

#EduSummitOslo

6-7 JULY 2015

# **EDUCATION** FOR **DEVELOPMENT**



## **INVESTING IN TEACHERS IS INVESTING IN LEARNING**

**A PREREQUISITE FOR THE TRANSFORMATIVE  
POWER OF EDUCATION**

Background paper for the Oslo Summit  
on Education for Development

EFA Global Monitoring Report team

## Executive summary

‘Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all’ is a standalone goal in the proposed new sustainable development agenda. Country progress towards this goal will also help accelerate the achievement of other sustainable development goals.

The Oslo Summit on Education for Development aims to mobilize strong political commitment to achieve the Education 2030 targets that are proposed as part of the sustainable development agenda. It will explore four areas: education financing, girls’ education, education in emergencies, and quality of education. This background paper addresses the last of these areas – quality education. While improving quality is a complex endeavour and requires a broad range of interventions which pre-supposes sufficient financing and solid general education policies, this paper focuses primarily on teachers and effective teaching as key to achieving relevant learning outcomes.

Ensuring that qualified, professionally trained, motivated, and well-supported teachers are available for all learners is essential for addressing today’s key education challenges in poor and rich countries alike. The quality of an education system can exceed neither the quality of its *teachers* nor the quality of its *teaching*.

Good teachers and effective teaching are critical in serving the needs of disadvantaged learners, wherever they live – and education inequality is one of the key items on the post-2015 education agenda that underpins its universality. However, there is particular urgency in poorer countries, which are often plagued by overlapping, multiple problems, but where much progress can be made – with potentially dramatic effects towards reaching the sustainable development goals. Poor funding, insufficient targeting of resources to those most in need, and the unequal distribution of education inputs fuel what is sometimes called a learning crisis – the realization that millions of children do not acquire foundation skills even after spending several years in school.

Investing in teachers can transform education and will be crucial for the effective delivery of a post-2015 education agenda that focuses on equity and learning. Teachers who have adequate subject and pedagogic content knowledge, are effectively trained, and are sensitive to the diverse needs of learners can make a huge difference on the education of students, especially in the early years of schooling. Governments must ensure teachers are appropriately prepared and supported – and development partners must focus their long-term technical and financial assistance efforts to build the capacity of countries that lack necessary resources.

Teachers are part of an education *system*. Improving student learning depends on the effective operation of this system, which needs to be evidence-based, process-focused, results-oriented and well-resourced. Good systems need to be able to attract good candidates to the teaching profession and to equitably deploy, motivate, develop, retain and support those recruited. They need to grant sufficient autonomy to enable schools and teachers to focus on learning; and engage all partners in the development and evaluation of policy. Everybody – from ministers and high officials to local education authorities, from school leaders, teachers and their organizations to community members, parents and learners – has their own responsibilities that jointly contribute to better learning outcomes.

Four recommendations emerge from this paper:

1. At the system level, **develop a shared understanding of what is necessary to ensure that all learners are taught by good teachers and served by effective teaching**. This will signal that the country is firmly focused on learning and will direct all partners to meet these criteria. This involves actions from attracting good candidates to teaching through competitive pay structures and incentives, to equitable deployment policies, to building appropriate professional development and support structures, and to providing the material means to match these expectations for quality. The process by which this shared understanding is reached is critical and needs to recognize that policies can only be effective if those responsible for

implementing them are also involved in shaping them. Process and dialogue on quality issues are fundamental. A concrete result of such a process can be the development of a set of professional standards that reflect a national consensus. This will help build mutual responsibility and accountability, which will also be supported by the availability of better data.

**2. Re-orient initial teacher education and continuous professional development programmes to respond to challenging classroom conditions.** In poorer countries, these programmes need to be more sensitive to the fact that many teachers lack essential skills. They must prepare teachers to identify learning needs, address equity considerations, implement a variety of appropriate teaching strategies, and provide feedback focused on improving learning outcomes. Programmes also need to be well funded through sustainable channels. Where governments genuinely lack the financial means to provide for good quality education, the need for long-term and predictable flows of external assistance cannot be over-emphasized.

**3. Recognize the need for effective and participatory school leadership focused on teaching effectiveness and learning.** 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 programmes that nurture relevant leadership skills to accomplish these aims.

**4. Invest in teaching and learning materials, especially textbooks and supplementary reading books.** An analysis of the cost implications of achieving the post-2015 education agenda in low and lower middle income countries underpins this paper. This includes the estimation of the financing gap remaining after accounting for ambitious projections about domestic resource mobilization over the next 15 years to meet the target that countries allocate 15-20% of their budget and 4-6% of national income to education. A key assumption is that salaries will need to converge to the long-term trend of countries that pay teachers relatively more. But in addition to these expanded costs, governments will also need to allocate sufficient recurrent education expenditure to non-salary uses, in particular teaching and learning materials, to make teacher classroom activities more effective. The development of reading materials in appropriate languages that support mother tongue instruction must be strongly emphasized.

The Incheon Declaration underscored the centrality of teachers to improve learning: 'We commit to quality education and to improving learning outcomes, which requires strengthening inputs, processes and evaluation of outcomes and mechanisms to measure progress. We will ensure that teachers and educators are empowered, adequately recruited, well-trained, professionally qualified, motivated and supported within well-resourced, efficient and effectively governed systems.'

The message from the Oslo Summit should be that investing in teachers, their preparation, support mechanisms, and the means of delivery in the classroom, is investing in learning. It is a prerequisite to allow the transformative power of education to occur.

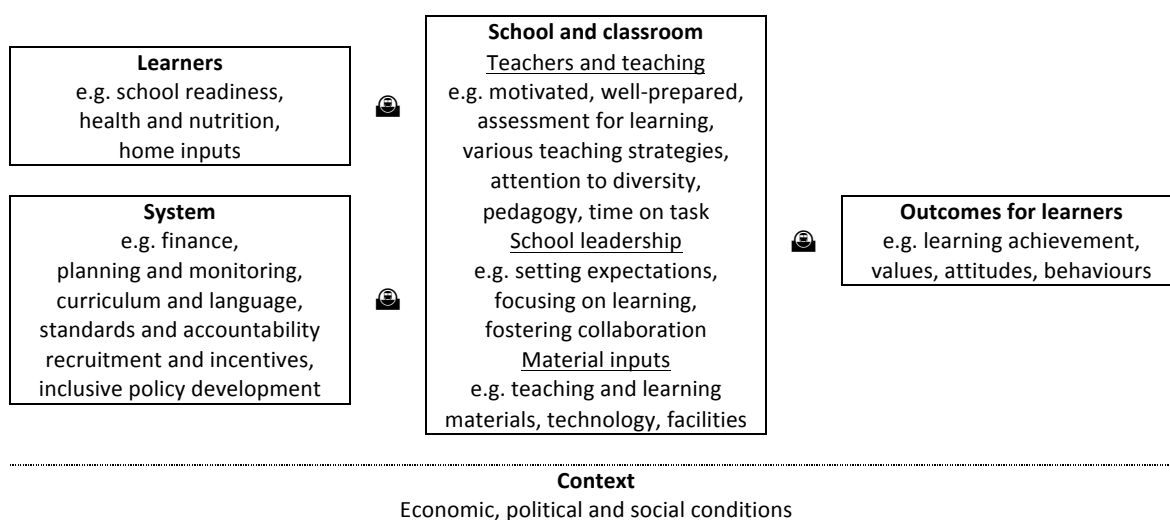
## 1. Introduction

‘Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all’ is a standalone goal in the proposed new sustainable development agenda, which has been confirmed in the Incheon declaration in May 2015. Country progress towards this goal will also help accelerate the achievement of practically all the other sustainable development goals (**Box 1**).

However, the provision of education needs to be of sufficiently high quality to obtain desirable **outcomes for learners**. As previous reviews have shown over the years, the range of factors contributing to education quality is quite broad (**Figure 1**). Differences in **learner** capacities and experiences need to be taken into account in designing education interventions. Children cannot benefit fully from school if they live in poverty, are malnourished, or suffer from ill health. Education **systems** that are evidence-based, results-oriented, and well-resourced set the foundations for effective teaching and learning. They can attract good candidates to the teaching profession, grant sufficient autonomy to enable schools and teachers to focus on their main tasks, and engage all partners in the development and evaluation of policy.

**Figure 1**

*An indicative framework for education quality*



Sources: Heneveld and Craig (1996), UNESCO (2005), Berry et al. (2015).

This paper focuses its attention on **school and classroom** factors with particular emphasis on the key role of *teachers and teaching*, which are key to the provision of good quality education.

Despite the increased interest in student learning, the attention paid to teachers and teaching is not as strong. This may be partly because the qualities of a good teacher and effective teaching vary considerably across different **contexts**. It is also difficult to relate the learning achievement of students to a single teacher given that so many school attributes contribute to these outcomes.

The evidence needed to disentangle the influence of school and classroom-related conditions is often complex. Not surprisingly, in-depth analyses of this type are mainly found in high income countries. Studies indicate that teachers have the highest impact of any school-based factor and provide a convincing picture of potentially large gains to learning from the provision of good teachers in the classroom. In the United States, for example, replacing a teacher from the bottom 5% with an average teacher in terms of the contribution made to student scores would increase the lifetime income of students by approximately \$250,000 per classroom (Chetty et al., 2014). Good teachers have been found to make an especially significant difference in schools composed of students from low socio-economic backgrounds (Nye et al., 2004).

Data from the Programme for the International Assessment of Adult Competencies (PIAAC) show that teachers in 23 countries have a similar level of numeracy skills as the average worker with a university degree. However, the numeracy skills of the workforce themselves differ substantially across countries: teachers in Finland and Japan have higher skills than those in Italy and the United States. Such differences are among the factors that can help explain the variation in student learning achievement measured through the PISA assessment (Hanushek et al., 2014; Meroni et al., 2015).

The provision of good teachers and effective teaching are distinctive challenges. As the OECD notes, ‘unless countries have the luxury of hiring teachers from Finland or Japan, they need to think hard about making teaching a well-respected profession and a more attractive career choice – both intellectually and financially – and invest more in teacher development and competitive employment conditions’ (OECD, 2013).

Ensuring motivated, professionally trained and well-supported teachers are available for all learners, regardless of their background, is essential for addressing today’s key education challenges in poor and rich countries alike.

**Good teachers who employ effective teaching methods enable children, young people and adults to acquire foundation skills.** An estimated 250 million children of primary school age fail to acquire basic learning proficiencies, about half of whom have spent several years in school. This is not necessarily a new development; rather, awareness has been raised through the availability of information on learning outcomes. Nor is it the result of a single factor. Nevertheless qualified, well-prepared and supported teachers can enable poor and marginalized children overcome many of their disadvantages.

**Well-prepared and well-supported teachers help learners adjust to rapidly changing socio-economic conditions.** Education systems are increasingly expected to go beyond the simple transmission of subject knowledge. They need to facilitate the acquisition of new competencies, including the ability to learn independently, which help learners adjust to the changing needs of labour markets and everyday life. This often calls for the use of advanced information and communication technologies (ICT). It is popularly debated whether technology makes teachers obsolete and redundant. In practice, skilled, technologically savvy teachers are critical to the successful introduction and application of ICT in education.

#### **Box 1. Sustainable development begins with education**

Equitable and good quality education positively impacts an array of development outcomes (UNESCO, 2014):

**Education not only helps households escape poverty but also prevents the transmission of poverty between generations.** In **Guatemala**, higher levels of education and cognitive skills among women increased the number of years their children spent in school. In turn, each grade completed raised the wages of these children once they became adults by 10%, while an increase in reading skills further raised their wages (Behrman et al., 2009; Behrman et al., 2010).

**Education systems which ensure that all youth learn can vastly improve long-term economic growth.** If all youth acquired functional literacy skills within the next 15 years then middle income countries, such as **Morocco** and **Georgia**, would achieve economic gains that would average more than eight times their current GDP over the next 80 years (OECD, 2015c).

**Education inequality also hinders a country’s growth prospects.** Comparing **Pakistan** and **Viet Nam** illustrates the importance of equitable education. In 2005, the average number of years adults had spent at school was similar but very unequally distributed: in Pakistan, half of the population had no education,

compared with only 8% in Viet Nam. The education inequality gap between the two countries accounted for 60% of the difference in their per capita growth between 2005 and 2010 (Castelló-Climent, 2013).

**Education is itself a health intervention.** Educated people are better informed about specific diseases, and can take measures to prevent them or act on early symptoms. They also tend to seek out and use healthcare services more often and more effectively. They are more confident in their ability to achieve personal aspirations and make necessary changes to their life. In the **Democratic Republic of the Congo**, where one-fifth of the world's malaria-related deaths occur, the odds of using a bed net increased by about 75% if the household head had completed primary education (Ndjinga and Minakawa, 2010).

**Education promotes tolerance to diversity.** Those with secondary education were 14% less likely to express intolerance towards people of a different religion in the **Arab States** and 16% less likely to express intolerance towards immigrants in **Central and Eastern Europe** than those who had not completed secondary education (Chzhen, 2013).

**Education is a key mechanism for gender empowerment.** It does not just alter attitudes. In **India**, only about 4% of all candidates for state assembly elections were female, and the mean vote share of female candidates has been about 5%. Halving the gender literacy gap would have increased the share of female candidates by 21% and the share of votes obtained by women candidates by 17% (Bhalotra et al., 2013).

This paper addresses key aspects of what governments need to do to develop a competent and effective teaching force – and where development partners can concentrate their efforts to have maximum impact. It is inevitably selective in its coverage. For example, in terms of system-wide issues, it does not delve into the critical issue of data and their use for strengthening mutual accountability. In terms of school and classroom issues, it only touches briefly on the role and impact of technology. Across education levels, it does not discuss aspects specific to the preparation of early childhood or adult educators. While the examples used come from all parts of the world, more attention is paid to acute challenges faced by poorer countries.

Following this introduction, Section 2 looks at selected system-wide parameters to build up a competent pool of teachers: mechanisms to attract and retain good candidates to the profession; basic resource allocation assumptions; and participatory policy development processes that engage all partners to focus on quality and learning. Section 3 focuses on preparing teachers to address the needs of all learners to achieve vital gains in learning. Section 4 examines support mechanisms for teachers, including supervision mechanisms and committed school leaders, to ensure and sustain learning achievement over time. Section 5 looks at the teaching and learning materials necessary for teachers to effectively deliver the curriculum. The paper concludes with four specific recommendations that should be the focus of policy action among governments and their partners.

## **2. Ensure that education systems are geared to support learning**

School and classroom related factors, especially those concerning teachers and teaching, clearly need to be addressed to improve learning outcomes. Having said that, the right policy solutions are often found at the level of the education *system*. This section reviews three indicative key system-level issues related to teachers and teaching: recruitment, financing and policy development.

### *2.1. Attract good candidates to the teaching profession and retain them*

It is difficult to discuss recruiting *good* teachers when so many countries still do not have *enough* teachers. Since 2000, there have been consistently more than 40 pupils per primary school teacher in sub-Saharan Africa; the ratio was 74 pupils in Malawi and 80 pupils in the Central African Republic in 2012. The strikingly large class sizes in some of the poorest countries, especially in the early grades, are a proof of a collective

failure to meet one of the minimum conditions of the right to quality education: an adequate pool of teachers for all classrooms. Recruiting teachers in sufficient numbers and ensuring they are efficiently deployed, both across and within schools, is an urgent priority.

However, governments should not just seek to fill posts. Faced with the rapidly expanding demand for education, some governments have in the past taken rushed decisions. Looking ahead, governments need to be thinking strategically. The less attractive the teaching profession becomes, the greater the risk of recruiting a generation of candidates with poor qualifications, less confidence and a lower willingness to innovate. The long-term effects of a poor cadre of teachers are difficult to reverse.

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. However, across countries that participated in the second Teaching and Learning International Survey (TALIS) in 2013, less than 33% of lower secondary school teachers believed teaching to be a valued profession in society; the range varied from 5% in France to 84% in Malaysia (OECD, 2014b).

The **pay** of teachers relative to other professions can be a critical determinant of these perceptions. Overall, teachers are paid less than those in professions requiring similar qualifications. In OECD countries, primary school teachers earned 85% of the average for other full-time workers aged 25 to 64 with tertiary education, and lower secondary school teachers earned 88% (OECD, 2014a). In Latin America, the earnings gap for teachers relative to other professionals declined between the late 1990s and the late 2000s but remained wide, especially for pre-primary and primary school teachers in countries such as Brazil, Nicaragua and Peru (Mizala and Ñopo, 2012). Over three decades, teacher pay declined across sub-Saharan Africa, with the sharpest declines in Francophone Africa (Pôle de Dakar, 2009).

Data on teacher **attrition** rates are scarce. But evidence from the UNESCO Institute for Statistics suggests a real problem in some countries. In Ghana, 13% of primary school teachers left the profession in 2012; in Angola, the rate was 17% in 2010. Attrition is not confined to developing countries. In the United States, more than 41% of new teachers leave teaching within 5 years of entry and the figure has been increasing since the late 1980s. Rates of leaving for first-year teachers rose from 9.8% to 13.1% from 1988 to 2008. Most first-year teachers who left cited dissatisfaction with working conditions, including salaries, classroom resources, student misbehaviour, accountability, opportunities for development, input into decision-making and school leadership (Ingersoll et al., 2014).

One way to motivate teachers is to offer an attractive **career path**. If promotion criteria include the recognition of teacher efforts to improve learning outcomes among disadvantaged learners, this will provide necessary incentives for good teachers to work in deprived areas to improve education quality and equity. In 2010, Ghana began reviewing its teacher management and development policy framework to address such concerns, including the mechanism for promoting teachers.

Incentives also need to address inequalities in deployment. Less qualified teachers tend to teach in more disadvantaged schools where teacher turnover is higher, while better-qualified teachers are concentrated in wealthier urban areas. This pattern has considerable negative effects on equality of opportunity, as the poorest students end up in the early grades in overcrowded classrooms taught by the least prepared teachers. In Gambia, hardship allowances in the range of 30–40% have increased the number of qualified teachers in remote schools (Pugatch and Schroeder, 2014). This suggests that even governments with constrained capacities do have tools at their disposal to equalize teacher distribution.

## *2.2 Provide sufficient resources to attract, retain and support teachers*

The *2015 EFA Global Monitoring Report* has estimated the costs of achieving one year of universal pre-primary education, universal primary and lower secondary education completion, and universal access to

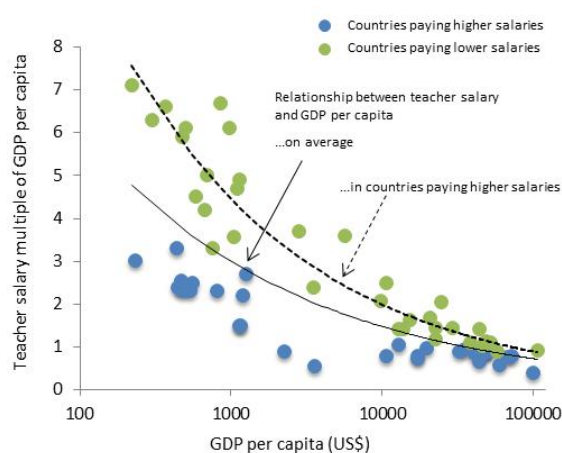
upper secondary education by 2030 in low and lower middle income countries. It estimates that even if countries meet the targets of spending 15-20% of their budget and/or 4-6% of their GDP on education, there remains an annual financing gap of \$39.5 billion in the period 2015-2030. Three assumptions in this costing model are highly relevant when discussing preconditions for the provision of good quality education and the case for investment in teachers.

First, on average, the higher a country's per capita income, the smaller the class size. The model assumes that countries with a high **pupil/teacher ratio** gradually converge towards the average for their income level. In primary education, this translates into a ratio of 29 pupils per teacher by 2030.

Second, on average, the higher the per capita income of a country becomes, the lower the **teacher salary** as a multiple of average income (this is expressed by the continuous line in Figure 2). The model assumes that salaries will approach the average of the 50% of countries (indicated by the green dots in Figure 2) paying the highest salaries (as expressed by the dotted line in Figure 2). In primary education, this translates into salaries equal to 4.4 times the average GDP per capita in low income countries.

**Figure 2**

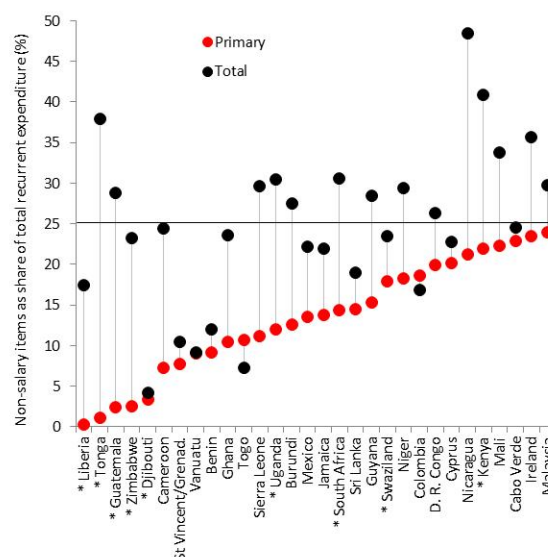
*Some countries pay teachers well below the average level for their level of income*  
 Primary teacher salaries as multiple of GDP per capita, 2012 or most recent year



Source: Wils (2015).

**Figure 3**

*Salaries represent a majority of funding in education budgets, particularly for primary education*  
 Non-salary items as share of recurrent expenditure, total and primary education, 2012 or nearest year



Note: Data for countries marked with an asterisk (\*) come from Development Finance International and are for 2013.

Sources: UIS database; Development Finance International (2014).

Third, governments need to spend sufficient resources out of their recurrent budget to ensure teachers are properly trained and well supported. At present, many governments in low and middle income countries, particularly at the primary education level, allocate the vast majority of their budget to teacher salaries (Figure 3). 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.

The model that underpins this analysis does not discuss issues of equity. However, the success of any financing commitments hinges critically on the efficiency and effectiveness of mechanisms with which resources target those populations most in need.

### 2.3 Teachers need to be actively involved in policy development



National reforms to improve learning and system-wide decisions related to the recruitment, remuneration, promotion or retention of teachers 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).

Teachers and their unions can have a beneficial influence when they are given a genuine chance to reshape policies aimed at improving learning. After the 2000 PISA survey revealed that learning outcomes were lower than previously assumed, Norway, in cooperation with the teacher union, took further steps to raise the status of the teaching profession, revamp teacher education, increase the amount of high-quality professional development within a framework of agreed teacher competencies, and improve the quality of school leaders (OECD, 2011).

In the Plurinational State of Bolivia, the Confederation of Rural Education Teachers, which is the chief advocate of education for indigenous groups, was instrumental in improving education quality by highlighting the need for bilingual, multicultural education. Indigenous education rights are now enshrined in the constitution (Gindin and Finger, 2013).

Inclusive policy development has been successful in many countries. An important condition in these cases 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. This will help build mutual responsibility and accountability, which will also be supported by the availability of better data.

### **3. Prepare teachers to focus on learning**

A prerequisite for quality education is that prospective teachers have strong subject knowledge. Good quality education also depends on giving teachers the best possible training, not only before they start teaching but also throughout their careers. Initial teacher education should prepare teachers to help students from a diverse array of backgrounds, including those with multiple disadvantages, especially in the early grades. Effective teacher training goes beyond the theory of teaching to include practical classroom experience. It also lays the foundations for ongoing training that reinforces skills and knowledge. Such in-service training is especially important for helping teachers adapt to new teaching and learning methods. Trainers themselves also need ongoing education.

#### *3.1 Ensure prospective teachers have sufficient levels of subject knowledge*

Effective teaching starts with teachers who know their subject matter. Prospective teachers should ideally enter teacher education programmes knowing enough about the subjects they are going to teach. But often prospective teachers lack such skills altogether. In India, where student learning outcomes remain low, particularly for poor populations, only 9% of primary school teacher candidates passed the Central Teacher Eligibility Test introduced by the government in 2011 (Chudgar, 2013). In Kano state, northern Nigeria, 78% of 1,200 basic education teachers were found to have 'limited' knowledge of English, the language of instruction from the upper grades of primary school, when tested on their reading comprehension and ability to correct a sentence written by a 10-year-old (ESSPIN, 2011).

Teacher education programmes typically lack the resources to significantly upgrade trainees' weak subject knowledge. In Uganda, the curriculum for initial primary teacher education devotes 262 hours of instructional time to teaching methods and pedagogical theory, and only about 120 hours each to

mathematics, language (English) and science. Most of this time is spent learning subject-specific teaching methods, which assume previous solid subject knowledge (World Bank, 2012).

In such circumstances, teacher education programmes should take steps to ensure that all trainees have a solid understanding of the curricular subjects they will be expected to teach. Ghana restructured teacher education in the early 2000s. Trainees have to pass an examination on foundation academic subjects at the end of their first year before proceeding to focus mainly on pedagogical skills (Akyeampong, 2003).

### *3.2 Initial teacher education must focus on effective teaching methods for learning*

Knowing how to teach is especially important for teachers entering today's classrooms. In high income countries there is a wealth of research about what works in classrooms. Not surprisingly, it corroborates what we tend to think of as the attributes of the good teacher: 'teachers who built relationships with their students... helped students to have different and better strategies or processes to learn the subject... and demonstrated a willingness to explain material and help students with their work' (Hattie, 2009). Teachers improve learning when they set high expectations for their students, do not discriminate among them, ask them to learn from each other, and provide feedback.

Increasingly, relevant evidence is also emerging from low and middle income countries. A systematic review of 54 empirical studies highlighted group and pair work, student questioning, use of local languages, the planning and varying of lesson sequences and the use of a range of learning materials as effective pedagogic strategies (Westbrook et al., 2013). In rural India, asking questions, using local examples to explain lessons, and working in small groups, were positively correlated with test scores in grades 2 and 4 (Banerji et al., 2013).

But initial teacher education is not always effective. Reviews have identified several problems with the quality of training, including 'outdated curricula, misalignment of the teacher education with the school curriculum, limited practice-based learning opportunities during training, omission 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).

Teacher education curricula should prepare teachers to meet the challenging contexts they will face (such as bi-/multi-lingual teaching, large classes, multi-grade classes, lack of school readiness, or limited resources). The delivery of teacher education programmes also needs to recognize that trainees are likely to have received a weak education themselves. The use of video, especially in the context of limited opportunities for classroom practice, would help trainees practise specific desirable behaviours, learn from their peers and engage in group work (Abadzi, 2012).

Early Grade Reading Assessments point to a lack of knowledge of the specific pedagogical techniques that lead to better reading skills. Early Grade Mathematics Assessments, in turn, point to a focus on teaching procedural skills rather than a deep understanding of mathematical concepts. In Iraq, half of teachers reported that they had received no pre-service training on how to teach reading and mathematics. Other evidence suggests that teachers often cannot identify students' weaknesses in foundational mathematics and reading skills and, when they can, they do not address them adequately to cover the necessary material prescribed by the national curriculum (Bixi et al., 2015).

In sub-Saharan Africa, pre-service teacher education tends to be based on curricula that place little emphasis on the quality and variety of teaching methods. A survey of six sub-Saharan African countries showed that trainees are not trained in active classroom participation methods (Akyeampong et al., 2013). As a result, few primary school teachers demonstrate an adequate level of subject-specific teaching methods. Analysis of videotaped mathematics lessons in Botswana and the North West Province, South Africa, found that most teachers lacked the ability to help students learn the material. Teachers who did so had used a well-planned lesson, with richness and variety in the tasks presented, and had strong

communication skills that conveyed mathematical concepts at an appropriate level of understanding (Sapire and Sorto, 2012).

Proper pre-service teacher education is essential if children are to acquire good reading skills in the early grades. Children who do not learn to read, decode and understand text in the first years of schooling are at risk of being left behind. Inadequately trained teachers exacerbate this problem. In Mali, an Early Grade Reading Assessment and teacher observation found that few teachers were able to teach their pupils how to read. Teachers had been inadequately prepared to apply the required teaching methods and did not give sufficient attention to supporting pupils' individual reading. This helps account for the fact that nearly half of Malian students cannot read a word in their own language at the end of grade 2 (Varly, 2010).

In the light of this evidence, the contents of pre-service education programmes in poorer countries need to be revisited to ensure that children learn basic foundational skills.

### *3.3 Prepare teachers to address disadvantage and diversity*

Young children bring varying abilities and learning experiences to the classroom. Teachers need to be able to identify students who need the most help and support them accordingly. In Malawi and Lesotho, many teachers implemented exclusionary school policies and practices that directly contributed to high dropout rates. They had no systematic approach to identify vulnerable learners, monitor their attendance and progress through school, or provide additional psychosocial support (Pridmore, 2014). In many countries, teachers need support to implement gender-equitable classroom practices.

Classroom-based **assessments** should help teachers identify weak learners. In Liberia, a project associated with the Early Grade Reading Assessment programme included an intensive one-week course in early grade reading instruction and in the use of formative and diagnostic assessment to identify and support weak learners. Teachers used a simple oral assessment to check pupils' understanding during reading instruction. This allowed them to quickly assess responses and identify pupils requiring further assistance. In addition, periodic tests were added to check pupils' mastery of particular skills and determine instructional needs (Davidson et al., 2011). The full intervention package significantly accelerated children's learning.

Teachers in low income countries need to be prepared for the practical challenges of under-resourced and diverse classrooms, particularly in remote, **rural areas**. In South Africa, the Rural Teacher Education Programme sends third and fourth year pre-service primary teacher trainees to engage in 'service learning' in selected rural schools (Mitchell and Yang, 2012; UKZN Foundation, 2013).

In Malawi, non-profit teacher training colleges were established to offer low-cost pre-service education specifically designed to equip new teachers with the skills necessary for rural schools. A strong practical orientation and one academic year of school-based experience and community work help prepare teachers for the realities of living and teaching in rural areas. In an evaluation of the programme, 72% of trainees identified the school practice component as the area of study that most prepared them for future teaching. In addition, 80% of trainees said they had gained valuable experience in providing targeted support to disadvantaged pupils, compared with just 14% in government colleges (Development Aid from People to People, 2013; Mambo, 2011).

The use of **mother tongue instruction** has been described as the most important but least appreciated issue of educational development in multilingual contexts. Teaching children in unfamiliar languages restricts the scope for classroom communication and interaction and lowers the quality of education (Alidou et al., 2006). In Cambodia, an evaluation of a non-government bilingual education programme involving ethnic minority children showed that students in bilingual schools performed better in mathematics than their peers in the monolingual schools (Lee et al., 2014).

However, even in countries that have tried to introduce mother tongue instruction, teachers are rarely prepared for the reality of multilingual classrooms. In Senegal, where attempts are being made to use local languages in schools, training is given only in French, and a survey found that only 8% of trainees expressed any confidence about teaching reading in local languages. In Mali, this was the case for just 2% of teachers (Akyeampong et al., 2013).

Teacher education programmes need to support teachers to be able to teach early reading skills in more than one language and to use local language materials effectively. This involves support for teachers to understand the linguistic and cultural backgrounds of children; language development (including the importance of mother tongue, of how children learn language, and of learning to read); and the interdependence of mother tongue and second language development along with appropriate language teaching practices (Pinnock and Vijayakumar, 2009).

Teachers face challenges when asked to implement a policy of **inclusive education**. While the approach of mainstream education for all children is gaining ground worldwide, the reality is that inclusive classrooms are very different environments from those for which teachers have been prepared. Trainees have gaps in understanding 'what inclusive education looks like in practice', not least given that trainers have little relevant experience (Pinnock and Nicholls, 2012). Inclusive education should be integrated into all teacher training and not be seen as a special topic for a handful of specialist teachers. In Papua New Guinea, teacher training colleges embed related disability topics in other areas of the curriculum. For example, within the health curriculum, teachers could learn about primary ear and eye health; and in the general education curriculum students could learn skills in identifying children with learning difficulties (IDDC, 2013).

### *3.4 Ensure teacher educators have relevant teaching experience*

In most developing countries, teacher educators have very little training themselves. Analysis in six sub-Saharan African countries, for example, found that teacher educators of early reading were rarely experts in the field. Trainers' limited knowledge of approaches impeded their ability to help trainees develop a wider repertoire of effective skills in teaching reading in the early grades. None of the mathematics tutors in these six countries had special training for teaching primary mathematics during their initial teacher education level (Pryor et al., 2012). In Anglophone African countries, instructors in many primary school teacher preparation courses tend to be former secondary school teachers with little knowledge or experience of teaching at primary level: in Gambia, 77% of instructors had never taught primary school themselves (Mulkeen, 2010).

### *3.5 Improve teachers' skills through ongoing education*

All teachers require continuing support to enable them to reflect on teaching practices, to foster motivation and to help them adapt to change, such as using a new curriculum. Teachers who have received some in-service training are generally found to teach better than those who have not, although it depends on the purpose and quality of the training received (Glewwe et al., 2014). Ongoing training plays a key role in improving learning outcomes by providing teachers with new ideas throughout their career about how to support weak learners. It needs to be well articulated with initial teacher education and build on its content (Lewin and Stuart, 2003).

An under-investment in in-service professional development opportunities has been associated with poor results from the implementation of key education reforms at classroom level. For example, many poorer countries are trying to move away from teaching that relies heavily on traditional approaches such as lecturing, rote learning and repetition, and towards the use of learner-centred methods, emphasizing critical thinking, dialogue, group work and reflection (Hardman, 2012; Vavrus et al., 2011). Without ongoing training, teachers can find the shift to learner-centred pedagogy demanding.

How in-service training is delivered makes a difference. In Kenya, a teacher development programme for 47,000 primary school teachers combined six months of self-study on pedagogical practice and subject knowledge, supported by distance learning materials and meetings with tutors at cluster resource centres. An evaluation of the programme found that teachers made increased use of their students' mother tongue, lesson planning, and teaching aids produced with students. Teaching became more interactive, and attitudes towards students, especially girls, became more positive (Hardman et al., 2009).

Evidence from TALIS shows that school-embedded professional development has more impact on teacher practice (OECD, 2015a). Recommended approaches include engaging trainees in researching their own teaching practice, preparing teaching portfolios or using book clubs. A school-based teacher development programme in Kenya guided teachers to use problem-solving approaches. Trainees were more likely to use effective mixed-ability group work, to spend time enabling children to practise reading and to encourage the use of library books. Their lessons tend to keep all pupils engaged (Akyeampong et al., 2011). Likewise, the Cellule d'Animation Pédagogique in-service training programme in Niger is another example of a school-based approach that directly involves head teachers and runs over a longer period of time with the support of more senior teachers acting as mentors (Ibn Junaid and Maka, 2014).

A special case is the context of **emergencies**, where teachers face formidable impediments in accessing any opportunities for learning (Burns and Lawrie, 2015). Teachers in classrooms filled with refugees or displaced children often do not have the skills or experience needed to teach students with differentiated needs and from different backgrounds. In Kurdistan, Iraq, where there is a concentration of Syrian and Iraqi refugees, an advanced training programme was organized for all teachers working in primary schools across the camps within the Erbil governorate. The training covered psychosocial support, education methodologies, project management, as well as monitoring and evaluation (Brixii et al., 2015).

#### **4. Support teachers to focus on learning**

Lack of professional support is considered a major constraint to teacher job satisfaction. 'A focus on supervision, including observing and helping teachers, holds the greatest potential for improving teaching and learning' (Lavigne and Good, 2015). In particular, 'supervision helps teachers feel valued, makes them visible and noticed and helps improve their teaching skills' (Mpokosa et al., 2008).

Teacher support can take several forms 'from externally imposed formal inspection of schools and teachers, to regular on-going monitoring of teacher performance by external supervisors or head teachers, to mentoring of individual teachers by their own colleagues within their own classrooms' (World Bank, 2010). This section focuses on two mechanisms that education systems have at their disposal to support teachers, those external and those internal to the school.

##### *4.1 Build effective supervision systems that provide teachers with development opportunities*

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, 2013b).

In richer countries, many inspectorate systems have in place mechanisms that support teachers. An overview of 23 systems in 15 European countries shows that several of them provide direct feedback to teachers after lesson observations and make their officers available for advice to improve teaching (SICI, 2014). However, inspections are more likely to lead to school improvement when accompanied by self-evaluation and constructive feedback (Churches and McBride, 2013; Whitby, 2010).

Apart from formal, large-scale supervision systems, instructional support through coaching and mentoring has also been found to have positive effects on teacher pedagogy and student outcomes. A study in Michigan, United States, found that a professional development programme for first-grade teachers that included coaching outperformed programs involving seminars or seminars plus self-evaluation, in terms of improving pedagogy (Carlisle et al., 2011).

In poorer countries, school supervision systems tend to be unduly focused on administrative compliance than on the pedagogical approaches. 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. In many countries, inspection services are often more closely linked to school audit. For example, the Department of Inspection and Audit in Bangladesh carries out spot visits to schools particularly where there are concerns about mismanagement (World Bank, 2010).

A radical shift is required in the role of supervision from exercising administrative control to offering support (De Grauwe, 2007). For example, in Palestine, the role of inspectors has evolved from a purely authority-based relationship with teachers with a rigid focus on progress through the official curriculum toward a more flexible one that concentrates on mentorship, support and cooperative learning. They assess teacher performance, provide content and pedagogical support, and implement training programmes for teachers on teaching methods, classroom management, and evaluation (Brixi et al., 2015).

Few developing countries have supervision services that are adequate for the task. In Benin, Guinea, Mali and Senegal, supervisors lack vehicles and funds for travel, while the number of teachers per officer has grown (De Grauwe and Lugaz, 2007). In Uganda, coordinating centre tutors (CCTs) linked to primary teacher colleges are responsible for supporting schools in their catchment area and providing regular pedagogical training and instructional support to teachers at the school level. However, they have limited skills and are challenged by low and erratic teacher attendance. Finally, the CCTs are not linked to the district-level administrative structures that are responsible for education service delivery (Uganda Ministry of Education and Sport and IIEP / Pôle de Dakar, 2014).

Similar systems of instructional support exist elsewhere in eastern and southern Africa, including Ethiopia (cluster supervisors), Kenya (teachers' advisory centre tutors), and Malawi (primary education advisors). An evaluation of the Kenya Primary Math and Reading Initiative (PRIMR) programme, which focuses on tutors' professional development and facilitates transportation, found that teachers were observed significantly more often in schools participating in this programme. Tutors with clusters of 10 or fewer schools were more likely to make a significant impact on student outcomes because they had more time to spend with teachers (Piper and Zuilkowski, 2015).

In brief, around the world, governments are recognising the need to re-orient their teacher support programmes to identify needs, provide constructive feedback and direct teachers towards professional development opportunities. This is a prerequisite for effective teaching and impact on learning.

#### *4.2 Develop school leaders focused on learning*

For teacher support mechanisms to be effective, it is critical to bring them as close to the teachers as possible and, preferably, within the school. In that respect, committed school leaders who are focused on student learning can play a major role. School leaders who believe all students can learn, do not discriminate or exclude, and share their leadership can transform schools and communities.

In richer countries, it has been estimated that school leadership accounts for one-quarter of the difference in student outcomes that is explained by school-level variables. This makes school leadership second only to teachers as an influence on learning. To put it in different terms, 'there is not a single documented case

of a school successfully turning around its pupil achievement trajectory in the absence of talented leadership' (Leithwood et al., 2008).

Leadership practices linked with a strong effect on learning include setting goals and expectations focused on learning; taking strategic resource decisions; planning, coordinating and evaluating teaching and the curriculum; promoting and participating in teacher learning and development; and ensuring an orderly and supportive environment. Overall, 'the closer educational leaders get to the core business of teaching and learning, the more likely they are to have a positive impact on students' outcomes' (Robinson et al., 2008).

In 17 out of the 23 countries that participated in the first TALIS, strong instructional leadership from school principals was associated with adoption of tailored professional development programmes to help struggling teachers improve their practice (OECD, 2009). A study of grade 4 students in four Latin American cities confirmed the importance of the school principal as instructional leader on learning outcomes, especially when the principal focused on student evaluation (Anderson, 2008).

Increasing awareness of the importance of effective leadership means that the need for **specialized training for school principals** is now acknowledged. The SABER framework paper on teachers identifies two essential elements for preparing strong principals: making sure that the right individuals are selected while investing in programmes that develop leadership skills; and granting decision-making authority for school principals to support and improve instructional practice (World Bank, 2013b).

In richer countries, the trend towards principal preparation is expanding, though approaches vary widely according to context (Bush, 2012). In Europe, training for headship is required in 21 countries or regions, though the duration varies from one week in Romania to a Master's programme in Malta. Specific training programmes also exist in countries where it is not an official requirement for appointment. In addition, continuous professional development is a duty in most countries, while in some, like Lithuania or Portugal, it is also a prerequisite for career advancement (European Commission/EACEA/Eurydice, 2013).

In Chile, after setting national criteria to assess the performance of classroom teachers through a Good Teaching Framework, the government introduced the Good School Leadership Framework in 2011 (Vaillant, 2015). This was accompanied by a competitive process for the selection of principals and the Program for the Training of Excellent Principals, which trained more than one-third of principals in leadership skills through graduate degrees in the first two years (Bruns and Luque, 2014).

In poorer countries, school heads have a far more challenging task, as they are more likely to work in disadvantaged communities and with very low budgets. Yet, it is rare for them to have prior preparation or in-service training, and benefit from little support from local education authorities (Bush, 2008). A study of 12 mostly low income sub-Saharan African and South Asian countries found only one, Bangladesh, that had made an effort to train all education managers (Bennell and Akyeampong, 2007).

Recognizing the absence of a professional qualification, South Africa introduced an Advanced Certificate in Education: School Leadership programme. In a rare evaluation of such an intervention in a developing country, it was found that secondary schools with trained leaders improved their school leaving examination scores twice as fast as schools with no such leaders. The government decided that the programme should be a requirement for all newly appointed principals within three years of their appointment (Bush and Glover, 2012). Jamaica has recently established the National Centre for Educational Leadership to train and certify aspiring and existing principals (Bruns and Luque, 2014).

Countries that achieve the highest scores in international learning assessments such as PISA and TIMSS emphasize mentoring of all newly qualified teachers (Darling-Hammond et al., 2010). School leaders can exercise their role as instructional leaders also by **mentoring** novice teachers. This is particularly vital in poorer countries where teachers have limited prior practical experience. The innovative Kenyan Primary Mathematics and Reading Initiative implemented between 2011 and 2014 piloted several ICT-based

approaches to mentoring and instructional support, including short message service (SMS) technology to facilitate teachers' communication with mentors (USAID, 2013).

While it is fundamental that school leaders persistently focus on improving conditions for learning and on ensuring coherence in values and actions across classrooms, they cannot achieve this alone. It is therefore important that they develop their schools as **communities of practice** to build links with the other teachers and the students (Hallinger, 2011).

The second TALIS raised awareness of the importance of teacher collaboration as a factor that improves learning through the use of active teaching practices and greater attention to student learning. Collaborative professional learning opportunities, such as mentoring, peer observation, coaching, and teacher networks should be encouraged. Yet, only 37% of teachers in the countries that participated in the survey had been members of a professional development network (Burns and Darling-Hammond, 2014). The situation is usually worse in poorer countries. In Cambodia, teachers rarely hold meetings to promote peer collaboration – and yet student achievement is higher in schools with such useful, technical meetings (Tandon and Fukao, 2015).

In Karachi, Pakistan, whether teachers collaborated on change efforts and motivated others to change depended on the support of the school principal. By involving teachers, school principals helped enhance teacher professionalism for sustaining improvements and developing a community of professionals in their schools (Rizvi, 2008). In Gansu province, China, teachers in rural primary schools engage in collaborative activities that enable the construction of professional learning communities. Teachers observed and critiqued peers; carried out demonstration lessons; planned lessons jointly; and researched teaching and learning. While there are norms and structures in place in the system to allow such interactions, school leadership was one of the strongest predictors of teacher collaboration (Sargent and Hannum, 2009).

The STIR project, a non-government initiative working with district authorities and teacher unions in Uttar Pradesh, India and in Uganda has tried to establish collaborative local teacher networks, which enable teachers to develop their mindsets, professional practices and skills to improve learning. One of its critical assumptions is that school leaders provide feedback to teachers. In addition, a supportive parallel network of local and national officials was built to allow teachers to innovate and address system impediments. Independent evaluation has shown promising initial results on teacher motivation, practice change and student learning (STIR, 2015).

Governments are recognising the need for school leaders to be not just administrators but instructional leaders that set high expectations for learning and establish a collaborative school environment for continuous improvement. However, they will need to establish programmes to provide prospective and existing school leaders with the appropriate skills and competencies.

##### **5. Provide sufficient good quality textbooks and supplementary reading materials to support teachers**

Investment in teachers will be more effective if it is accompanied by supportive policies and programmes. 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. An analysis of learning scores for 21 sub-Saharan African countries based on the PASEC and SACMEQ assessments found a significant overall effect of textbook possession on learning for maths in all grades and for French in second grade in the PASEC countries (Fehrler et al., 2009).

Yet in Uganda, no student had a textbook in more than 90% of the grade 4 classrooms observed (World Bank, 2013a). An evaluation of a program that provided free primary school textbooks in Sierra Leone found that school principals, fearing a shortage of textbooks in the future, had stored the textbooks instead of giving them to students (Sabarwal et al., 2014).



Some studies from sub-Saharan Africa showed that the impact of textbooks on learning may only be found 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 as an evaluation of an early grade reading programme showed in Kenya and Uganda (Lucas et al., 2014). As mentioned earlier, many teachers have not been trained sufficiently to feel confident to deliver mother tongue instruction. An assessment of a bilingual education programme in rural Mindanao in the Philippines showed that teachers were more confident in teaching the mother tongue when they had the opportunity to spend time learning about their own language and to create mother tongue teaching and learning materials (Stone, 2013).

Another plausible explanation is that in low income settings, textbooks are too difficult to benefit marginalized students who live in a very constrained literate environment. Opportunities to read are extremely scarce and unequally distributed. According to UNICEF Multiple Indicator Cluster Surveys, only 5% of children aged 3–4 years in the Lao People’s Democratic Republic had at least three children books at home – the range varied between 24% for the richest and 0.5% for the poorest. Similar inequalities were observed in countries such as Bhutan and Ghana, where just 1% of children had at least 10 books. In addition, such books may not be available in the mother tongue of the children, including in countries with more literate environments such as Tajikistan (USAID, 2011).

For that reason, supplementary reading materials are necessary to build reading skills. But textbooks and supplementary reading materials need to be printed with formats, illustrations, colours and fonts that will be appropriate for the needs of learners from disadvantaged backgrounds to allow them to practise reading with minimal home support (Marinelli et al., 2013; USAID, 2014).

## **5. Recommendations**

Improving the quality of teaching and student learning outcomes requires actions at different levels. Yet teachers who are effectively trained, have strong subject and pedagogic knowledge, are motivated and well-supported, and are sensitive to the diverse needs of students can make a huge difference on children, especially those from disadvantaged backgrounds and in the early years of schooling. For the effective delivery of a new education agenda that focuses on equity and learning, governments and their partners will need to take a much more pro-active role to ensure that teachers are appropriately prepared and supported. Four recommendations emerge from this paper:

1. At the system level, develop a shared understanding of what is necessary to ensure that all learners are taught by good teachers and served by effective teaching.
2. Re-orient initial teacher education and continuous professional development programmes to respond to challenging classroom conditions.
3. Recognize the need for effective and participatory school leadership focused on teaching effectiveness and learning.
4. Invest in teaching and learning materials, especially textbooks and supplementary reading books.

The Incheon Declaration underscored the centrality of teachers to improve learning: ‘We commit to quality education and to improving learning outcomes, which requires strengthening inputs, processes and evaluation of outcomes and mechanisms to measure progress. We will ensure that teachers and educators are empowered, adequately recruited, well-trained, professionally qualified, motivated and supported within well-resourced, efficient and effectively governed systems.’ The message from the Oslo Summit should be that investing in teachers, their preparation, support mechanisms, and the means of delivery in the classroom, is investing in learning. It is a prerequisite to allow the transformative power of education to occur.

## References

This paper draws extensively on the last three editions of the EFA Global Monitoring Report:

- 2012 report, Chapter 1: Policy focus – Addressing the crisis in early grade teaching
- 2013/4 report
  - Chapter 3: Education transforms lives
  - Chapter 5: Making teaching quality a national priority
  - Chapter 6: A four-part strategy for providing the best teachers; and
  - Chapter 7: Curriculum and assessment strategies that improve learning
- 2015 report, Chapter 6: Goal 6: Quality of education

- Abadzi, H. 2012. *Effective Teacher Training in Low-Income Countries: The Power of Observational Learning Research*. Washington, DC, Global Partnership for Education. (GPE Working Paper Series on Learning 11.)
- Akyeampong, K. 2003. *Teacher Training in Ghana: Does it Count?*. London, UK Department for International Development.
- Akyeampong, K., Lussier, K., Pryor, J. and Westbrook, J. 2013. Improving teaching and learning of basic maths and reading in Africa: Does teacher preparation count? *International Journal of Educational Development*, Vol. 33, No. 3, pp. 272-82.
- Akyeampong, K., Pryor, J., Westbrook, J. and Lussier, K. 2011. *Teacher Preparation and Continuing Professional Development in Africa: Learning to Teach Early Reading and Mathematics*. Brighton, UK, Centre for International Education, University of Sussex.
- Alidou, H., Boly, A., Brock-Utne, B., Diallo, Y. S., Heugh, K. and Wolff, H. E. 2006. *Optimizing Learning and Education in Africa - the Language Factor: A Stock-taking Research on Mother Tongue and Bilingual Education in Sub-Saharan Africa*. Paris, Association for the Development of Education in Africa.
- Anderson, J. B. 2008. Principals' role and public primary schools' effectiveness in four Latin American cities. *The Elementary School Journal*, Vol. 109, No. 1, pp. 36-60.
- Atteberry, A. and Bryk, A. S. 2011. Analyzing teacher participation in literacy coaching activities. *The Elementary School Journal*, Vol. 112, No. 2, pp. 356-82.
- Banerji, R., Bhattacharjea, S. and Wadhwa, W. 2013. The Annual Status of Education Report (ASER). *Research in Comparative and International Education*, Vol. 8, No. 3, pp. 387-96.
- Bangs, J. and Frost, D. 2012. *Teacher self-efficacy, voice and leadership: towards a policy framework for Education International*. Brussels, Education International.
- Behrman, J., Murphy, A., Quisumbing, A. and Yount, K. 2009. *Are Returns to Mothers' Human Capital Realized in the Next Generation? The Impact of Mothers' Intellectual Human Capital and Long-Run Nutritional Status on Children's Human Capital in Guatemala*. Washington, DC, International Food Policy Research Institute. (Discussion Paper 850.)
- Behrman, J. R., Hoddinott, J., Maluccio, J. and Martorell, R. 2010. Brains versus Brawn: Labor Market Returns to Intellectual and Physical Health Human Capital in a Developing Country. Washington, DC, International Food Policy Research Institute. (Unpublished.)
- Bennell, P. and Akyeampong, K. 2007. *Teacher Motivation in Sub-Saharan Africa and South Asia*, Department for International Development. (Education Paper 71, 1861928734.)
- Berry, C., Barnett, E. and Hinton, R. 2015. What does learning for all mean for DFID's global education work? *International Journal of Educational Development*, Vol. 40, pp. 323-29.
- Bhalotra, S., Clots-Figueras, I. and Iyer, L. 2013. Women's political participation and the female-male literacy differential in India. Background paper for *2013-14 EFA Global Monitoring Report*.
- Brixi, H., Lust, E. and Woolcock, M. 2015. *Trust, Voice, and Incentives: Learning from Local Success Stories in Service Delivery in the Middle East and North Africa*. Washington, DC, World Bank. (1464804567.)
- Bruns, B. and Luque, J. 2014. *Great Teachers: How to Raise Student Learning in Latin America and the Caribbean*. Washington, DC, World Bank.

- Burns, D. and Darling-Hammond, L. 2014. *Teaching Around the World: What Can TALIS Tell Us?* Stanford, CA, Stanford Center for Opportunity Policy in Education.
- Burns, M. and Lawrie, J. (eds). 2015. *Where It's Needed Most: Quality Professional Development for All Teachers*. New York, Inter-Agency Network for Education in Emergencies.
- Bush, T. 2008. *Leadership and management development in education*. London, Sage.
- \_\_\_\_\_. 2012. International perspectives on leadership development: making a difference. *Professional development in education*, Vol. 38, No. 4, pp. 663-78.
- Bush, T. and Glover, D. 2012. Leadership development and learner outcomes: Evidence from South Africa. *Journal of Educational Leadership, Policy and Practice* Vol. 27, No. 2, pp. 3-15.
- Carlisle, J. F., Cortina, K. S. and Katz, L. A. 2011. First-grade teachers' response to three models of professional development in reading. *Reading & Writing Quarterly*, Vol. 27, No. 3, pp. 212-38.
- Castelló-Climent, A. 2013. Education and Economic Growth. Background paper for *Education For All Global Monitoring Report 2013-14*.
- Chetty, R., Friedman, J. N. and Rockoff, J. E. 2014. Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood. *The American Economic Review*, Vol. 104, No. 9, pp. 2633-79.
- Chudgar, A. 2013. Teacher labor force and teacher education in India: analysis of recent policy change and its potential implications. Akiba, M. (ed.), *Teacher Reforms Around the World: Implementations and Outcomes, International Perspectives on Education and Society* Vol. 19, Emerald.
- Churches, R. and McBride, C. 2013. *Making external school review effective: Findings from the 2012 Windsor International Conference on School Improvement through Inspection and External Review*. Reading, CfBT Education Trust.
- Chzhen, Y. 2013. Education and democratisation: tolerance of diversity, political engagement, and understanding of democracy. Background paper for *EFA Global Monitoring Report 2013/2014*.
- Darling-Hammond, L., Chung Wei, R. and Andree, A. 2010. *How High-Achieving Countries Develop Great Teachers*, Stanford Center for Opportunity Policy in Education ~ Research Brief.
- Davidson, M., Korda, M. and Collins, O. W. 2011. Teachers' use of EGRA for continuous assessment: the case of EGRA Plus: Liberia. Gove, A. and Wetterberg, A. (eds), *The Early Grade Reading Assessment: Applications and Interventions to Improve Basic Literacy*. Research Triangle Park, NC, RTI International.
- De Grauwe, A. 2007. Transforming school supervision into a tool for quality improvement. *International Review of Education*, Vol. 53, No. 5, pp. 709-14.
- De Grauwe, A. and Lugaz, C. 2007. District education offices in French-speaking West Africa: autonomy, professionalism and accountability. *Prospects*, Vol. 37, No. 1, pp. 113-25.
- Development Aid from People to People. 2013. *Teacher Training Colleges*. Blantyre, Malawi, Development Aid from People to People. <http://www.dapp-malawi.org/teacher-training-colleges> (Accessed 31 July 2013.)
- Development Finance International. 2014. Public education expenditure, 2011-13 Background paper for *EFA Global Monitoring Report 2015*.
- ESSPIN. 2011. *Teacher Development Needs Analysis: Kano State, Nigeria*. Abuja, UK Department for International Development – Education Sector Support Programme in Nigeria.
- European Commission/EACEA/Eurydice. 2013. *Key data on teachers and school leaders in Europe - 2013 Edition*. Luxembourg, Publications Office of the European Union.
- Fehrler, S., Michaelowa, K. and Wechtler, A. 2009. The effectiveness of inputs in primary education: insights from recent student surveys for Sub-Saharan Africa. *The Journal of Development Studies*, Vol. 45, No. 9, pp. 1545-78.
- Gindin, J. and Finger, L. 2013. Promoting education quality: the role of teacher unions in Latin America. Background paper for *EFA Global Monitoring Report 2013/4*.
- Glewwe, P., Hanushek, E. A., Humpage, S. and Ravina, R. 2014. School Resources and Educational Outcomes in Developing Countries: A Review of the Literature from 1990 to 2010. Glewwe, P. (ed.), *Education Policy in Developing Countries*. Chicago, IL, Chicago University Press.
- Glewwe, P., Kremer, M. and Moulin, S. 2009. Many Children Left Behind? Textbooks and Test Scores in Kenya. *American Economic Journal: Applied Economics*, Vol. 1, No. 1, pp. 112-35.

- Hallinger, P. 2011. Leadership for learning: Lessons from 40 years of empirical research. *Journal of Educational Administration*, Vol. 49, No. 2, pp. 125-42.
- Hanushek, E. A., Piopiunik, M. and Wiederhold, S. 2014. *The Value of Smarter Teachers: International Evidence on Teacher Cognitive Skills and Student Performance*. Cambridge, MA, National Bureau of Economic Research. (Working Paper 20727.)
- Hardman, F. 2012. *Review: Teacher Support and Development Interventions*. London, Save the Children.
- Hardman, F., Abd-Kadir, J., Agg, C., Migwi, J., Ndambuku, J. and Smith, F. 2009. Changing pedagogical practice in Kenyan primary schools: the impact of school-based training. *Comparative Education*, Vol. 45, No. 1, pp. 65-86.
- Hattie, J. 2009. *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Abingdon, UK, Routledge.
- Heneveld, W. and Craig, H. 1996. *Schools count: World Bank project designs and the quality of primary education in Sub-Saharan Africa*, Vol. 303. World Bank Publications.
- Ibn Junaid, M. and Maka, F. 2014. *In-Service Teacher Education in sub-Saharan Africa: a Synthesis Report*. Paris, International Task Force on Teachers for EFA.
- IDDC. 2013. *Teachers for All: Inclusive Teaching for Children with Disabilities*. Brussels, International Disability and Development Consortium.
- Ingersoll, R., Merrill, L. and Stuckey, D. 2014. *Seven Trends: The Transformation of the Teaching Force, updated April 2014*. Philadelphia, PA, Consortium for Policy Research in Education. (Report #RR-80.)
- Kuecken, M. and Valfort, M.-A. 2013. When do textbooks matter for achievement? Evidence from African primary schools. *Economics Letters*, Vol. 119, No. 3, pp. 311-15.
- Lavigne, A. L. and Good, T. L. 2015. *Improving teaching through observation and feedback: Beyond state and federal mandates*. Abingdon, UK, Routledge.
- Lee, S., Watt, R. and Frawley, J. 2014. Effectiveness of bilingual education in Cambodia: a longitudinal comparative case study of ethnic minority children in bilingual and monolingual schools. *Compare*.
- Leithwood, K., Harris, A. and Hopkins, D. 2008. Seven strong claims about successful school leadership. *School Leadership and Management*, Vol. 28, No. 1, pp. 27-42.
- Lewin, K. M. and Stuart, J. S. 2003. *Researching Teacher Education: New Perspectives on Practice, Performance, and Policy, Multi-Site Teacher Education Research Project (MUSTER), Synthesis Report*. London, Department for International Development.
- Lucas, A. M., McEwan, P. J., Ngware, M. and Oketch, M. 2014. Improving Early-Grade Literacy In East Africa: Experimental Evidence From Kenya And Uganda. *Journal of Policy Analysis and Management*, Vol. 33, No. 4, pp. 950-76.
- Mambo, M. N. 2011. *Report on Achievements Under the DAPP/UNICEF Partnership: Pre-service Training of Female Teachers*. Blantyre, Malawi, Development Aid from People to People.
- Marinelli, C. V., Martelli, M., Praphamontripong, P., Zoccolotti, P. and Abadzi, H. 2013. *Visual and Linguistic Factors in Literacy Acquisition: Instructional Implications for Beginning Readers in Low-income Countries*. Washington, DC, Global Partnership for Education. (Working Paper Series on Learning no. 2.)
- Meroni, E. C., Vera-Toscano, E. and Costa, P. 2015. Can low skill teachers make good students? Empirical evidence from PIAAC and PISA. *Journal of Policy Modeling*, Vol. 37, No. 2, pp. 308-23.
- Mitchell, C. and Yang, K.-H. 2012. *Woman+ Teacher+ Rural: Bringing Gender into the Policy Framework on Teacher Deployment in Rural Areas*.
- Mizala, A. and Ñopo, H. 2012. *Evolution of Teachers' Salaries in Latin America at the Turn of the 20th Century: How Much Are They (Under or Over) Paid?* Bonn, Institute for the Study of Labour. (Discussion Paper 6806.)
- Mpokosa, C., Ndaruhutse, S., McBride, C., Nock, S. and Penson, J. 2008. *Managing Teachers: the centrality of teacher management to quality education. Lessons from developing countries*. Reading, UK, CfBT Education Trust.
- Mulkeen, A. 2010. *Teachers in Anglophone Africa: Issues in Teacher Supply, Training, and Management*. Washington, DC, World Bank.
- Naylor, R. and Sayed, Y. 2014. *Teacher Quality: Evidence Review*. Canberra, Australia, Office of Development Effectiveness, Department of Foreign Affairs and Trade

- Ndjinga, J. K. and Minakawa, N. 2010. The importance of education to increase the use of bed nets in villages outside of Kinshasa, Democratic Republic of the Congo. *Malaria Journal*, Vol. 9, p. 279.
- Nye, B., Konstantopoulos, S. and Hedges, L. V. 2004. How large are teacher effects? *Educational Evaluation and Policy Analysis*, Vol. 26, No. 3, pp. 237-57.
- OECD. 2009. *Creating Effective Teaching and Learning Environments: First Results from TALIS* Paris, OECD
- \_\_\_\_\_. 2011. *Improving Teacher Quality Around the World: The International Summit on the Teaching Profession*. Paris, Organisation for Economic Cooperation and Development. (Background Report for the International Summit on the Teaching Profession.)
- \_\_\_\_\_. 2013. *What teachers know and how that compares with college graduates around the world, educationtoday*. Paris, Organisation for Economic Cooperation and Development.
- \_\_\_\_\_. 2014a. *Education at a Glance 2014: OECD Indicators*. Paris, Organisation for Economic Cooperation and Development.
- \_\_\_\_\_. 2014b. *TALIS 2013 Results: An International Perspective on Teaching and Learning*. Paris, Organisation for Economic Cooperation and Development.
- \_\_\_\_\_. 2015a. *Embedding professional development in schools for teacher success*. Paris, Organisation for Economic Cooperation and Development. (Teaching in Focus 10.)
- \_\_\_\_\_. 2015b. *Schools for 21st Century Learners: Strong Leaders, Confident Teachers, Innovative Approaches. Key Topics of the 2015 International Summit on the Teaching Profession*. Paris, Organisation for Economic Cooperation and Development.
- \_\_\_\_\_. 2015c. *Universal Basic Skills: What Countries Stand to Gain*. Paris, Organisation for Economic Cooperation and Development.
- Pinnock, H. and Nicholls, H. 2012. *Global teacher training and inclusion survey: Report for UNICEF Rights, Education and Protection Project (REAP)*. New York, UNICEF.
- Pinnock, H. and Vijayakumar, G. 2009. *Language and education: the missing link - How the language used in schools threatens the achievement of Education For All*. Reading / London, UK, CfBT Education Trust / Save the Children.
- Piper, B. and Zuilkowski, S. S. 2015. Teacher coaching in Kenya: Examining instructional support in public and nonformal schools. *Teaching and Teacher Education*, Vol. 47, No. 0, pp. 173-83.
- Pôle de Dakar. 2009. *Universal Primary Education in Africa: the Teacher Challenge*. Dakar, UNESCO, Pôle de Dakar.
- Pridmore, P. 2014. *Reaching and teaching marginalised children in Malawi and Lesotho: the importance of stakeholders sharing common values and attitudes*. London, Institute of Education.
- Pryor, J., Akyeampong, K., Westbrook, J. and Lussier, K. 2012. Rethinking teacher preparation and professional development in Africa: an analysis of the curriculum of teacher education in the teaching of early reading and mathematics. *Curriculum Journal*, Vol. DOI:10.1080/09585176.2012.747725, pp. 1-94.
- Pugatch, T. and Schroeder, E. 2014. Incentives for teacher relocation: Evidence from the Gambian hardship allowance. *Economics of Education Review*, Vol. 41, pp. 120-36.
- Rizvi, M. 2008. The Role of School Principals in Enhancing Teacher Professionalism Lessons from Pakistan. *Educational Management Administration & Leadership*, Vol. 36, No. 1, pp. 85-100.
- Robinson, V. M., Lloyd, C. A. and Rowe, K. J. 2008. The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational administration quarterly*, Vol. 44, No. 5, pp. 635-74
- Sabarwal, S., Evans, D. and Marshak, A. 2014. *The permanent input hypothesis: the case of textbooks and (no) student learning in Sierra Leone*. Washington, DC, World Bank. (Policy Research Working Paper 7021.)
- Sapire, I. and Sorto, M. A. 2012. Analyzing teaching quality in Botswana and South Africa. *Prospects*, Vol. 42, No. 4, pp. 433-51.
- Sargent, T. C. and Hannum, E. 2009. Doing more with less teacher professional learning communities in resource-constrained primary schools in rural china. *Journal of Teacher Education*, Vol. 60, No. 3, pp. 258-76.
- SICI. 2014. *Supporting school improvement: the role of inspectorates across Europe*. Brussels, Standing International Conference of Inspectorates.

- Sriprakash, A. 2010. Child-centred education and the promise of democratic learning: pedagogic messages in rural Indian primary schools. *International Journal of Educational Development*, Vol. 30, No. 3, pp. 297-304.
- STIR. 2015. STIR Theory of Change. London, STIR. (Unpublished.)
- Stone, R. 2013. Effective Activities to Support Teachers' Transition into the MTBMLE Classroom in the Philippines. Benson, C. and Kosonen, K. (eds), *Language Issues in Comparative Education: Inclusive Teaching and Learning in Non-Dominant Languages and Cultures*, Sense, pp. 171-87.
- Tandon, P. and Fukao, T. 2015. *Educating the Next Generation: Improving Teacher Quality in Cambodia*. Washington, DC, World Bank.
- Uganda Ministry of Education and Sport and IIEP / Pôle de Dakar. 2014. *Teacher Issues in Uganda: A shared vision for an effective teachers policy*. Dakar, Senegal, International Institute for Educational Planning.
- UKZN Foundation. 2013. *Rural Teacher Education Project*, University of Kwazulu-Natal. [http://www.ukznfoundation.org/index.php?option=com\\_content&view=article&id=147%3Arural-teacher-education-project&catid=42&Itemid=68](http://www.ukznfoundation.org/index.php?option=com_content&view=article&id=147%3Arural-teacher-education-project&catid=42&Itemid=68) (Accessed June 4 2013.)
- UNESCO. 2005. *EFA Global Monitoring Report 2005: Education for All - The Quality Imperative*. Paris, UNESCO.
- \_\_\_\_\_. 2014. *EFA Global Monitoring Report 2013/4: Teaching and Learning - Achieving Quality for All*. Paris, UNESCO.
- USAID. 2011. *Kyrgyzstan and Tajikistan: Early Grade Reading Review*. Washington, DC, United States Agency for International Development.
- \_\_\_\_\_. 2013. *Kenya Primary Math and Reading (PRIMR) Initiative*, USAID. <http://www.usaid.gov/kenya/fact-sheets/kenya-primary-math-and-reading-primr-initiative> (Accessed 27 May 2013.)
- \_\_\_\_\_. 2014. *Best Practices for Developing Supplementary Reading Materials*. Washington, DC, United States Agency for International Development.
- Vaillant, D. 2015. School leadership, trends in policies and practices, and improvement in the quality of education. *Background paper for the 2015 Global Monitoring Report: Achievements and Challenges*.
- Varly, P. 2010. *The Monitoring of Learning Outcomes in Mali: Language of Instruction and Teachers' Methods in Mali Grade 2 Curriculum Classrooms*. Research Triangle Park, NC, RTI International.
- Vavrus, F., Thomas, M. and Bartlett, L. 2011. *Ensuring Quality by Attending to Inquiry: Learner-centered Pedagogy in sub-Saharan Africa*. Addis Ababa, UNESCO: International Institute for Capacity Building in Africa. (Fundamentals of Teacher Education Development, 4.)
- Westbrook, J., Durrani, N., Brown, R., Orr, D., Pryor, J., Boddy, J. and Salvi, F. 2013. *Pedagogy, curriculum, teaching practices and teacher education in developing countries*. London, Department for International Development. (Education rigorous literature review.)
- Whitby, K. 2010. *School Inspection: Recent Experiences in High Performing Education Systems*. Reading, CfBT Education Trust.
- Wils, A. 2015. Reaching education targets in low and lower-middle income countries: costs and finance gaps to 2030. Background paper for *2015 Education For All Global Monitoring Report*.
- World Bank. 2010. *Teacher Supervision and Monitoring* Washington, DC, World Bank. (Policy Brief 10.)
- \_\_\_\_\_. 2012. *Uganda: Teachers*. Washington, DC, World Bank. (SABER Country Report.)
- \_\_\_\_\_. 2013a. *Education and health services in Uganda: data for results and accountability*. Washington, DC, World Bank.
- \_\_\_\_\_. 2013b. *What matters most for teacher policies? A framework paper*. Washington, DC, World Bank. (SABER Working Paper Series 4.)

**#EduSummitOslo**