2012). Key aspects of secondary education including assessment and curriculum remain highly centralized. However, changes in school governance practices have also led to examples of initiatives and programmes that give reason for optimism. Civil society organisations advocate and work for education quality have grown in number and strength. Examples include the Forum of African Women Educators, Elimu Yetu Coalition in Kenya and HakiElimu in Tanzania. New actors, including PSIPSE-funded initiatives, have been creating innovative methodologies for improving the quality of secondary education including through the use of information communication technologies and towards preparing youth to be entrepreneurs.

Conclusion

In conclusion, while secondary school enrolments are rapidly expanding there remains considerable inequality. A poorly prepared and incentivized teaching force is being asked to deliver complex over-ambitious, heavily academic curricula to a diverse student body, often in difficult delivery contexts. This contributes to poor learning outcomes. And yet, there are many examples of initiatives on the African continent that are tackling these challenges. They are being implemented amongst a generation of teachers that is gaining confidence and pride in African leadership. Amongst the teaching force are competent, dynamic and deeply committed individuals, who have the potential to lead learning within and across schools.

3. Framing Teacher Quality Part One: Teachers as professionals

The meaning of teacher quality is contested in the international literature. The emphasis within the debate on different aspects of teacher quality has also shifted over time from an initial concern with the attributes that make a good teacher to a focus on teacher effectiveness and most recently to an emphasis on the link between teacher quality and learning outcomes (Naylor and Sayed, 2014). The definition of teacher quality presented in this discussion document focuses on **teachers as professionals**. Developing teacher quality means developing teachers' professional capabilities in order to improve learning outcomes. This has two parts: the professional knowledge, expertise and values that teachers are able to bring to bear in order to raise learning outcomes, as well as the wider education system and in particular developing enabling policy,

school and community environments that can support the development of a professional cadre of teachers.

Teacher quality and learning outcomes

At the heart of contemporary debates about teacher quality is the idea that good quality teaching and good quality teachers have a positive impact on learning outcomes including those of disadvantaged learners in difficult delivery contexts. In the last 15 years far more data has become available on student performance in standardized assessments (EFA Global Monitoring Report team, 2015). This has allowed researchers to look for associations between learning outcomes and teacher characteristics at the cross-national level. Studies, however, often arrive at divergent findings on the aspects of teacher quality that are most strongly associated with learning outcomes. Naylor and Sayed (2014: 7) suggest that this may be due to different methodologies, different contexts or because "fundamentally what matters most are teacher classroom practices". A recent meta-analysis of 26 projects aimed at improving the quality of education in Rwanda identified interventions that targeted teachers' classroom pedagogy as having the most immediate impact on raising learning outcomes (HfI, 2015). However, teachers' ability to consistently teach well in the classroom is influenced by professional development opportunities, the school environment and teacher policy (Naylor and Sayed, 2014).

The nature of teacher professionalism

Teachers' professional knowledge, skills and expertise

Historically, the notion of professionalism was associated with qualifications from higher education. However, research on professional knowledge (Schön 1983), including teachers, highlights the dynamic reflective practice of professionals, who draw on both theoretical knowledge and personal practical knowledge. Teachers' theoretical knowledge has three components: subject knowledge; pedagogical knowledge, which is general instructional knowledge and pedagogical content knowledge (pck) (Shulman, 1987), which is instructional knowledge specific to a subject. Practical knowledge is dynamic and reflexive as teachers constantly process day-by-day classroom experience.

Teachers' professional ethics and values

Teaching like other people professions, is underpinned by a professional contract that offers teachers social status and material security in return for adherence to a code of ethics and a commitment to develop their professional expertise. Research widely acknowledges the importance of the beliefs, values and attitudes that teachers develop and possess. This includes values such as believing all students can learn; having a cooperative and democratic attitude, valuing and cherishing equitable treatment of all students and valuing diversity. This category also includes teacher dispositions such as motivation and passion for teaching. Personal attributes are ultimately linked to teachers' conceptions of their work and their identity/ies, including their perceptions of their social status, professional commitment to social justice and equity. In challenging delivery contexts teacher relationships with parents and the community is an important aspect of their professional identity..

Teachers as agents for change

Teachers are central to education quality. They are located within education systems and their professional capabilities are interdependent with other elements of the system. At the same time, by dint of their capabilities they have a degree of agency and a human obligation to contribute positively towards changing the system. Walker et al. (2009) claim that "Even in the face of overwhelming poverty there is something professionals … can do to 'nudge' … people's lives in a direction which enables them to have more well-being." Good quality teachers, however, have the agency to do more much than 'nudge' their students' lives. They have the potential to expand their students' opportunities to survive and flourish whilst at the same time 'nudging' the education systems within which their work to improve learning outcomes.

4. Framing Teacher Quality Part Two: Evidence of Factors that impact on teacher quality

The aim of this section is to consider the current state of research-based evidence regarding the systemic factors that impact on teacher quality. What is meant by 'education system' in the context of this discussion paper includes the factors operating at the level of national and/or regional policy as well as, in the context of increasingly decentralized systems, factors operating at the level of the school and of the community. The discussion of factors need to be considered in relation to the discussion of the broader context of secondary education in Africa provided in section two. In an influential cross-national study, Mourshed et al. (Mourshed et al., 2010) identified the features of education systems which have made the greatest progress in improving learning outcomes. They describe how teachers in poorly performing systems were often represented as 'less motivated' and 'less experienced'. Improvement strategies within these systems are characterised by tight centralised control that constructed teachers as implementers with technical skills. These include setting centrally determined targets for learning, introducing prescriptive teaching materials and coaching teachers in 'technical' skills to improve literacy and numeracy along with improving infrastructure and learning resources so all schools meet a minimum standard. By contrast, high performing systems focus on professionalising and raising the calibre of their highly qualified teachers, expanding their autonomy and encouraging teachers to form school-based learning communities and to actively engage with parents and the community. The overall message is the importance of education systems in creating a professional cadre of teachers (Johnson et al., 2000). The elemnets of the system that are particularly significant in low income contexts are discussed below.

Teacher recruitment and retention

Entry qualifications for teachers

Addressing the recruitment crisis in secondary education outlined in section two requires an approach that balances the need for more teachers from diverse backgrounds with the need for better qualified recruits with good subject knowledge. Teacher education programmes have a reputation for accepting less well qualified candidates, who could not compete for entry to more attractive programmes perceived to lead to more profitable careers and employment within Africa's fast-growing urban economies. Their relative accessibility means that education has a more diverse intake then other higher education programmes. Research on widening participation in Higher Education in Ghana and Tanzania found that education programmes have the highest number of mature students and the highest number of students from modest socio-economic backgrounds (Morley et al., 2010). Many of these mature students have previously worked as primary school teachers or volunteer teachers. Teachers are socially mobile and include the ambitious and resilient individuals who have come from disadvantaged communities and poor quality schooling. Many of these ambitious recruits into teacher education, regard teaching as a stepping stone to a better paid white-collar occupation. Although a proportion do become reconciled to teaching, often to their own surprise (Hedges, 2002), high attritions rates amongst early career teachers are common (see section two).

Policy research has highlighted the challenge of attracting more highly qualified candidates into teacher education (EFA Global Monitoring Report team, 2014). The 2013/4 EFA Global Monitoring Report warned that "simply raising the formal educational qualification needed to become a teacher does not necessarily ensure that teachers will be better: the quality of the academic qualification is also important" (Ibid.: 234). Raising entry qualifications can also restrict access for groups that have been historically educationally disadvantaged, reducing diversity and exacerbating gender imbalances in the teaching population (*Ibid.).* This places a burden on teacher education programmes of developing academic subject knowledge as well as introducing instructional skills (below).

Inclusive recruitment

Having a teacher of the same gender and ethnic background as the learner can raise student outcomes (Aslam and Kingdon 2011). In multi-

lingual societies, recruiting teachers with the same mother tongue as learners also needs to be taken into consideration (Pinnock 2009). Whilst teacher education may be more inclusive than other higher education programmes, teachers are still less diverse than the student population and this can contribute to the reproduction of social inequalities. Educationally disadvantaged ethnic and linguistic minorities are often under-represented in teacher education programmes (UNESCO Institute for Statistics, 2006; UNESCO, 2008), as well as people living with disabilities (Mpokosa and Ndaruhutse, 2008). Achieving a balance of male and female teachers can also be a challenge (EFA Global Monitoring Report team, 2014). Gender parity in enrolments tends to improve with expansion. If enrolment ratios in upper secondary are low then the pool of qualified women is likely to be especially limited.

Three types of initiatives address the chal;lenge of making the teaching force more representative and responsive to diversity.

1. Affirmative action to drive up the proportion of women enrolling in teacher education programmes, as Mozambique was able to do with its primary teacher training courses (EFA Global Monitoring Report team, 2014). This is only an option if a large enough pool of qualified women is available from which to recruit.
2. Recruiting women and people from minority ethnic groups locally to work in schools in extra-curricular or support roles. Several interventions including in Mali, South Sudan (EFA Global Monitoring Report team, 2014) and Nairobi have recruited local women as mentors to support secondary school girls and provide them with positive role models.
3. In Latin America, where teacher education programmes have struggled to recruit from disadvantaged groups, teaching practice has been used to prepare students to teach in difficult learning contexts that they may not be familiar with given their own backgrounds/ experineces.

Teacher salaries

Over three decades, teacher pay declined across sub-Saharan Africa, with the sharpest declines in Francophone Africa (EFA Global Monitoring Team, 2015). In eight African countries teachers are paid below the poverty line (GMR 2014). Overall, teachers are paid less than those in professions requiring similar qualifications. There are also differences in levels of pay between different types of teachers with salaries considerably less than average for those in the early stages of their careers, unqualified and contract teachers. In many countries teachers are not only paid too little but too late as well. Salaries are just one of many factors that motivate teachers (Bennel and Akyeampong, 2008), but they are a key consideration in attracting and retaining the best teachers. Low salaries are likely to damage morale and can lead teachers to switch to other careers or to find alternative means to supplement their salaries taking time away from their core responsibilities as teachers. In this respect, several studies have shown that teacher salaries are directly linked to learning outcomes (Glewwe et al., 2011; Dolton and Marcenaro-Gutierrez, 2011).

At the same time, teacher salaries make up the largest share of most education budgets. In some countries, including Burundi, the Democratic Republic of the Congo and Malawi, at least 80% of the education budget is spent on teacher salaries (GMR, 2014). Thus whilst governments need to pay competitive salaries to attract the best teachers there is a tension in that higher salaries would raise the public budget unless teachers numbers fell, which would increase class size. In countries where classes are already large, as in much of sub-Saharan Africa, this would impact negatively on the quality of education.

Teacher status

Closely linked to issues of pay are teachers' status. The perception of teaching as a low status profession can adversely impact recruitment and retention. Improving the status of teaching is not only associated with better motivation and job satisfaction, it can also increase teacher retention and performance as well as student learning (EFA Global Monitoring Report Team, 2015). Instituting national teacher awards can help to raise the profile of teaching as a profession as can the introduction of professional standards (below).

Deploying teachers to difficult delivery contexts

Even when enough teachers are recruited, geographic distribution may be uneven and shortages may persist in high demand subject areas (Nordstrum, 2013). A number of countries, including US, UK and Chile, have created alternative pathways into teaching for the high qualified graduates. These programmes have extra subsidies or prestige attached to them and work to fast track trainees into full salaries(EFA Global Monitoring Report team, 2014). In China, a similar programme was used to encourage high performing university graduates to teach in their home provinces. Hardship allowances, salary increases and subsidized loans have been used in Africa to incentivize teachers to work in rural postings as well as providing suitable housing. Another form of incentive is to make fee free higher education conditional on a number of years' service in rural lower secondary or primary school. These high cost strategies can have mixed results. Although prestigious fast-track programmes get highly qualified teachers into schools quickly, attrition rates may be higher than normal as their ambitious recruits view teaching (and sometimes are encouraged to view teaching) as a launch pad for another career.

Concerned with the recruitment of women to rural locations in Nigeria, Tao (2014) identifies two main types of intervention:

- Reduce rural constraint (which would have the knock-on effect of reducing demand for transfer). Interventions included improving accommodation, providing first aid kits; mobilising communities to address sexual harassment and violence; providing learning resources to schools; mediating school-community relations; paying a rural allowance through mobile networks.
- Improve governance and reduce teacher imbalances: make the recruitment/deployment system transparent, systematic and accountable, including through creating digital platforms for recruitment and enhancing Education Management Information Systems (EMIS)] (based on Tao 2014: 96)

Initial Teacher Education

Initial teacher education

Initial teacher education is important for developing the expertise and skills as well as values that characterize good quality teachers. The quality of initial teacher education can have a significant bearing on teacher quality and learning outcomes. A consistent characteristic of education systems that achieve top rankings in international learning assessments is that the teacher workforce is highly qualified (Barber and Mourshed, 2007).

The evidence base from sub-Saharan Africa is much weaker. What evidence does exist concerning the link between initial teacher education and learning outcomes is more mixed suggesting variations in quality of initial teacher education on the continent (Naylor and Sayed, 2014). As indicated in section two, there have been several problems identified including outdated curricula, misalignment of teacher education courses with school curriculum, limited practice-based learning opportunities during teacher education, ommission of newer curriculum subjects such as peace building, weaknesses in the knowledge and expertise of teacher educators and institutional management of initial teacher education institutions (Naylor and Sayed, 2014).

Shulman (1987) observed that teachers require three types of expertise: subject knowledge, general knowledge of instructional methods (pedagogical knowledge) and knowledge of how to relate pedagogical knowledge to the subject they teach (pedagogical content knowledge). A key point arising from much of the literature is the need for developing subject knowledge given the low academic qualifications of entrants into teacher training courses in many low-income countries. However, training programs in these contexts often focus on pedagogical knowledge, based on the false assumption that trainees are already confident in their subject knowledge (Schwille et al. 2007; EFA Global Monitoring Report Team, 2014).

Pedagogical knowledge is, however, also important. A recent rigorous literature review notes a number of pedagogic strategies for successful teaching which are important for all

teachers to be trained in including (Westbrook et al. 2013):

- Use of group and pair work
- Use of a variety of teaching and learning materials
- Posing questions to students
- Demonstration and explanation drawing on pedagogical content knowledge
- Using a local language with which students were familiar
- Planning lessons with a clear structure
- Feedback, individual attention and inclusion
- Creating a safe environment in which students are supported in their learning
- Drawing on students' backgrounds and experiences.

More than for primary school, secondary school teachers are subject specialists, who through their teacher education and professional development, develop pedagogical content knowledge specific to their subject. Further, research on pedagogy shows that despite some shared principles and the potential to learn from other contexts, pedagogy is culturally specific to education systems (Alexander, 2000; Schweisfurth, 2013; Vavrus and Bartlett, 2013). This implies that expertise in different pedagogies needs to be developed within education systems and within subject areas. A key issue is that many teacher education programmes do not prepare teachers to meet the needs of diverse learners, for example, through setting differentiated tasks or through the use of language supportive strategies appropriate for multilingual settings (EFA Global Monitoring Report Team, 2014).

Teacher education, classroom pedagogy and the national curriculum

Changing teaching practice to make it more learner-centred has been a key priority of many education reforms (Barrett et al, 2007). Westbrook et al (2013) note that many countries, including many African countries, have recently undertaken curriculum reform with the introduction of outcomes- and competency-based thematic, localised and accelerated curricula.However, a number of studies have found that these approaches were difficult to implement because of lack of teacher preparation and support, and school conditions such as large class sizes, a lack of resources and entrenched existing cutlrual and pedagical practices (Naylor and Sayed, 2014).

The importance of good quality teacher educators

Lewin and Stuart also stress the importance of a teacher education curriculum that recognises the prior learning experiences of teacher trainees, is matched to the needs of adult learners and focuses on the knowledge, skills and competences needed at the initial stage of their professional development rather than overburdening students with unnecessary content (Lewin and Stewart, 2003). In many African countries, teacher educators have very little training themselves and in many cases have limited experience of classroom teaching (Mulkeen, 2010).

Another theme to emerge from the literature is that effective initial teacher education provides trainees with considerable opportunities for school-based training during the course (Lewin and Stuart 2003; Sayed 2011). However, this requires the availability of schools that are equipped to mentor trainees and this often is not the case with trainees receiving little or no supervision or guidance from college tutors or teachers at the practice school (Schwille et al. 2007; Lewin and Stuart 2003).

Teacher education delivery modes

There is a long tradition in sub-Saharan Africa of delivering primary teacher education through school based and distance education (Stuart and Lewin, 2002; Mattson, 2006). Open Universities have also offered distance secondary teacher education. In recent years, distance programmes have made use of the internet and mobile phones (Dladla and Moon, 2002; Banks et al., 2009). Arguments are made that distance education is more affordable and that alternative entry pathways are needed to meet the massive demand for teachers in Africa (Nordstrum, 2013). There remains a significant gap in knowledge of the impact of distance teacher programmes on learning outcomes compared to traditional routes including the conditions under which it is most effective.

Strengthening school based support for professional practice

Continuing professional development

Continuing professional development (CPD) can provide an effective means of developing the professional capabilities of teachers including in-service training workshops, mentoring, and peer learning. Various meta reviews, however, show mixed results in terms of the impact of CPD on learning outcomes and there is a need to better understand the relationship between different forms of CPD and learning outcomes in different delivery contexts in Africa as elsewhere (Naylor and Sayed, 2014). The mixed results of investigation of CPD can perhaps be explained by the fact that the quality of the provision is highly variable.

A report from McKinsey (Jayaram, Moffit and Scott 2012) argues that professional development programs can significantly improve student achievement, but that school systems need to think strategically about their content and delivery, and to customise training to the particular needs of different teachers. They argue that on-site coaching is the most effective way to deliver advice on classroom practice and should be the core of any good professional development program. Other reviews focusing more on low-income contexts (Scwhille et al. 2007; Sayed 2009) have argued that training needs to be tailored to teacher needs, provided in schools and focused on teaching approaches and skills that teachers can use in the classroom.

Generally, cascade models of delivering CPD involving the training of trainers are found to be less effective whilst school based approaches including peer learning and mentoring are more effective as they potentially enable trainees to contextualise their 'academic' learning, while at the same time assisting them to move away from routinised practices and to think reflectively (Barrett et al, 2007). Mentoring can also be an effective means of reducing attrition in the early years of teaching (GMR, 2014). Initial teacher education is the start of a career-long process of professional learning that may be formally structured through in-service training, planned school-based professional development or may occur informally and continuously through contrived or spontaneous collegial interactions. This includes expanding professional capabilities through forming professional learning communities within which teachers share and critically interrogate their practice in "an ongoing, reflective, collaborative, inclusive, learning-oriented, growth-promoting way" (Stoll et al., 2006: 223).

Supply good quality materials to support quality teaching

Teachers can operate much more effectively in the classroom if they are supported with sufficient good quality teaching and learning materials, in particular textbooks and supplementary reading materials. Some studies from sub-Saharan Africa have indicated that the impact of textbooks on learning may be more significant among the richer or more advantaged students (Glewwe et al., 2009; Kuecken and Valfort, 2013). One reason may be that instructional materials appear most effective when combined with teacher training and the use of a well-articulated instructional model (Naylor and Sayed, 2014). Recent research has focused on the positive impact for learners for whom English is not their first language of textbooks that are written in clear English at a cognitive level appropriate for learners and making use of local examples and illustrations (Milligan et al, forthcoming; Barrett and Bainton, forthcoming). All governments will need to ensure that sufficient resources are allocated to non-salary recurrent expenditure to cover the costs of a wide range of activities that improve teaching and learning.

Foster innovation and build professional learning communities

Donors and governments are increasingly keen to foster innovation in education as a means for improving the quality of education. Developing the ability of teachers to develop their innovative practice can be seen as an important way of equipping educators for meeting the needs of diverse learners. Finding innovative solutions to implementing policies is also central to school improvement. A recent study of innovation in Rwandan education, however, has shown that whilst many teachers do engage in innovation, the realities of a highly assessment driven system within limited opportunities for professional

development and time to devote to developing innovative solutions hinder their ability to be innovative (HfI, 2015). Some of the factors that can support innovation at a local level including ensuring that interventions are perceived as relevant, have a good fit with existing policy frameworks and curricula, that teachers have the time and capacity to implement them in the context of a supportive school environment including a supportive leadership.

Making teachers more accountable for improved learning outcomes

Leadership for Learning

Teachers across Africa typically receive very limited support from those who directly supervise them, such as principals and school inspectors. Studies of effective school leadership in Africa point to the role of effective leaders in ensuring the basics including tackling teacher absenteeism and maximizing time on task (Ngcobo & Tikly, 2010). However, it is also the case that school leaders often emphasize compliance, rather than support for teachers. Principals can play a critical role at the school level, by emphasizing good instructional practice, creating opportunities for teachers across the community to grow, and by holding teachers accountable and rewarding improved practice. It is difficult for teachers to improve their practice on their own; having institutional support is a key factor. Effective supervision systems should be used to support teachers. Assuming that there are opportunities for teacher professional development, the Systems Approach for Better Education Results (SABER) framework paper identifies two essential elements of teacher support programmes: that the system is capable of identifying teachers who need support and tailor professional development to these perceived needs; and that these professional development activities are collaborative and focused on instructional improvement (World Bank, 2012). McKinsey notes that,

> "there is not a single documented case of a school turning around achievement in the absence of talented leadership (Mourshed, p. 40)."

The EFA GMR team also identified this challenge and priority for the future. "Too often, school supervisors appraise teachers using criteria that are bureaucratic and result in punitive measures, instead of helping identify struggling teachers and providing constructive feedback and genuine development opportunities…A radical shift is required in the role of supervision from exercising administrative control to offering support (De Grauwe, 2007) (EFA GMR Team, 2015). For many countries, preparing school leaders has been a low priority. Mechanisms are lacking to develop education leaders at the school level who can inspire, set high expectations for teaching and learning, and support a school environment where teachers are mentored. Governments need to create the next generation of education leaders to provide professional support to teachers, promote communities of practice and collaboration at the school level, and engage with parents and community leaders. This requires the development of programs that nurture relevant leadership skills to accomplish these aims (EFA GMR Investing, Executive Summary)."

Engaging with communities for relevance and accountability

To understand the learning needs of students, the skills and knowledge that will make them employable, empower them to lead sustainable livelihoods and contribute constructively to their communities and wider society, teachers need to engage with local communities as well as being active engaged citizens within society. This includes engagement with local employers and businesses as well as community leaders. Communities also have an important role to play in holding teachers to account for fulfilling their professional responsibilities towards their children and young people and for their management of finances and resources either given to the school by the community or allocated by government towards the service of the community (Tikly and Barrett, 2013).

Employment of contract teachers

Contract teachers (also called temporary, para- and community teachers) are considered in some contexts to not only be cheaper to hire than salaried teachers but also to be more

accountable. Evidence from various studies suggests that employing additional contract teachers can be a cost-effective way to increase student outcomes in the short term (GMR, 2014). Contract teachers are less likely to be absent, so tend to spend more time teaching. It may be that contract teachers have a greater incentive to drive up learning outcomes and/or if they are drawn from the local community have a better awareness of the needs of students. However, maintaining two groups of teachers with very different conditions of service is difficult to sustain (UNESCO 2008). Moreover, there are also implications for the professional status of teaching and for the labour rights of teachers as codified in the principles of the International Labour Organization (ILO). Ultimately, the key issue is not whether teachers are on contract or not, but how robust the forms of monitoring and accountability are and the type of contract. Evidence that short-term contract teachers sometimes perform better than civil service teachers can be seen to be indicative of the need to reform civil service teacher recruitment and accountability, rather than an endorsement of the use of short-term contracts in teaching (Naylor and Sayed, 2014).

Performance-related pay

Performance related pay is often promoted as a means to increase teacher accountability and several studies have found that individual teacher performance pay can have a large and significant impact on student outcomes. For example, a study of a program in Kenya (Glewwe, Ilias and Kremer 2010), where teachers received financial incentives on the basis of student examination scores, found that the program led to significant increases in examination scores. However, the mechanism through which it worked was unclear since there was no observable impact on teachers' attendance or teaching practices, except that teachers did conduct more examination preparation sessions, i.e. focused more on 'teaching to the test'. Improvement in student outcomes also did not last beyond the life of the intervention. Performance related pay can also be difficult to implement particularly as it can undermine teachers' work, morale and labour and be opposed by unions (Robertson 2013; GMR, 2014).

Involving teachers in policy making

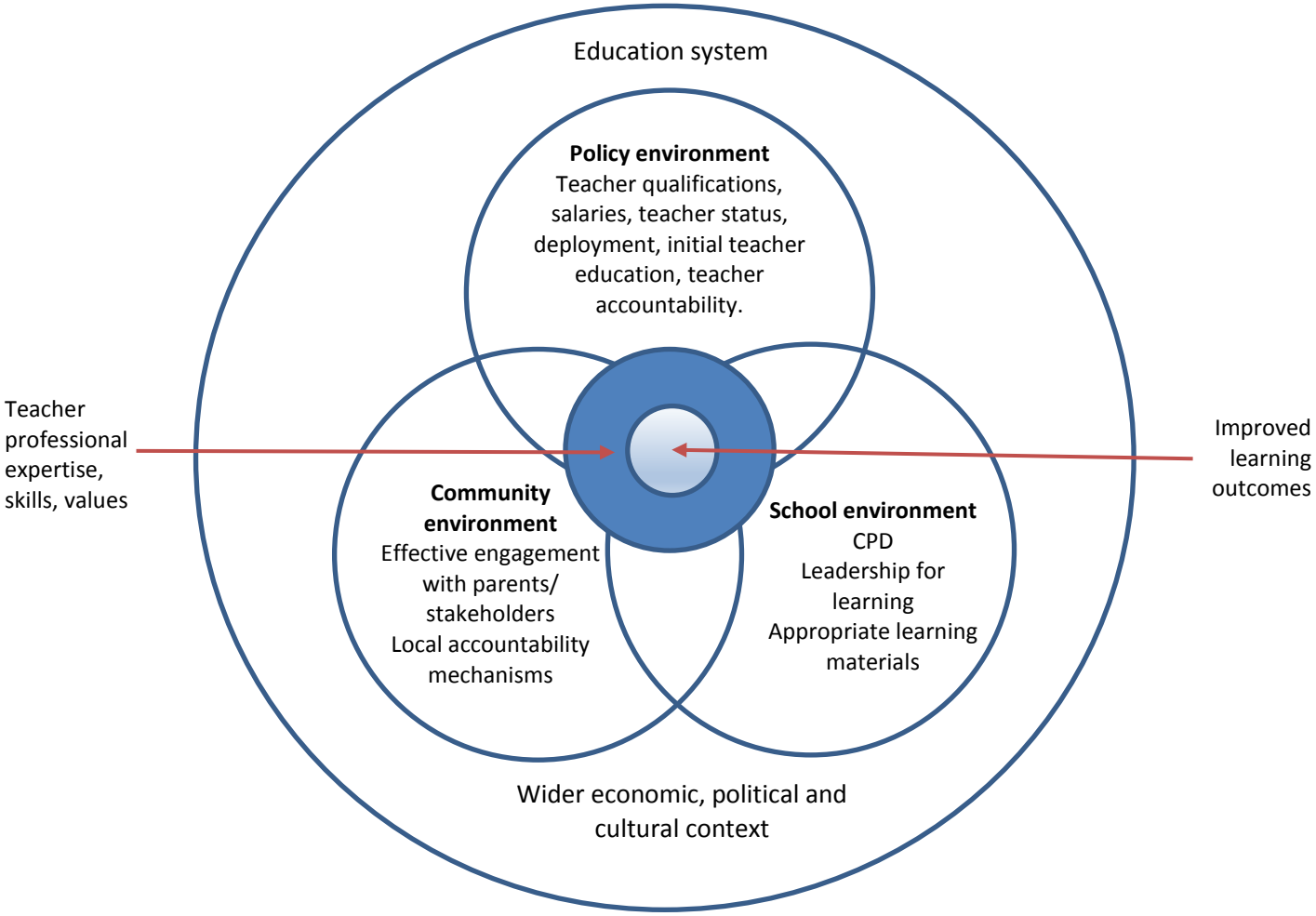
National reforms to improve learning and system-wide decisions related to teacher quality such as those discussed in this document have fundamental, long-term consequences. Such policies are made more effective if those responsible for implementing them are involved in shaping them. Indeed teachers should be encouraged to take an active role in policy development. In reality, policy-makers typically do not consult teachers or their unions when initiating strategies to improve quality and learning. A recent 10 country survey of teachers found that only 23% thought they and their colleagues had influence over policy and practice at the school, district and national level (Bangs and Frost, 2012). As Westbrook et al (2013) note, however, new curricula are not always successful in meeting their goals. Teachers are often not consulted in curriculum design; equally, parents may not accept the assumptions of the curriculum, posing a challenge for teachers attempting to implement it'.

As Naylor and Sayed (2014) have argued, inclusive policy development has been successful in many countries. An important condition for success they suggest is the development of a shared understanding of what is needed to ensure that all learners are taught by good teachers and served by effective teaching. When this condition is met all partners are more likely to be firmly focused on learning for all and how to achieve it. A concrete result of developing a shared understanding can be the establishment of a set of professional standards that reflect a national consensus and can reinforce the professional status of teachers and of teaching. This will help build mutual responsibility and accountability, which will also be supported by the availability of better data.

5. Towards a Framework for conceptualising teacher quality

An overarching framework can serve as a basis for conceptualising teacher quality. The framework below is presented in diagrammatic form below. It starts from a recognition of teacher quality as comprising the concept of the teacher as a professional as set out in section three as well as the wider systemic factors that impact on the development of professional capabilities as set out in section 4. These are organised in terms of three overlapping environments of the school and the community in which teachers work as well as the wider policy environment.

It is as a result of interactions with each of these environments that teachers' professional capabilities emerge and develop. The factors also represent areas of policy that governments and donors must be aware of and act on in order to create more enabling environments for teacher quality, although the way factors play out will differ from context to context as no two schools, communities or indeed education systems are the same. Rather than providing a blueprint for action, the framework is therefore intended as a starting point for discussion. Developing nad implementing relevant interventions inevitably needs to be based on more careful, context-specific analysis of how factors interact across the three environments. Teacher quality is also impacted by the nature of the relationship between factors in each environment. For example, national and/or regional policy frameworks need to take account of the contexts of the schools and communities that they address whilst schools and teachers need to be responsive to the realities represented by different school communities.



6. Introduction to the Kigali Meeting

In addition to framing the key issues around teacher quality and considering the existing evidence base, a meeting of thought leaders was convened in order to exchange views and provide strategic input. A gathering of 38 educational experts took place on the 18th and 19th of February 2016, in Kigali, Rwanda. Hosted by The MasterCard Foundation, the University of Bristol and the University of Rwanda, this meeting brought together policy makers, government officials, academics, practitioners, donors and innovators from across Africa, Europe and North America. The leaders were challenged to apply their collective expertise to the goal of strengthening teacher quality in sub Saharan Africa. A full list of participants is given in Appendix 1.

While remaining grounded in the challenges and realities of sub Saharan Africa, the meeting was focused on looking forward and identifying strategic opportunities. The full agenda is given in appendix 2.

Specifically, the meeting had the following goal and objectives:

Goal of the meeting:

Identify strategic opportunities to strengthen teacher quality in secondary schools in Sub-Saharan Africa, particularly in low-resource contexts.

Objectives:

- Discuss current realities and trends affecting teacher quality in secondary education in Sub-Saharan Africa.
- Explore evidence-based strategies, opportunities and promising interventions to improve the quality of teaching.
- Identify priority areas and contexts for further exploration and study.

The Rwandan Context

At the outset of the meeting, two leading Rwandan experts (Mr. Damien Ntaganzwa of the Rwanda Education Board, and Professor George Njoroge, Principal, University of Rwanda College of Education) helped to set the scene by sharing the operating context and goals for improving teacher quality in Rwanda:

'Teacher Development & Management in Rwanda: Practice, Challenges and way forward'. Mr Damien Ntaganzwa

Teacher Development and Management (TDM) is one of the six departments that comprise the Rwanda Education Board (REB), an implementing arm of the Ministry of Education. The Education Sector Strategic Plan emphasizes the need for an Improved supply of **qualified**, suitably **skilled** and **motivated teachers** and trainers to meet demands of expanding education access.

Challenges to achieving quality teaching are centred on: issues of recruitment, the development of science subjects, learner centred methodology, school leadership, teacher socioeconomic welfare and on the development of a new competency based curriculum.

To achieve these objectives, six priority areas have been targeted:

- Improvement of teacher professional status, image and attractiveness.
- Restructuring of pre-service teacher training to reflect length and academic quality within the East African Region.
- Introduction of high quality induction year for newly qualified teachers
- Require all teachers to undergo and record CPD
    - Ensure effective system for appraisal
    - Enhance teacher mentorship
- Enhance school leadership, quality and training
- Effective (better) coordination of education structures

'Echoes from the field: daring quality in teacher education in Rwanda', Prof George Njoroge

For Rwanda, investing in education is a necessity as future success is dependent upon well educated human resources. Teacher education is the foundational framework to achieve this goal, as teachers 'midwife' the process of enabling learners. Rwanda has a strong policy context where quality standards have been established by presidential order for all stages of education. This is complemented by processes of harmonisation across East Africa, sustainable development goals, and a competency based curriculum.

Teacher education is conducted through 16 Teacher Training Colleges (TTCs) affiliated (from 2010 onwards) to the University of Rwanda College of Education (URCE) which has responsibility for academic quality, curriculum, assessment and certification of all TTCs. URCE also directly trains upper secondary teachers as part of a professionalisation process. Secondary teachers are expected to demonstrate competencies in a range of skills, including, communication, leaderships, teamwork, civics, critical thinking and pedagogy.

To strengthen teaching quality a number of initiatives have been undertaken in Rwanda, including,

- Revision of teacher training curriculum to align with a new national competency based curriculum
- Construction of Teacher Resource Centres in TTC
- Production of training materials
- Training in learner centred pedagogy
- Revised criteria for admission to education programmes
- Training in the integration of ICT in Education
- Development of responsive education programmes
- Establishment of school of inclusive and special needs education
- Leveraging technology in the delivery of programmes

7. Identifying innovative interventions: learning from experience

The Foundation presented five areas of potential focus for discussion.

- Attracting and recruiting the right teachers
- Teacher education and professional development
- Teacher motivation and incentives
- Leadership for learning and school based management
- Engaging the community

Participants were invited to develop suggestions for intervention, as well as to refine and redesign the Foundation's strategic vision. This section offers a high level overview of the main points and conclusions of these discussions:

A number of suggestions came up in more than one group. **For** example strengthening of school based CPD came up in three working groups. In each case, school based CPD was linked to a different area of teacher quality:

- to support **teacher development** (for delivering contextually relevant personally targeted training)
- for supporting **teacher motivation** (by offering training that is accredited and could be built upon as part of a portfolio of professional development leading to a qualification, and,
- as a way to **attract good teachers** (by offering alternative accreditation pathways into the profession).

This highlights the potential for interventions to be carefully designed in a way that enables them to achieve **multiple objectives.**

Although there was diversity of opinion, the ideas presented below reflect a high level of consensus based on discussions.

Attracting and recruiting the right teachers	Teacher education and professional development
Create new pathways into the profession, focusing on rural, disadvantaged youth: • Identify, nurture and recruit teachers at secondary school • Leverage existing programs such as The MasterCard Scholars Program • Offer alternative certification pathways • Use tracking systems to match candidates with actual needs, especially around language **Create financial incentives:** • Provide bursaries for initial teacher education • Support access to housing, particularly in rural areas • Support for teachers' children such as access to ECD programs and school bursaries **Provide intensive professional support:** • Strengthen early teaching practice experiences through quality induction processes • Link new teachers to strong school leadership and mentoring • Build a network of support from peers, using IT support **Develop clear career pathways:** • Provide clear opportunities for advancement at key junctures • Reward rural service • Create regional exchange opportunities **Provide support at key transitions: target teachers where there is the most drop-off:** • Year one: teachers need practical professional development and support from principals, coaches • Year five: due to lack of good career path options; "brain drain"	**Focus on critical areas that need specific support** • Develop soft skills • Train teachers in bilingual pedagogy • Develop Pedagogic Content Knowledge, particularly in science and mathematics **Provide CPD support to schools** • Promote exemplary practices through media • Restructure supervision and inspection system **Improve models of teaching practice** • Deliver quality, highly supported teaching practice experiences • Provide more than one Teaching Practice **Create innovative ways to support teachers** • Build structures for mentorship • Ensure teachers have access to teaching materials • Use educational TV/radio/videos/ICTs to deliver training experiences and share expertise. **Use data for teacher development** • Fund diagnostic research to identify research gaps in teachers' knowledge • Introduce appraisal systems • Deliver Booster camps for teachers based on identified training needs intensive personalized training courses; modular courses **Improve Training curriculum** • Ensure coherence between ITE curricula and actual teaching context: • Break the barriers between pre and in service training • Build local context specific training content: training needs to be context specific • Agree ITE content between between training providers.

Teacher motivation and incentives

Provide recognition awards for schools and teachers at various levels:

- Deliver awards at different levels
- Develop clear award criteria linked to performance

Create clear career pathways for teachers

- Accredit CPD courses
- Create and recognise leadership roles

Offer teachers enriching and inspirational experiences

- Conduct teacher exchanges within country, in Africa and beyond
- Offer short courses/Masters courses

Adopt a series of financial incentives:

- Scholarships targeted at educators
- Predictable salary scale growth system
- Hardship allowances
- School level income generation schemes
- Preferred housing loans and other subsidies
- Scholarships for children of teachers
- Saving and credit system

Leadership for learning and school based management

Support headteachers

- Strengthen headteachers leadership skills and role
- Develop Headteacher peer review systems

Create Leadership centres of excellence

- Develop mechanisms for partnership with Government
- Train leaders at different levels of the system: head teacher, subject leaders, DEO's, etc.
- Focus on leadership for learning (not instructional leadership)

Enable leadership across the system

- Support governments to develop performance contracts for headteachers
- Provide CPD for training leaders at different levels of the system, headteachers, subject leaders, DEOs, SEOs, PTAs etc.
- Certify leadership training

Engaging communities

Strengthen agents of community engagement

- Support secondary school graduates to act as school-community liaison officers, following up absenteeism and other issues
- Recognise the work teachers put in to community engagement

Create new ways for community and schools to talk to each other

- Create opportunities for Teachers and community leaders to share their educational values and aspirations for students
- Engage local businesses in designing and implementing curricula that develop skills youth need to benefit from local employment opportunities.
- Engage parents in ways that are consistent with their view of their parental responsibility

Utilize schools for community purposes

- Offer after-hours basic education classes
- Make school ICT facilities available to the community

Catalyzing and sustaining change within educational systems

In addition to specific interventions, leaders considered two overarching issues: sustainable change within systems and the role of partnerships in achieving this. Presentations addressed the challenges of working for change within systems that are complex and at times lacking the resources to be effective. The Breakout discussion session that followed picked up these issues with a focus on collaboration.

Catalysing change in teacher quality requires thinking about the nature of the education system as a whole. A focus on strengthening quality teaching needs to be mindful of the professional environment that enables this to happen: professional systems enable quality teaching, and achieving high impact demands careful consideration of the capacity of the system to support innovation.

Strengthening high level planning through Education Sector Plans was offered as a model that is able to identify gaps, and create greater coherence between actors and stakeholders. Such planning enables interventions to be aligned to the government's existing plans and embedded in departmental practices and in subsequent budgets, and anchors interventions in the system so that responsibility and accountability for priority actions is located at appropriate levels (national, district, organizational etc.)

A lack of understanding of the local realities hampers transformation, underlining the centrality of the process of contextualising interventions. This echoing what commentators (Hannushek, 2012; Sayed, 2013) have noted, that no two education systems are alike making it difficult to cherry pick and implement initiatives to improve teacher quality from elsewhere outside of a deeper understanding of context.

To this end, it was consistently noted that transformation will not happen without the deep engagement of all stakeholders – particularly those whose voices are often less strongly heard – teachers and communities. Finding ways to elevate teacher and student voices will be important moving forwards.

Being able to work collaboratively with a diverse range of partners was seen as a key strategic advantage here for the Foundation. Such collaborative efforts need structures to facilitate them, and there was seen to be a potential role for the Foundation in supporting the creation of architecture that will enable teachers, innovators, academics, policy makers and implementers to collaborate.

The idea of Centres of Excellence was well supported as offering potential to do this. These centres could operate as spaces for practitioners to incubate ideas and innovations that would be accepted as practical, manageable and relevant by those with responsibility for implementing them. Such centres would need to recognize the importance of flexibility and mobility and the importance of operating regionally.

There is potential for such innovations to promote system wide change. Interventions are inter-dependent and enabled by one or more other features of the educational system. Actively developing clusters of interventions could support the creation of enabling environments able to improve teacher quality.

Such centres of excellence could be developed in partnership with government or other donors to create a mutually supportive environment that nurtures high impact as well as playing a key role in modelling and initiating system wide transformation.

This focus on the processes of collaboration echoes Samoff et al. (2011) conclusion that successful scale up is the result of a participative learning process, and that it was the conditions rather than the content or structures of a pilot that needed to be scaled up. They recommend external funders view pilot projects with great optimism and continued funding through initial adversity; recognize that each effort must be tuned to local contexts; and explicitly and energetically support democratic and participatory decision making. The MasterCard Foundation has a unique position to support such efforts due to its size, independence, holistic approach and ability to invest over the long term.

8. Key Messsages

The afternoon on day two of the meeting gave time to reflect upon The MasterCard Foundation's strategic vision. The core strategic concepts were well received, with discussions focused on the benefits of considering 'how' interventions are best implemented and with "whom", alongside the question of 'what' strategic interventions should be prioritized. Seven key messages emerged:

1. Understand and work within country contexts

Understand the structure and evolution of the teacher education system in targeted countries, as well as national priorities. Engage with key stakeholders early in order to develop ownership over strategic direction and to create alignment with local priorities. Ensure local presence in the countries The MasterCard Foundation will work to better map opportunities and gaps, identify country priorities, and build working relationships

2. Prioritize teacher motivation and incentives

Restore the status and prestige of the teaching profession. Provide professional development opportunities, peer mentoring, and innovative housing and incentive schemes. Enhance career pathways and ensure education for teachers' children. Recognize teachers and develop teacher prizes at multiple levels. Consider public campaigns to elevate the teaching profession.

3. Strengthen teacher education institutions and curriculum

Strengthen teacher education institutions and curriculum to include emerging priorities such as entrepreneurship and social cohesion. Strengthen teacher education in science, mathematics and ICT. Recognize tensions between forward looking ideas and the realities of the system such as low literacy levels, content knowledge and language levels of teachers.

4. Support Innovations

Identify innovations that can disrupt and transform the teaching profession and ensure their system wide adoption. Engage innovators and entrepreneurs as an important next step. Consider the role of technology. Balance the tensions between aligning with government agendas and transformation through innovation.

5. Elevate teacher and student voices.

Engage teachers, teacher educators and students early in the process to develop a sense of ownership. Create platforms for teachers and educators to innovate and share good practice.

6. Ensure equity and social Justice

Prioritize working with the most marginalized communities. Ensure youth in marginalized areas have access to high quality teaching. Consider who is privileged by interventions and how.

7. Foster evidence based interventions

Conduct detailed mapping to understand priorities, opportunities, and gaps. Support funded organizations to become part of a learning community that researches its own practice, learns from its mistakes and builds up a strong knowledge base. Disseminate evidence widely across partnerships.

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Appendix 1: Meeting Participants

Dr	Paul	Atherton	Department for International Development (DFID), Rwanda
Dr	David	Bainton	University of Bristol, UK
Dr	Angeline	Barrett	University of Bristol, UK
Ms	Liz	Berry Gips	The MasterCard Foundation, Canada
Mr	Shem	Bodo	Association for the Development of Education in Africa, Ivory Coast
Ms	Alice	Ching'oma	Department for International Development (DFID), Rwanda
Dr	Joan	DeJaeghere	University of Minnesota, US
Mr	Subrata	Dhar	Global Partnership for Education, US
Ms	Oley	Dibba-Wadda	Association for the Development of Education in Africa, Ivory Coast
Ms	Betty	Ezati	Makerere University, Uganda
Mr	Steven	Farr	Teach for All, US
Prof	Mamaa	Foupouagnigni	African Institute for Mathematical Sciences, Cameroon
Dr	Christine	Gasingirwa	Ministry of Education, Rwanda
Mr	Ketso	Gordhan	Omidyar Network
Mr	Sharath	Jeevan	STIR Education, UK
Mr	Steve	Kamanzi	Education Development Center, Rwanda
Ms	Kim	Kerr	The MasterCard Foundation, Canada
Mr	Paul	Kibet	Nairobi School, Kenya
Dr	Elia	Kibga	Ministry of Education, Tanzania
Mr	Alim	Ladha	Instill Education, South Africa
Mr	Graham	Lang	UNICEF, Rwanda
Ms	Bernadette	Moffat	ELMA Philanthropies Services
Mr	Jerome	Morrissey	Global E-Schools and Communities Initiative (GESCI), Kenya
Mr	David	Nabeeta	Jinja District Education Officer, Uganda
Prof	Eugene	Ndabaga	University of Rwanda
Prof	George	Njoroge	College of Education, University of Rwanda
Mr	Damien	Ntaganzwa	Rwanda Education Board, Rwanda
Prof	George	Oduro	University Cape Coast, Ghana
Prof	Pauline	Rose	Cambridge University, UK
Prof	Yusuf	Sayed	Cape Peninsula Institute for Technology, South Africa
Dr	John	Simpson	British Council, Rwanda
Dr	Sharon	Tao	Cambridge Education, UK
Prof	Leon	Tikly	University of Bristol, UK
Mr	Mike	Trucano	World Bank, US
Dr	Jo	Westbrook	University of Sussex, UK
Mr	Samuel	Yalew Adela	The MasterCard Foundation, Canada
Dr	Yumiko	Yokozeki	International Institute for Capacity Building in Africa (IICBA), Ethiopia
Mr	Thierry	Zomahoun	African Institute for Mathematical Sciences, South Africa

Appendix 2: Meeting Agenda

Enabling Teachers, Enabling Youth:
Strengthening Teacher Quality in Secondary Schools in Sub-Saharan Africa
Hotel des Mille Collines - Kigali, Rwanda
February 18-19, 2016

Agenda:

Goal of the meeting:
Identify strategic opportunities to strengthen teacher quality in secondary schools in Sub-Saharan Africa, particularly in low-resource contexts.

Objectives:

1. Discuss current realities and trends affecting teacher quality in secondary education in Sub-Saharan Africa.
2. Explore evidence-based strategies, opportunities and promising interventions to improve the quality of teaching.
3. Identify priority areas and contexts for further exploration and study.

Meeting location:
The primary meeting location is the **Kivu 1 Conference Room**, which is located on the top floor of the Mille Collines. We will also be using the Muhungwe Room for breakout sessions**.**

February 17, 2016:

7:30-8:30 pm Registration and Welcome Gathering
For those who arrive on the 17th, you are welcome to stop by La Terrasse for a drink, light snacks and to pick up final meeting materials. Meeting materials will also be available on February 18th, beginning at 8:00 AM.

Day One, February 18, 2016:

8:00-9:00 am **Registration and coffee**:
Join us in the Kivu Foyer for coffee and tea prior to the start of the meeting. Registration and meeting materials will also be available.

9:00-10:30 am **Welcome and Introductions**:

- Welcome and meeting goals: Kim Kerr, The MasterCard Foundation
- Review of the agenda: Leon Tikly, the University of Bristol
- Welcome from Rwandan hosts: Christine Gasingirwa, Ministry of Education and George Njoroge, University of Rwanda
- Individual introductions: Participants will introduce themselves for one minute and take one minute to answer the question: "what excites you the most when you think about improving teaching quality?"

10:30-11:30 am **Setting the Stage**:

Three brief presentations, followed by a discussion, will help us gain a common grounding for our work over the next two days:

- The "30,000 foot view": Leon Tikly and Angeline Barrett, University of Bristol, will give an overview of the progress, complex challenges and multiple factors affecting quality teaching in secondary education across sub-Saharan Africa
- A "real-world view": Damien Ntaganzwa, University of Rwanda, will describe government priorities and key initiatives and George Njoroge, the Rwanda Education Board, will share current approaches to recruiting teachers and teacher education
- The Foundation View: Kim Kerr will share initial thoughts on what role The MasterCard Foundation can play

11:30-12:00 pm **Tea Break**

12:00-1:00 pm **Working Groups: Learning from Experience, Round One**

We will roll up our sleeves and start to problem solve in small, facilitated Working Groups. Bringing together a diverse set of practical viewpoints, we will move beyond a discussion of the challenges to explore evidence-based strategies, identify new opportunities and unpack promising interventions in five key areas:

- Attracting and recruiting the right teachers: Liz Gips, The MasterCard Foundation
- Teacher education and professional development (content, pedagogy, technology): David Bainton, University of Bristol
- Teacher motivation and incentives: Samuel Yalew Adela, The MasterCard Foundation
- Leadership for learning and school based management: Leon Tikly, University of Bristol
- Engaging communities: Angeline Barrett, University of Bristol

1:00-2:00 pm Lunch

2:00-3:00 pm Working Groups: Learning from Experience, Round Two

Facilitators will remain the same, but participants will shift and explore a new issue area in a second facilitated Working Group session.

- Attracting and recruiting the right teachers: Liz Gips, The MasterCard Foundation
- Teacher education and professional development (content, pedagogy, technology): David Bainton, University of Bristol
- Teacher motivation and incentives: Samuel Yalew Adela, The MasterCard Foundation
- Leadership for learning and school based management: Leon Tikly, University of Bristol
- Engaging communities: Angeline Barrett, University of Bristol

3:00-3:15 pm Break

3:15-4:45 pm Plenary "Pitch" Session:

Working Groups will pitch the most promising interventions that have been identified over the course of both sessions to the full group. A "dot exercise" will give participants a chance to vote. A group discussion will follow.
Facilitator: Kim Kerr, MasterCard Foundation

4:45-5:00 pm Participant Reflections on Day One:

Two participants will share their reflections and insights as the first day concludes.

5:00-5:45 pm Launch of the Inter Country Quality Node on Teaching and Learning

We are privileged that the two day meeting will conclude with the formal launch of the ICQN on Teaching and Learning in Rwanda. The launch ceremony will include brief remarks and the formal signing of the MOU by Rwanda's Minister of Education to acknowledge Rwanda's participation in this important initiative:

- Introductory remarks: Emmanuel Muvunyi, Rwanda Education Board
- Welcome: Kim Kerr, The MasterCard Foundation and Edward Maly, UNICEF
- Remarks from the ADEA Executive Secretary: Oley Dibba-Wadda
- Signing of the MoU: Honorable Dr. Papias Musafiri Malimba and Ms. Oley Dibba-Wadda
- Concluding remarks by the Minister of Education
- Photo session

7:00-9:00 pm Group Dinner:

We will take a short walk from the Mille Collines to the Heaven Restaurant, which features top-rated cuisine, beautiful views, plus a boutique and art gallery.

Day Two, February 19, 2016:

9:00-9:30 am Overview of Day Two: Exploring Cross Cutting Issues

Samuel Yalew Adela, The MasterCard Foundation, will review the outcomes of Day One. Angeline Barrett, University of Bristol, will introduce overarching questions and issues for Day Two. Issues include how to catalyze change within educational systems and how to position interventions for success in the face of challenging contexts.

9:30-11:00 am Panel Discussion: Catalyzing Change within Educational Systems

Experienced practitioners will tackle critical questions related to systems: Can promising interventions succeed in the face of complex and often ineffective systems? How can systems be transformed to further enable quality teaching? What synergies can be generated between interventions and systems wide practices? Panelists will briefly share their perspectives, followed by a group discussion.

Panelists:

- Subrata Dhar, Global Partnership for Education
- Paul Kibet, Nakuru Secondary School, Kenya
- Elia Kibga, Ministry of Education, Tanzania
- Thierry Zomahoun, African Institute for Mathematical Sciences

Moderator:
Betty Ezati, Makerere University

11:00-11:30 am Tea Break

11:30-1:00 pm Break-out Groups: Working Together to Achieve Lasting Change

Facilitated break-out groups, representing varied perspectives, will explore the important, but often elusive role of partnerships: How can multiple actors collaborate to achieve impact? What is the" value add" of working with key stakeholders? How can we support each other to achieve change? Groups will reconvene to share findings.

Facilitators:

- Joan DeJaghere, University of Minnesota
- Oley Dibba-Wadda, Association for the Development of Education in Africa
- Sharath Jeevan, Schools and Teachers Innovating for Results

1:00-2:00 pm Lunch

2:00-3:30 pm Breakout Groups: Looking to the Future

Building on the work of the past two days, participants will revisit The MasterCard Foundation's strategic vision. Facilitated break-out groups will wrestle with the tough questions and help to refine or even redesign the concept. Groups will reconvene and make their case to the full group.

Facilitators:

- Steven Farr, Teach for All
- Yusef Sayed, Cape Peninsula Institute for Technology
- Jo Westerbrook, Unversity of Sussex

3:30-4:00 Break and Reflection:

Using post-it notes, participants will begin the reflection process.

4:00-5:00 Wrap-Up and Moving Forward:

- Reflections: Two participants will share posted reflections on the meeting.
- Plans to take the work forward: Liz Gips, The MasterCard Foundation
- Closing thoughts from The MasterCard Foundation the University of Bristol and the