



## Background Paper Transforming the Education Workforce

# Strengthening the Education Workforce

**Ruth Naylor, Charlotte Jones, and Pearl Boateng** Education Development Trust

The Education Workforce Initiative (EWI) was established in response to a recommendation from the Education Commission's *Learning Generation* report to explore new ways of diversifying and strengthening the education workforce. The *Transforming the Education Workforce* report is one of EWI's key contributions to catalyzing this thinking. It draws on recent evidence and provides thought leadership on how to rethink the education workforce. For the full report and other supporting documents, please visit EducationWorkforce.org.

The *Transforming the Education Workforce* report was originally commissioned as a set of sequential background papers and thus each paper influenced and references the others. The background papers are written by different authors and cover the rationale for rethinking the education workforce, the design of the education workforce, how it can be strengthened, and political economy and financial considerations.

This background paper focuses on strengthening the education workforce to address key challenges across every phase of the life cycle, from attracting, training and inducting, motivating and developing, and progressing, leading and managing.

For questions or more information about this paper, please contact: info@educationcommission.org

Please reference this publication as: Naylor, Ruth, Charlotte Jones, and Pearl Boateng (Education Development Trust). 2019. "Strengthening the Education Workforce." Background Paper for *Transforming the Education Workforce: Learning Teams for a Learning Generation*. New York: Education Commission.

## Table of Contents

EXECUTIVE SUMMARY	3
INTRODUCTION	5
DEFINING KEY AREAS OF CHALLENGE	5
ATTRACT, TRAIN AND INDUCT	7
MOTIVATE, DEVELOP AND PROGRESS	21
LEAD, MONITOR AND MANAGE	34
KEY CONSIDERATIONS FOR POLICYMAKERS	38
SUMMARY OF NEXT AND FUTURE CHANGES IN WORKFORCE STRENGTHENING	42
ENDNOTES	44

## Abbreviations and Acronym

CoE	Colleges of Education
CPD	Continuous Professional Development
EIA	English in Action
GPE	Global Partnership for Education
ICT	Information and Communications Technology
IIEP	International Institute for Educational Planning
ISLI	Indian School Leadership Institute
ITT	Initial teacher training
NGO	non-governmental organization
OECD	Organisation for Economic Cooperation and Development
OER	Open Educational Resources
PACE	Programa de Acompañamiento y Acceso Efectivo a la Educación Superior
PLC	Professional Learning Community
SEA	South and East Asia
SSA	Sub-Saharan Africa
STEM	Science, Technology, Engineering and Mathematics
TALIS	Teaching and Learning International Survey (OECD)
TCS	Teacher Service Commission
TSP	Teacher Selection Project
TTC	teacher training colleges
T-TEL	Transforming Teacher Education and Learning
UIS	UNESCO Institute for Statistics
UNESCO	United Nations Educational, Scientific, and Cultural Organization

## **Executive Summary**

The current and future education workforce needs to be strengthened throughout lifecycle: from attracting and recruiting of trainees, through to performance management and career development. This paper recommends that education systems go beyond traditional policy levers to train, develop and monitor the education workforce to include cycles of learning, adaptation and improvement across the workforce, creating a self-improving education system.

Workforce strengthening must mean making *all* roles more professional throughout the lifecycle. In order to attract high caliber candidates, professionalization needs to be strengthened throughout the workforce lifecycle. A vital first step is meeting minimum standards of pay and working conditions. But investments are also needed in recruitment, professional development, career structures and leadership. Professionalization is about more than the talent, status and performance of individuals. It is about growing a skilled system in which the collective capacity of people is enhanced. Policymakers should engage teachers and leaders in policy formulation to leverage teacher expertise, support professional voice and motivation and enable them to be change makers.

Addressing teacher shortages requires significant and long-term investment in training and salaries. Short term strategies such as filling vacancies with unqualified teachers can undermine professionalism in the long run. To address local shortages and workforce diversity, systems need to establish new routes into teaching that are accessible to underserved groups such as marginalized girls, people from minorities or with disabilities, and those from underserved localities. Technology can play a role in supporting alternative routes into teaching through distance training and open education resources. Scholarship programmers and apprenticeships can make routes into teaching more attractive to the brightest candidates and those with expertise in shortage subject areas.

Strengthening the education workforce will require developing new capabilities and selection of the education workforce should focus on dispositions and skills required, not just qualifications. This can be done, for example, through situational judgement tests which test for attributes such as conscientiousness, growth mindset, emotion regulation, and empathy. It can also be done based on appraisals of performance. For those entering teaching this could be done through apprenticeship models. For those progressing in their careers into school leadership and district roles, selection should be based on coaching and leadership skills, not just on teaching qualifications and years of experience.

Initial teacher training needs to become more school based and be better aligned to the curriculum and trainees' competencies. In many contexts there needs to be a greater emphasis on strengthening trainees subject content knowledge, and pedagogical content knowledge specific to the grades and subjects that they will teach, alongside an increase to the amount of practicum and the support received during this time. Initial teacher training needs to equip trainees to teach, but also to learn and share their learning within the profession. Trainees need to be equipped with skills that will help them to learn both individually and as part of learning teams. These should include skills in using and generating evidence so they can contribute to building an evidence-based profession. All new role holders, including leaders, need structured induction and support during their first few years to develop their capabilities.

Professional development should focus on practice-based cycles of quality improvement. Coaching and supervision should be structured to include reflections on practice, selection of strategies for improvement, trialing of new practice, and support for reviewing progress. Peer learning can contribute to motivation and professional development. Local professional learning communities (school or cluster level), when supported through good facilitation and given access to specialist expertise, can work together to identify problems, devise strategies to address them and build the evidence base of what works. Such peer learning approaches, as well as contributing to individual and school development, can support intrinsic motivation, increasing effort, job satisfaction, retention and ultimately, professionalism and self-improving system. Instructional leadership should be evidence based. Leaders need to be able to draw on diagnostic evidence of teaching performance (lesson observations, student learning outcomes data etc.) and to be able to direct teachers to ways to improve from a range of evidence-based teaching strategies. Policymakers should celebrate and leverage the expertise of high performing professionals as 'system leaders'- enabling them to share their expertise and practice widely.

In some systems, ensuring that teachers are present in the classroom is the first necessary step to improving instruction. Close monitoring can help to address this in the short term, but ultimately it should be addressed through increasing professionalism and intrinsic motivation. Career progression should be based on performance and linked to salary increases. Reforming pay scale structures linked to career progression based on competencies and performance (as is being done in Chile), and ensuring that promotions result in real salary increases, has greater potential for impacting staff motivation and performance.

Robust data and objective criteria are needed to ensure that the workforce is managed, deployed effectively and equitably and that teaching and learning are evidence-based. The most marginalized communities are often served by the fewest, least qualified teachers. Focusing on Pupil Teacher Ratio data alone will not ensure equitable deployment of resources. Data are needed on the pipeline of teacher trainees, teacher capacities and specific support needs of schools, predicted attrition so. Districts need greater capacity to analyze and use the data, rather than just being conduits for passing data from the school to the central level.

## Introduction

This paper was originally written as a chapter of the Education Commission's Education Workforce Report, which has since been published in summarized form as *Transforming the Education Workforce: Learning Teams for a Learning Generation*. This paper therefore refers extensively to the other background papers, which were originally written as sequential chapters of a report. In particular, it makes extensive references to the paper on *Redesigning the education workforce*,<sup>1</sup> (referred to here as "the design paper"), on which this paper builds, and presents strategies for implementation of the design vision outlined.

The background paper on *Redesigning the education workforce*,<sup>2</sup> outlines guiding principles for education workforce design and proposed illustrative models to realizing a re-imagined workforce that responds to those guiding principles and the core challenges faced by the education workforce. These models are framed using a 2Revolutions approach - explained more fully in the design paper - highlighting considerations for "Next" and "Future" stages. In the "Next" stage it is envisaged that the workforce will work together in learning teams: teachers, learning assistants, other support staff, specialists and district level staff working together to improve student learning and welfare, but also learning together through team working. In the "Future" it envisages the establishment of "learning systems" where the workforce, from school level to state level, is directly involved in innovating, rigorously trialing and applying evidence of what works, and where knowledge is shared between and across school networks.

This paper explores how such a re-imagined workforce can be implemented. This includes strengthening the existing workforce to align with and support the goals of access and learning and inclusion and equity. The analysis covers the whole of the workforce lifecycle, starting from the decision to enter the workforce, through to the end of career. The different phases of the lifecycle are dealt with in three sections: **attract, train and induct; motivate, develop** and **progress; lead, monitor** and **manage**. Important implementation considerations around political economy, costing and financing are covered in other background papers.<sup>3</sup>

As well as drawing on the global literature, and extensive input from members of the Education Workforce Initiative High-Level Steering Group and Advisory Group,<sup>4</sup> this paper was informed by a set of case studies selected to demonstrate innovative and effective approaches to workforce strengthening. The case studies were developed through interviews and reviews of program documentation. They are presented in summary form in the main paper and included in full as an annex.

## Defining key areas of challenge

Since the turn of the millennium there has been a dramatic growth in the education workforce in countries seeking to universalize access to schooling. Most of this growth was in South and East Asia (SEA) and Sub-Saharan Africa (SSA). Between 2005 and 2015, the number of primary teachers increased from 2.6 million to 4.0 million in SSA, and from 4.6 million to 6.1 million in South and East Asia. Over the same period, the number of secondary teachers in SSA has more than doubled, from 1.2 million in 2005 to 2.7 million in 2015.<sup>5</sup>

As well as coping with the challenge of rapid expansion, education workforces have been further stretched by the increased expectations for the classroom teacher, with many first-generation learners entering education systems, including children with limited exposure to the language of instruction. The adoption of inclusive

education policies has brought more children with disabilities and other special needs into mainstream education, requiring the workforce to equip itself with new capacities to cater for an extended range of learning needs.

In recent years, with growing evidence of the learning crisis, and with a number of international studies demonstrating the centrality of teacher quality to learning,<sup>6</sup> the "teacher crisis" is now perceived as a crisis in teacher professionalism, not just a teacher shortage, with a need for greater investment in the education workforce in order to attract and retain high caliber individuals and to ensure that they are provided with quality initial and ongoing training. There is also growing evidence of the importance of the role of school leaders in addressing the learning crisis,<sup>7</sup> yet in many traditional education workforce models, school leaders receive no additional or specialist training, resulting in overburdened administrative leadership instead of instructional leadership.<sup>8</sup> There are currently few formal training programs or formal role descriptors for education support personnel such as teaching assistants, psychosocial professionals and other members of the wider education workforce in low and lower-middle income countries and many of these roles are not deemed professionals in their own right.<sup>9</sup>

Decentralization in many systems, a common reform of the 2000's, has put capacity demands on the "middle tier" working at district level. New skills are needed to deliver commonly decentralized functions such as teacher training, school supervision, school budgeting. The district workforce has historically been organized around the delivery of school infrastructure, collection of data and resource management. But as the responsibility for education quality becomes more localized, district education offices require new skills in pedagogical oversight, school quality management, and leading area-based change. The traditional policy and donor response has been to provide technical assistance and training for district level officers, in areas such as planning and management, but the impact of this on building and retaining a professional middle tier workforce is unclear.<sup>10</sup> Impact on teaching and learning outcomes can be seen in reforms which focus on building district leadership practices,<sup>11</sup> as well as the competencies and skills of professionals at the middle tier or district level, for example in pedagogical coaching.<sup>12</sup>

While some countries will be poised to reimagine their education workforce, many others will need to focus first on strengthening their existing workforce through the professionalization of teachers and other key workforce roles. Strengthening an existing workforce is also necessary when introducing changes to a reimagined workforce. Key challenges in strengthening the education workforce are summarized as follows.<sup>13</sup>

- Supply of the education workforce: attracting capable candidates to the profession and keeping them there will continue to prove difficult until basic conditions in the profession are recognized and met. The number of teachers needed based on traditional models of education delivery is proving challenging to meet and current forms of recruitment and training as well as workforce configurations are proving inadequate. Deployment issues and workforce composition often compromise inclusion and equity goals.
- Effectiveness of the education workforce: teachers and other workforce roles are often not trained, supported and provided with relevant and evidence-based professional development to facilitate inclusive and quality education for all. Frontline workers still have little control over their profession but are increasingly expected to take on more responsibilities delegated from other actors within the system and deliver a curriculum that is often overloaded and pitched too high for the learners. Accountability structures do not always support an effective workforce.
- Ability to keep pace with change: the education workforce is not currently enabled to harness innovation, lead its own research and embrace a culture of learning, meaning education systems struggle to keep pace with changes.

## Attract, train and induct

## In order to attract high caliber candidates, professionalization needs to be strengthened throughout the workforce lifecycle

The teaching profession in many contexts is characterized by low pay, low prestige and low status and is sometimes seen as a "profession of last resort".<sup>14</sup> Successful education systems recruit high caliber individuals into their workforce. But they are only able to do so because of the high professional status of teachers within those contexts, making it an attractive career option. Teacher salaries in many contexts do not meet basic needs and unrealistic workloads coupled with lack of support contribute to demotivating the workforce.<sup>15</sup> A first step towards professionalization is meeting minimum standards in terms of pay and working conditions, this should be based on a comparison of the whole reward package with other similarly qualified professionals in a country and negotiated with unions where possible.<sup>16</sup>

**Box 1: Building the collective capacity of the education workforce to grow professionalization** Professionalism is about more than the talent and capacity of individual teachers. It is about growing a skilled system in which the collective capacity of people to create and pursue overall visions is enhanced as opposed to the traditional approach of developing the skills of individuals to do their work better. As Fullan and Hargreaves argue, this means building the collective efficacy or the social capital of teachers working together - within schools, across schools and in wider networks - to improve student learning. Emerging evidence suggests that teacher social capital and collaboration levels are powerful predictors of student learning outcomes.

This concept of collective capacity is also at the heart of OECD's model of schools as learning organizations. This is characterized by day to day practices of sharing data, dialogue and knowledge across stakeholders, and a commitment to continuous improvement of professional practice.

Many strategies outlined in this paper therefore go beyond discussion of traditional policy levers. They address practices and cycles of learning, adaptation and improvement across the workforce as critical features of a professionalized workforce which builds the capacity for self-improvement.

#### References:

Fullan, M. and Hargreaves, A (2013) The power of professional capital. With an investment in collaboration, teachers become nation builders. *Journal of Staff Development*, v34 n3 p36-39 Jun 2013

Leana, C.R. (2011). The missing link in school reform. Stanford Social Innovation Review, 9(4), 34.

OECD (2016) What makes a school a learning organisation? A guide for policy makers, school leaders and teachers. Paris: OECD

Senge, P. (1995) in O'Neil, J. "On schools as learning organisations: a conversation with Peter Senge" Education Leadership Vol.52 No.7.

However, increasing base salaries, whilst necessary in many contexts, will see diminishing returns in terms of teacher professionalism and performance as well as becoming unaffordable. Other strategies are needed to address the prestige, status and continued professionalization of the education workforce. To strengthen professionalism, all stages of the workforce lifecycle need to be considered. The sections below present strategies, some proven, others promising, for how this can be achieved.

# Meeting teacher shortages requires significant investment and careful planning to address short term needs whilst ensuring longer term professionalization of the workforce

Many countries face teacher shortages.<sup>17</sup> In some countries the shortage is in terms of absolute numbers of teachers. Elsewhere it is specific to certain locations, subject specialisms or underrepresented groups.

**Significant and long-term investment is needed to address teacher shortages.** As well as investing in training to ensure that new and existing teachers gain the necessary qualifications, long-term investment is needed to fund increases to the national teacher payroll and pensions.<sup>18</sup> Senegal is an example of a country that has invested heavily in education, consistently spending over 20 percent of all government expenditure on education since 2009.<sup>19</sup> Senegal, along with Nepal, and Mozambique have been identified by the Global Partnership for Education (GPE) as countries that have made exceptional progress in improving the supply of qualified teachers in recent years. Between 2008 and 2014, Senegal decreased the number of primary students per trained teacher from 79 to 45, Mozambique decreased it from 96 to 61, and Nepal from 57 to 26.<sup>20</sup> In Mozambique, almost 10,000 teachers were trained and hired annually in the period of 2008 to 2010, an annual increase representing over 10 percent the existing primary classroom teacher workforce in 2008. These teachers were posted in areas with overcrowded classrooms to ensure more effective teaching and learning.<sup>21</sup>

**Short-term solutions to meet teacher shortages can have long-term consequences for professionalism.** Countries seeking to rapidly expand their education systems have often introduced "fast track" routes into teaching or reduced the length of teacher training courses in order to rapidly meet the demand for additional teachers. If the introduction of such training routes is combined with a lowering of entry criteria in order to expand the pool of potential candidates, this can have long term negative consequences for the quality and professional status of teachers.<sup>22</sup> In its bid to achieve universal primary education in the early 1980s, Tanzania introduced a fast track distance education training route into primary teaching for primary school graduates. The repercussions of this short-term teacher recruitment policy were still being felt twenty years later, with less than half of teachers meeting the government's minimum qualification requirements.<sup>23</sup>

One interim strategy for meeting a temporary shortage of qualified teachers while teacher training systems expand is to recruit retired teachers. In the Gambia and Malawi, retired teachers were allowed to remain employed on temporary contracts, as "month-to-month" employees, and received a fixed salary or gratuity payment along with their pensions.<sup>24</sup>

**Workforce members without teaching qualifications should work in teams with qualified teachers.** Many countries have allowed schools to take on unqualified "volunteer" or community supported teachers. Some governments will cover the salaries of unqualified teachers on short-term contracts. In other cases they are hired directly by the school, with salaries or incentives paid out of community contributions. These unqualified teachers can appear to offer a short-term solution, and in some cases perform well relative to qualified staff.<sup>25</sup> In rural communities where the supply of teachers is limited, they can help as a strategy for increasing local recruitment. However, there is considerable evidence that the long-term outcome of such approaches can undermine the professionalization of teaching and have a negative impact on learning.<sup>26</sup> Staff without teaching qualifications should therefore not be considered or treated as teachers and only be given clearly defined alternative roles such as learning assistants (supporting small groups or individual students with special needs),

apprentice teachers (delivering teaching under the supervision of a qualified teacher) or a community education worker to support student welfare.<sup>27</sup>

The workforce design set out by this initiative envisages important functions for these alternative roles, when placed in teams with qualified teachers.<sup>28</sup> Whilst they should never be seen as replacements for teachers, their inclusion in teams frees up qualified teachers' time to focus their efforts on the aspects of teaching that require most pedagogic expertise. These alternative roles can be included as part of a planned development program leading to a teacher qualification.<sup>29</sup> In the "future" stage, formal training programs and qualifications could be developed for these alternative roles. Apprentice teachers (those already enrolled in a recognized training route into teaching) can also contribute to the work of teaching and learning teams, and as initial teacher training becomes more school based, apprentice teachers will make up a greater proportion of the school workforce. An apprenticeship-based hiring model has been proposed for India, with teacher apprenticeships lasting three to five years at a significantly lower entry level pay, with access to modular training courses that can lead to qualifications.<sup>30</sup>

Systems such as Sierra Leone, where the workforce includes large numbers of unqualified teachers, need to provide routes through which serving unqualified teachers have the opportunity to gain teaching qualifications through certified distance education courses combined with school based training (see examples from the Gambia, Malawi and Tanzania discussed in the section of alternative routes into teaching below). Those that do not manage to meet the teaching qualification standards within a specified timeframe could be offered learning assistant roles.

**Many countries face subject specific teacher shortages**, especially in mathematics, science and Information and Communications Technology (ICT) at secondary level. Recruiting teacher candidates with high level prior academic attainment in subjects where there is a high demand to recruit from other sectors is a longstanding global challenge. Subject specific incentives for candidates to study education courses in shortage subjects can work,<sup>31</sup> though they need to take place in a context of efforts to increase overall motivation, morale and retention.

If the supply of potential candidates for teacher training in shortage subject areas is limited (as is often the case) alternative strategies include introducing bridging courses in teacher training to provide subject content in shortage subjects. Where there are shortages in some subjects, experts in content can be used to deliver lessons via video. Teaching delivered by expert teachers via video to rural populations has been undertaken in the MGCubed project in Ghana and led to improved English and mathematics scores and reduced out of school rates.<sup>32</sup> This strategy was successfully applied to expand access to upper secondary for children in remote communities in Amazonas state in Brazil. The Media Center initiative in Amazonas state in Brazil used video conferencing to broadcast lessons delivered by subject experts to over 1000 rural schools.<sup>33</sup> Following the establishment of this initiative, lower to upper secondary school progression rates increased, dropout rates nearly halved between 2008 and 2011, and children's learning steadily improved.<sup>34</sup> A similar approach was tried in Ethiopia to deliver secondary science lessons, but at high costs and with limited success.<sup>35</sup> As a longer term strategy, shortages in the supply of potential teacher training candidates with specific subject specialisms needs to be addressed by encouraging more secondary school students to study these subjects and go into teaching.<sup>36</sup>

Routes into teaching can be made more attractive to the brightest candidates though prestigious scholarship programs. Chile has implemented a number of scholarship programs to attract high quality school graduates into teaching. For example, the *Programa de Acompañamiento y Acceso Efectivo a la Educación* 

*Superior* (PACE) recruits outstanding high school students (those in the top 15 percent of the class) from disadvantaged backgrounds into higher education courses with initial teacher training. Participants receive scholarships and employment offers upon graduating.<sup>37</sup> *Elige Educar Chile* has provided scholarships for 3000 high achieving secondary school graduates to study for a teacher education degree on the condition that they teach for three years in a designated "vulnerable school". Under the *Beca de Vocacion Professor* initiative, 9000 high performing school leavers were given scholarships to study teacher education degrees 2011 to 2013. These programmes are currently under evaluation, but anecdotal evidence suggests that they have contributed towards improving the status of teachers.<sup>38</sup>

#### Applying the 2Revolutions lens:

- "Next": consider how learning assistants and other support roles can add value through working in a team with qualified teachers to ensure better foundational learning outcomes for children
- "Future": long-term strategies for attracting the best into the workforce

#### New routes into teaching are needed to address local teacher shortages and ensure an inclusive and diverse workforce

Alternative routes need to be considered to support hard-to-reach or difficult areas. In many cases teacher shortages are localized, and attracting teachers to work in marginalized communities, such as remote areas and areas of urban poverty, is a common challenge in high- and low-income countries alike. Simply increasing the overall national supply of teachers is unlikely to solve the problem of unfilled teaching posts in rural areas.<sup>39</sup> Some countries (for example, Ghana) require newly trained teachers to do a minimum service in rural schools. While this fills a short-term need, retention in these posts is low. Targeted incentives, such as a remote service allowances, provision of housing or accelerated promotion routes can be effective,<sup>40</sup> but have cost implications. In Malawi and Mozambique, a non-governmental organization (NGO) runs government recognized, teacher training colleges that specifically select and train teachers to work in rural schools but the training mode was much more expensive than mainstream training routes.<sup>41</sup>

A more sustainable solution is recruitment of teachers from underserved communities. Many OECD countries and some developing countries (such as Lesotho) advertise teacher vacancies for specific schools. This is unlikely to be effective in areas where very few school leavers train as teachers. Traditional routes into teaching are often inaccessible for individuals from underserved communities due the costs (both direct and opportunity costs) of residential teacher training courses and to low school attainment. Distance teacher training courses have potential for enabling teacher candidates from remote areas and those with family commitments who cannot afford to attend residential course to train as teachers. Both Malawi and Tanzania have used paper based distant teacher training to this effect.<sup>42</sup> In the Gambia, unqualified teachers are recruited locally and given in-service training that takes them up to qualified status in 3 years.<sup>43</sup>

**Underrepresentation of females in the education workforce is often more acute in rural areas** than overall at the national level. It also tends to be more acute at post primary levels, and in certain subjects such as science, technology, engineering and mathematics (STEM). Gender disparity in secondary completion rates tends to be greater in rural areas, so there is often a smaller pool of potential local recruits. There are also cultural and social reasons why female teachers are less willing or able to work in rural areas. Whilst there is little empirical evidence on gender aspects of teacher deployment, promising strategies to encourage female

teachers to accept positions in rural areas include career guarantees for accompanying spouses, housing and other incentives, and provision of in-situ training,<sup>44</sup> as well as providing alternative routes into teaching.

The Sierra Leone GATE project recruits young women who show an interest in becoming teachers but do not have the appropriate qualifications or funding to enter teacher training programs. They are recruited onto a bridging program which combines being learning assistants in a local primary school and undertaking a distance learning program in mathematics and English supported by a tutor. Highly interactive study materials guide their subject study and participation in school. After 12 – 18 months, Learning Assistants sit the entrance exam for Teacher Training College. Those who are successful continue their school placements whilst studying on the Teachers' Certificate Distance program to become qualified primary school teachers. The program has already supported over 750 Learning Assistants. They have been shown to make a difference to the quality of rural schools and the experiences of children. They promote learning and aspiration, particularly with female pupils.<sup>45</sup>

Traditional routes into teaching are often also inaccessible to people with disabilities and people from minority ethnic and linguistic groups. This can contribute to their underrepresentation in the workforce and reinforce a negative feedback loop of inequality. For example, minority language speakers are less likely to perform well in education without access to mother tongue education so are less likely to qualify to enter formal teacher training programs.

Alternative routes in to teaching, such as the Sierra Leone GATE project, learner guides in Camfed's work,<sup>46</sup> and the programs to support people with hearing and vision disabilities as described in Box 2 below, can facilitate the entry and mainstreaming of marginalized groups into the workforce. This is important because evidence shows that students from disadvantaged groups perform better when they are represented in the teacher workforce.<sup>47</sup>

#### Box 2: Supporting people with disabilities to enter the education workforce

People with disabilities are more likely to face significant barriers to achieving the level of education needed to train as a teacher or for other education roles. There are some positive examples emerging however. In Colombia for example, the Universidad Pedagógica Nacional (UPN) (National University of Pedagogy) has developed a program specifically aimed at student teachers who are deaf, called *Mano y Pensamiento* (Hand and Thought). The program, launched in 2003, is delivered by an interdisciplinary team made up of experts well acquainted with the needs of the deaf population in Colombia and the type of teacher required to contribute to the educational and social transformation of the deaf community. The inclusion of deaf people in education, particularly in university life, is highly complex and necessitates the sensitization of the entire listening community. At present, the program has 43 students across 10 of the 15 curricular programs offered by the UPN. Fifteen interpreters have also been assigned to these programs to provide mediation and interpretation.

In Mozambique, Escolas de Professores do Futuro, community-based teacher training colleges (TTCs), have been running teacher education programs for visually impaired primary school teachers in rural areas for over ten years. Each year, visually impaired graduates from mainstream schools are identified, with assistance from the local School for the Blind, and encouraged to apply for a scholarship at a specialist TTC. During their training, visually impaired student teachers teach in practice schools nearby. As a result, communities have become familiar with their children being taught by visually impaired teachers, resulting in a positive change of attitude and helping create a more welcoming environment for teachers and students with disabilities.

#### References

Universidad Pedagógica Nacional (2018) *Manos y Pensamiento: Inclusión De Estudiantes Sordos a La Vida Universitaria*. [Online, Accessed 22 January 2019]. Available At: <a href="http://educacion.pedagogica.edu.co/vercontenido.php?idp=9906&idh=8208">http://educacion.pedagogica.edu.co/vercontenido.php?idp=9906&idh=8208</a>

UNESCO (2014) EFA Global Monitoring Report 2013/4: Teaching and Learning: achieving quality for all. Paris: UNESCO.

#### Applying the 2Revolutions lens:

- "Next": ensuring enough teachers for all schools and subject areas and addressing workforce diversity at all levels through new routes into teaching that are more accessible
- "Future": formal training and qualifications for teaching and learning roles other than teachers

## Selection of the education workforce should focus on dispositions and capabilities required, not just qualifications

Where the teaching profession is low status and low paid, teacher training candidates are often drawn from the pool of school graduates whose qualifications are too low for them to access alternative, more desirable forms of higher education and training. This means that many individuals enter teacher training programs as a means of gaining access to higher education, rather than to become part of the education workforce. This contributes to poor retention of trainees within the profession, and to low motivation among those remaining within it.

Simply raising requirements for entry into the teaching profession based on qualifications can be counter-productive in terms of increasing workforce quality, as it shrinks the pool from which potential candidates can be drawn. Where officially recognized routes to teacher qualification become too selective, the supply of qualified teachers may become too limited, forcing systems to recruit unqualified and untrained teachers, often on a "voluntary" or short-term contract basis. In some cases, raising entry qualifications appears to have led to a reduction in the number of appropriately trained teachers.<sup>48</sup> In the early 1990s, Sudan increased the minimum requirement for primary teachers to a university degree, and funding to other teacher training courses was cut. Between 1990 and 2004 the percentage of qualified teachers dropped from 90 percent to 10 percent.<sup>49</sup>

Even in labor markets where there is an oversupply of academically qualified candidates for teacher training places, teacher recruitment processes tend to privilege academic qualifications, in some cases supported by an interview, but with little use of observational data on the candidate's ability to teach.<sup>50</sup> Research evidence indicates that, beyond a given threshold, there is no relationship between a teacher's academic qualifications and pupil performance.<sup>51</sup>

In systems where there is weak regulation and quality control of higher education certificating bodies, possession of a degree or diploma in education is not necessarily a guarantee of a candidate's competencies in core skills and basic teaching knowledge.<sup>52</sup> In Mexico, moving from a political teacher selection process to a test-based selection process was associated with a boost in student learning.<sup>53</sup> The test itself was weak at predicting teacher effectiveness, but just having a test deterred many low effectiveness candidates from applying. Other countries such as India and Pakistan have introduced tests but their effectiveness still needs

to be evaluated. In some countries, teacher standards have been introduced with the aim of using them to guide the selection of teachers.<sup>54</sup>

There has been very limited systematic research into education workforce recruitment compared to other sectors.<sup>55</sup> Evidence from other sectors indicate that academic qualifications alone are not always a good predictor of professional performance, and that teacher trainee candidate selection processes should take into account a breadth of skills, beyond cognitive traits, associated with good teaching (see Case Study #1 below). Some of the highest performing systems (e.g. Finland, Singapore) have developed rigorous processes for selecting entrants into the teaching profession.<sup>56</sup> In Finland, admission depends not only on high academic achievements, but on interest and passion to become a teacher.<sup>57</sup> There are a number of universities working on the development of teacher selection tools based on research, such as the University of Melbourne's Teacher Capability Assessment Tool<sup>58</sup> and the teacher selection project described in Case Study #1 below. Further research is clearly needed to understand the most effective approaches.

An alternative approach would be to recruit teachers through an apprenticeship model, as suggested for India,<sup>59</sup> with locally recruited, unqualified candidates working as teacher apprentices on relatively low pay. Selection into professional teaching posts could then be based on performance against agreed teacher standards during the apprenticeship, and not just on qualifications.

#### Case Study #1: Targeting teacher dispositions: the teacher selection project

Research strongly suggests that the most effective way of improving education systems is to improve the quality of teachers. However, current selection procedures – interviews, cover letters and CVs for example - tend to be ad hoc with little or no theoretical grounding or evidence of predictive validity. The Teacher Selection Project (TSP)'s central tenet is that the fundamental step to improve the quality of teachers is to select candidates for training who possess the 'soft skills' and attributes that are related to effective teaching. Building on interdisciplinary educational and organizational psychology approaches from the field of medicine, the Teacher Selection Project's innovative research aims to develop contextualized, evidence-based teacher selection frameworks in the UK, Australia, Finland, Lithuania, and Malawi.

The project has three main aims. Firstly, to significantly improve the accuracy of the teacher candidate selection process. Secondly, to build understanding of the short- and long-term predictive validity of the non-cognitive attributes of prospective teachers. Finally, to provide system-wide educational improvements by increasing the quality of candidates entering teacher training programs. The project accomplishes this through two main mechanisms - situational judgement tests (SJTs) and multiple mini-interviews (MMIs). SJTs use text and video-based tasks which require candidates to choose from a predetermined set of responses involving complex classroom scenarios. Candidate responses reveal implicit non-cognitive attributes such as conscientiousness, growth mindset, emotion regulation, adaptability, organization and empathy. MMIs involve a series of independent brief interview stations (approx. 6-10, lasting 5 minutes each) where candidates respond to complex challenging scenarios. Results published in peer-reviewed publications demonstrate encouraging results showing that the project's teacher selection SJTs are reliable (reliability coefficient > 0.80) and valid (significant correlations with 7/8 interview criteria, and capable of differentiating between applicants (i.e., scores are near-normally distributed).

References: See full case study in the Annex

#### Applying the 2Revolutions lens:

- "Next": teacher selection is based on dispositions for quality delivery of the curriculum
- "Future": target dispositions identified for diverse workforce roles and applied in selection processes

## School leaders and district professionals need to be recruited for and supported in educational leadership competencies

School leaders and district level professionals are often recruited from the teacher workforce. Teaching experience is important for effective instructional leadership, but some of the skills and dispositions required for education leadership are different to those for professional teaching.<sup>60</sup> In many systems, promotion into positions of leadership is based on years of service or patronage rather than performance. Women are often overlooked for promotion as a result of overemphasis on years of service, biases against their capabilities and lack of transparent promotion criteria and systems.<sup>61</sup> In the primary fieldwork conducted for the Education Workforce Report in Ghana, analysis showed that the recruitment of district Circuit Supervisors tended to take place through friends and connections, and employees did not always have the required skills. At worst, district leaders may move underperforming or even sick teachers out of the school system and place them into district management roles.<sup>62</sup> A study in Benin showed that 83 percent of district personnel were appointed after requests from teachers due to personal or health reasons, often without any preliminary discussion about his/her tasks with the director or manager.<sup>63</sup>

If the future district workforce is to fully contribute as education leaders, their selection and recruitment must be professionalized. It should be based on the skills and competencies required for effective performance of the new roles as outlined in the design paper, including important new capabilities such as leading change, collaborative leadership, knowledge management and data analysis.<sup>64</sup> A growing body of evidence, including a wealth of analysis from the wider public sector, codifies such future public sector competencies.<sup>65,66</sup> For example, education reforms in Punjab, Pakistan (see Case Study #2) explicitly put in place recruitment systems for the district level workforce, to ensure competency-based selection of teacher mentors. Selection was based on tests for pedagogical knowledge, as well as coaching and leadership skills. Other district roles may need to be recruited from outside the teaching cadre in order to source specialized skills such as data management and analysis.

In Education Development Trust's system leadership programs in Kenya and Rwanda (see Case Study #6), selection is based on wider leadership competencies, beyond high performance as a school principal. This includes leaders' coaching skills, their drive and capacity to improve performance in schools other than their own, and their approach to inclusive education. Evidence is collected by a panel of district stakeholders, through interviews, evidence statements and school visits to observe leadership practices.

#### Case Study #2: Strengthening district education office capacity in Punjab, Pakistan

The Punjab School Reforms Roadmap improved school performance by improving the capacity of districts to manage their schools. Prior to the Roadmap, a comprehensive analysis of the district workforce discovered that weak management practices at district-level were limiting school performance. To improve school performance, the Government focused on transforming district-level capacity through the Roadmap.

The district level roles in scope included: 36 districts Chief Executive Officers with overall responsibility for each district, 1,000 Assistant Education Officers (AEOs) with administrative responsibility for schools, 3,600

DTE (District Teacher Educators) roles across the 36 districts, which are school-facing roles with a remit to provide school-based mentoring to teachers; 144 TEs (Teacher Educators) who have formal line management responsibility for DTE performance; and 2,000 cluster heads (CTSC), serving headteachers who each oversee a cluster of schools.

Key components of the reform included:

- Strengthened recruitment processes for district-level positions with a focus on selecting for leadership skills as well as pedagogical understanding
- Removal of underperforming CEOs and DTEs
- Simplification of reporting structures to clarify and simplify accountability and ensure viable role design e.g. CTSC heads were removed from the delivery chain
- In-service training sessions for DTEs e.g. highly interactive training where DTEs watched a video of teaching and then discussed how they evaluated the teaching and what they would do to help the teacher improve
- Provision of tools for DTEs (such as coaching rubrics) to help improve quality.
- Practice and professional development: regular meetings for district officials to share best practices and learn from each other
- Monthly data packs at individual school level to help them understand performance
- Redesign and rollout of new textbooks and teacher guides based on best practices
- Monthly monitoring of learning outcomes through simple oral tests to monitor learning levels

Results of the reforms included the establishment of monthly coaching sessions for 150,000 teachers, the provision of new textbooks and teacher guides for 60,000 schools and training to use the guides for 180,000 primary teachers. Additionally, the number of schools visited by monitoring officers each month increased from 54 percent to 88 percent. In addition, a recent report indicates that, annual teacher attendance rates have increased from 91.2 percent to 95.3 percent from 2013 to 2017. Impact on learning outcomes has not yet been evaluated.

#### References: See full case study in the Annex

As the capacity of the teaching workforce matures towards a self-improving system and schools become learning organizations, the role of the district must also shift. District officials must play a role in promoting areawide learning: in essence, in promoting the district as a learning organization, to avoid schools operating in isolation. To foster a learning organization, the OECD for example emphasize how district level officials must "encourage professional learning and development, promote innovations and school-to-school collaboration, and help disseminate good practice".<sup>67</sup> Brookings discuss how a culture of research and development and learning must be cultivated at all levels of system in order to scale innovations.<sup>68</sup>

#### Applying the 2Revolutions lens

- "Next": school and district leaders recruited for skills in leadership as well as instructional competence
- "Future": school and district leaders recruited for skills in leading a learning system, supporting areawide learning and scaling of best practice

#### Initial teacher training needs to become more school based and be better aligned to the curriculum and trainees' competencies

Initial teacher training (ITT) systems in many countries do not equip trainees with the skills need to provide quality instruction.<sup>69</sup> There is often a disconnect between the teacher training curriculum and the school curriculum that teachers will deliver; and a disconnect between how they are taught and how they are expected to teach. Teacher educators often have very limited experience and training themselves on the most effective pedagogical approaches for the level they are training teachers for, and very limited contact with real classroom experience.<sup>70</sup> Attempts to increase the amount of supervised practicum can be confounded by logistical challenges of supervising trainees in schools and hierarchical relationships between teacher educators and teachers.<sup>71</sup>

Increasing the length or level of ITT does not necessarily lead to positive impact on the quality of classroom skills. In some cases, increases of the level of award (for example, from a diploma to a degree) have made ITT more academic with less practical skill development. Higher level courses may focus on higher level content knowledge that is of less relevance to the curriculum to be taught.<sup>72</sup> This is particularly problematic where trainees have not yet mastered the basic skills and knowledge of the curriculum they will teach. There are also implications for higher salary expectations.

Based on the evidence, key elements for more effective ITT can be summarized as follows.

- A stronger emphasis on ensuring that trainees have robust subject content knowledge. A study in seven countries in Sub Saharan Africa found that only a small proportion (less than 10 percent) of primary school language teachers were able to demonstrate a minimum level of subject knowledge skill to teach grade 4 students.<sup>73</sup> Courses are sometimes based on aspirational assumptions of recruitment of high-quality secondary school or university graduates, when in reality teacher training courses in many contexts are recruiting school leavers with relatively low academic performance. Ghana has recently introduced a requirement for trainees to pass an exam in core academic subjects at the end of the first year.<sup>74</sup>
- Increase the amount of school-based practicum throughout the course. A large body of research shows that it is crucial for future teachers to gain practical experience in classrooms during their initial training.<sup>75</sup> Situating a significant proportion of training within the school ensures that the training is relevant and prepares teachers for the challenges that they are likely to meet as future teachers. It is key that classroom based experiences occur early and throughout pre-service training in an integrated way; if practicum only occurs at the end of pre-service training, there are minimal opportunities for guidance and feedback on the trainees' teaching.<sup>76</sup> Initial teacher training courses at the lower secondary level in OECD countries tend to have between 70 to 120 days practicum during the course, with mentor teachers from the school responsible for supporting trainees.<sup>77</sup> School based training has been demonstrated to be possible in low income contexts given sufficient support.<sup>78</sup> Support could come from the district, teacher training institute or from within school networks.<sup>79</sup> In the team working model proposed in the design paper, trainees would work in schools as apprentices in teams lead by qualified teachers.
- Align teacher training to the curriculum to be taught and the context. Training needs to expose trainees to the specific grade or subject related parts of the curriculum that they are preparing to teach so that they are able to learn the most effective methods for teaching specific content (pedagogic content knowledge). Evidence from low and lower-middle income countries indicates that in these



contexts, training in subject or grade specific pedagogy is more effective than training in general pedagogy,<sup>80</sup> and should be tailored to trainees' knowledge and experience.<sup>81</sup>

Consider where it makes sense to harness technology, especially to reach those who may not be able to access initial teacher training otherwise (next) and to make training more adaptive to trainees' needs (future). With the rapid increase in the penetration of smart phones and similar devices globally, there is growing potential for ICTs to provide initial teacher training content online or, where internet access is limited, through micro-SD cards (see Case Study #4). Teachers are increasingly able to access Open Educational Resources (OER) that they can use in the classroom. Teachers and other education professionals can also adapt, modify and translate these resources to local contexts. They are also able to upgrade their skills and knowledge through Massive Open Online Courses (MOOCs) when combined with or complimented by face-to-face training.<sup>82</sup> Yet this potential can only be harnessed if teachers are equipped with self-study skills, which are often lacking in trainees.<sup>83</sup> They also need to be trained in the use of technologies for accessing distance learning.<sup>84</sup>

Adaptive learning technology has shown promise at improving the learning outcomes of students in higher education. For example, more than 65,000 students at Arizona State University have used adaptive courseware and in college algebra, students have achieved a 25 percent increase in pass rates with the new learning experience. The Education Commission is exploring whether adaptive learning technology could be used to help teachers reach a minimum standard of subject content knowledge where the conditions allow.<sup>85</sup>

• Ensure training courses are inclusive in terms of trainee accessibility, course content and trainers. ITT courses need to be made accessible to people with disabilities and other minority groups. The training and course materials need to equip trainees with awareness of the importance of inclusion and the skills to meet specific learning needs. This could include training in: gender sensitization, teaching children with disabilities and teaching children who do not speak the language of instruction well. Training programs should be designed with the flexibility to feature guest trainers and speakers from different stakeholder groups, including people with disabilities (e.g. academics and researchers with disabilities, local role models with disabilities, parents of children with disabilities). Practicum should include opportunities for trainees to work with learners with disabilities and with their parents/carers.<sup>80</sup>

To do all the above, teacher trainers need to be selected on the basis of dispositions and competencies to train teachers in these practices and receive training and professional development to be able to remain up to date with the latest knowledge of what works. Programs that use non-education professionals as trainers tend to have worse outcomes.<sup>87</sup> Evidence on what makes teacher trainers effective is limited, especially in lower income countries. But the evidence that does exist suggests that teacher trainers need relevant school experience and need to be familiar with effective training pedagogy and context-relevant issues, in order to support trainees to build the relevant skills, knowledge and motivation.<sup>88</sup>

#### Case Study #3: Reforming teacher training and induction in Ghana

Ghana is currently undertaking a number of reforms to improve the quality of education for all children. These reforms range from curriculum reform to teacher licensing and qualification requirements such as the newly introduced 4-year Bachelor of Education which is now required by all new teacher trainees. To support these changes and enhance the efficacy of existing policies, the Transforming Teacher Education and Learning (T-TEL) program has been working at the teacher training level to enhance institutional capacity and transform the way pre-service teacher education is delivered in Ghana. The program consists of: supporting Colleges of Education (CoE)s to implement fit for purpose curricula and assessments, developing strong partnerships between Colleges and partner schools, undertaking regular school-based mentoring and support to teacher trainees and moving towards a practicum focused training system with strong oversight. This also includes a challenge fund to which CoEs and their partner districts and schools can apply to carry out innovative initiatives and college improvement plans.

Evaluations show that there have been strong improvements in gender-sensitive instructional methods, more beginning teachers demonstrating interactive student-focused instructional methods and improved knowledge and application of basic school curricula and assessments. Key to the program's success are strong relationships with government and other key actors in the education space in Ghana, an enabling policy environment providing a much-needed institutional anchor for embedded systemic change and leveraging existing structures and in-country expertise to increase the program's relevance to the context and sustainability. Lessons learned include shifting towards college-based professional development as opposed to face-to-face workshops which are generally less effective, the importance of genuine co-creation with local partners, challenges around truly embedding an inclusive attitude and the importance of collecting a variety of data to demonstrate the program's impact.

References: see full case study in Annex

As systems move towards a more professionalized workforce, new training courses and qualifications will need to be introduced for other roles such as learning assistants, headteachers. A literature review conducted for this research found that examples of training programs leading to formal qualifications for learning assistants were rare, even within high income countries.<sup>89</sup>

#### Initial teacher training needs to equip trainees to become productive members of learning teams and learning systems

**Equip trainees with skills that will help them to learn and continuously improve.** For education professionals to realize the potential benefits of working in learning teams, as described in the design paper, they need to be equipped with skills to learn from each other and to cooperatively evaluate student learning, reflecting on ways this could be improved. Initial teacher training should therefore aim to develop trainees' skills in teamwork and collaboration and include tools and resources to help them to become reflective practitioners. Courses should also seek to develop individual study skills for trainees, as this will enable them to benefit more from online and other self-learning materials in the future.

**Equip trainees with skills in using and generating evidence** so they can act as effective, autonomous professionals and make evidence informed decisions. These decisions need to be based not only on the research evidence of what works, but on the evidence generated by their own classes, schools and districts on what the needs are and how these can be best addressed. Development of these skills could be embedded into initial teacher training courses. When equipped with the right skills and tools, teachers have demonstrated themselves capable of employing rigorous research methodologies such as randomized control trials, within their own schools. The approach has been trialed with teachers globally, in countries across the economic spectrum, including Colombia, Malawi, the Philippines, Sierra Leone and the USA.<sup>90</sup> Teachers in the UK who had engaged in the design and delivery of a randomized control trial demonstrated improved evidence-based behaviors.<sup>91</sup> These trials have involved small samples of practicing teachers. But if the skills were included in initial teacher training programs, and teachers encouraged to conduct rigorous experimental trials as part of their professional development, then it could become part of standard professional practice. There is the potential for teacher led clinical trials of pedagogical approaches to contribute to the development of medicine.

#### Box 3: Learning from health: building an evidence informed profession

Medicine has progressed rapidly as an evidence informed profession through the development of a culture, structures and training systems in which medics are trained to understand evidence. Training and career structures actively encourage doctors to conduct robust experimental trials on alternative treatments, to generate and share evidence of which treatments are most effective.

...there is a huge prize waiting to be claimed by teachers. By collecting better evidence about what works best, and establishing a culture where this evidence is used as a matter of routine, we can improve outcomes for children, and increase professional independence.

Reference

Goldacre, Ben. 2013. "Building evidence into education." London: Department for Education.

#### Applying the 2Revolutions lens:

- Next: initial training equips teachers with subject knowledge, pedagogical content knowledge, contextually relevant pedagogic skills and techniques for inclusive quality instruction. This includes extensive practicum with school-based mentoring and support and the harnessing of technology where it is effective and contextually relevant. Teacher trainers are provided with the necessary training and development to do this.
- Future: initial training equips teachers with self-directed learning, peer-learning, teamwork and evaluation skills, skills in generating and using evidence. Teacher trainers are provided with the necessary training and development to do this.
- Future: new qualifications are developed for roles such as learning assistant or headteacher

#### New role holders need structured induction and support

Starting out in any new role often requires new recruits, even those who have completed dedicated training, to rapidly learn and develop new skills. As well as dealing with new professional challenges, new role holders often

have to simultaneously manage the challenges of moving to a new location. Given the professional, logistical, financial and social challenges faced by a newly recruited teacher, it is not unsurprising that teacher attrition rates tend to be highest in the early years of the profession.<sup>92</sup>

To improve teacher retention, policymakers need to understand the drivers of declining self-efficacy and early career drop out. Studies consistently show that teachers' beliefs about their self-efficacy are related to their plans to stay in the profession, and that self-efficacy typically drops, sometimes sharply, between preservice experiences and the first year of teaching.<sup>93</sup> Evidence suggests that decline in self-efficacy is not universal: it can be mediated by strong pre-service training and school-level professional development opportunities such as early opportunities for peer collaboration.<sup>94</sup>

High performing education systems ensure that newly qualified teachers receive mentoring, and that these teachers, as well as their mentors, are allocated time in the school day for coaching and other induction activities.<sup>95</sup> Mentoring by teachers from the same subject area and opportunities to participate in induction activities with other teachers can contribute to reducing attrition rates in the first year of teaching.<sup>96</sup> In the recent education reforms in Chile early career teachers receive mentoring from more experienced local teachers (see Case Study #7).

**Newly qualified teachers posted to remote areas may also need practical and social support.** Teachers entering the profession are often posted to remote and rural schools in response to teacher shortages in these areas. This means that the newest teachers are often sent to the most challenging and isolated schools. Some countries have applied strategies to support these teachers materially and socially. For example, a pilot scheme in Tanzania provided a settling in pack including mattress, cooking utensils, and a small cash grant. In Ghana pairs of students who had trained together were posted to remote schools together, and this helped to increase uptake of rural postings.<sup>97</sup>

**Induction programs are needed for other workforce roles**. Although there are few examples of certified courses for learning assistants, many higher income countries that include learning assistants in their workforces provide induction programs for these roles. In the UK, induction programs are run by district education offices and include training on literacy, numeracy, behavior management and inclusion.<sup>98</sup>

Induction and mentoring programs for school principals are limited.<sup>99</sup> In South Africa the innovative 'Partners for Possibility' program pairs school principals with business leaders, to design change solutions for underperforming schools. Drawing on 'action learning' approaches, the business leader and school principal first participate together in a leadership development program and then jointly tackle problems within the school. Case study evidence indicates that the initiative is leading to improved school functioning and the program has been taken up by the Gauteng Department of Education.<sup>100</sup> A further example of a training program for school principals is the Global School Leaders programme. Based on the model of the Indian School Leadership Institute (ISLI), the program is supporting school leadership training in Malaysia, Kenya, and Indonesia. With ISLI, the proportion of students performing above average in English increased from 24 to 35 percent in participating schools. In Mathematics this figure rose from 24 to 41 percent. More rigorous impact evaluations are planned to see what gains can be wholly attributed to ISLI.<sup>101</sup>

**Induction programs for the district level workforce should focus on orientating professionals to future education management challenges and building motivation**. The induction process for middle tier system leaders in Rwanda and Kenya draws on lessons from England's National Leader of Education initiative (see Case Study #6). The role represents a significant shift in mindset and professional duties, with a new focus on

coaching peer school leaders and leading area-wide change. A centralized induction event helps to prepare new role holders, building a sense of collective purpose across a locality or system, helping leaders to explore the professional shifts and prepare for challenges. Similarly, in STIR's work with the Delhi government (see Case Study # 5), induction programs for district staff and teacher mentors have a major focus on building a shared understanding of the new teacher mentor role and how it will support schools and teachers. An important feature of these induction programs is cross-district learning and opportunities to build professional networks for future support and resilience.

**Induction programs can be effectively combined with early assessments and probationary periods** where staff are initially employed on a probationary contract and only transition to a permanent contract once they have demonstrated that they are able to meet the required standards for the role. For newly recruited teachers this would involve appraisal at the end of the probationary period against national teacher standards.<sup>102</sup>

#### Applying the 2Revolutions lens:

- "Next": induction programs for newly qualified teachers involving mentoring and induction programs for learning assistant, school principals and district leadership roles
- "Future": induction programs for all new workforce roles involving inter- school, inter-district and intersector peer mentoring for school principals and middle tier professionals.

## Motivate, develop and progress

Policymakers should engage the school level workforce in policy formulation to leverage teacher expertise, support professional voice and motivation and enable them to be change makers

There is emerging evidence that giving teachers and leaders a voice on policy reforms is associated with higher professional motivation and successful implementation.<sup>103</sup> This applies to both school and national policy. It enables policy makers to draw on teachers' expertise, thus improving policy design, and acknowledges their expertise, helping to strengthen the professional status of teachers and harnessing them as change makers. Yet teachers in many systems have very limited involvement in policy development, and teacher unions are rarely consulted on education policy development. Where teachers and school leaders are consulted, and shown to be trusted by the authorities, they are more likely to invest effort in the reform process.<sup>104</sup> For example, rapid reforms in Haryana, India, led by Boston Consulting Group, combined increased accountability and oversight of teachers, with direct engagement of teachers via social media to consult them on new initiatives.<sup>105</sup> Similarly, the Delhi government's teacher reforms in India, in collaboration with STIR, have been characterized by a very high level of direct engagement with teachers, again via social media, so much that teachers comment on the accessibility of high-level policymakers.<sup>106</sup>

The middle tier can play an important role in facilitating teacher agency. District education officer staff are often the only ministry representatives to regularly visit schools: they are the human face of new policies and

play a vital role in education change management and in ensuring teacher ownership of reform. For example, in Vietnam, although district level officers are expected to cascade mandated policies from national government and ensure high fidelity implementation, all stakeholders in the system understand that the process is two-way. An analysis of the factors leading to high education performance in Vietnam noted the strong feedback mechanism for teachers on policy initiatives, and a high level of expectation among teachers that they will participate in the policy development process.<sup>107</sup> Teachers have a sense of ownership of new initiatives because they know that they can trial them, and that there is what they call a 'logical system' to feedback concerns over policies that do not work. As envisaged in the design paper, in the "future", schools and school networks will become sites of innovation and experimentation, and the district will play a role of amplifying the resulting learning to inform national level policy reform.<sup>108</sup> The role of teachers and other workforce members in the policy reform process is discussed in the background paper on the political economy of the workforce.<sup>109</sup>

#### Applying the 2Revolutions lens:

- "Next": Policymakers consult and engage teachers and other members of the education workforce on new policy ideas, and ask for their feedback on what works and adjust policy where appropriate
- "Future": Teachers and other members of the education workforce are engaged in a cycle of testing and trialing new policy interventions, acting as change agents, and feeding back evidence and research on implementation challenges and effectiveness.

## Professional development should focus on practice based cycles of quality improvement and be supported by coaching

High impact professional development is not just about gaining new skills and knowledge, it is about building capacity to improve education practice and outcomes. Professional development should therefore be seen as a driver for quality improvement and for motivating the education workforce to take action, rather than as an input into an education system. Policymakers should pay attention to the processes and mechanisms which underpin professional learning and practice change, as well as the content.

Teacher development has too often focused on training events, often off-site, and sometimes as one-off events. Evidence and new thinking on effective andragogy,<sup>110</sup> methods and principles used in adult education-suggests that high impact individual professional development is characterized by:

- adult learners playing an active part in setting their development goals,
- a school or workplace-based setting,
- data and evidence being used to support enquiry, reflection and planning,
- real work challenges,
- support to make sense of theory and to apply it to real world scenarios,
- external input and feedback 'holding the mirror up', and
- the right conditions and support within schools e.g. support from school leader.

These are closely aligned to what the evidence shows to be the core features of effective teacher professional development.<sup>111</sup>

**Methods involving reflective cycles of improvement empower teachers as professionals to understand areas for improvement and set their own professional learning goals**. For example, in Jordan, supervisors are working with teachers in structured cycles of coaching which include: observation of practice, discussion of issues, selection of interventions to address the problem based on international evidence, trialing of new practice, and support for reflection and review.<sup>112</sup> In New Zealand, a two-year program using Timperley's Spirals of Enquiry approach which leads teachers through a continuous cycle of data-driven enquiry and reflection on their practice, yielded gains in literacy for students in 300 schools, and the rate of progress for those learners in the lowest 20 percent was even larger. The gains were more than three times the usual reading progress, and six times the usual writing progress.<sup>113</sup> The school-based mentor role implemented in Rwanda involves specialist teachers acting as pedagogic advisers working within or across schools to mentor teachers with the aim of improving teachers' knowledge of English and pedagogical classroom practices.<sup>114</sup>

Videos of practice can also be used to evaluate and provide feedback to education professionals. In Brazil, school based pedagogical coordinators were able to share videos of themselves providing feedback to their teachers, so that the coaches could make suggestions (see Case Study #8 on Ceara). Videoing of teachers' practice followed by high quality feedback is one component of the comprehensive system of teacher evaluation in Chile.<sup>115</sup>

#### Box 4: The potential role of technology in professional development

Technology can play a role in professionalization. A review of the use of the use of technology-supported professional development for teachers in developing countries drew the following conclusions:

- Effective models of professional learning via technology tend to take a blended learning approach, combining technology with face to face interactions.
- Teachers need training in the technology itself, even in technologies they know well. Particular care should be taken to ensure that barriers to acquiring technological skills are minimized and that specific groups of teachers are not marginalized in the process.
- Technology can facilitate peer support, collaboration and the creation of communities of practice.
- Technology can strengthen coaching relationships.
- Mobile technologies have high potential to improve the reach, scalability and flexibility of teacher professional development, but phones alone are not sufficient.

#### References

McCleavy, T., Hall-Chen, A., Horrocks, S. and Riggall, A. 2018. "Technology-supported professional development for teachers: lessons from developing countries." Reading: Education Development Trust.

**Professional development for school principals and district professionals should mirror that of teaching professionals, so that they model the practice of continuous improvement**. If education leaders can role model the professional development which they expect of teachers, they will begin to cultivate a system-wide culture of continuous improvement. For example, in Rwanda, school principals who are system leaders take part in Professional Learning Communities (PLCs) with peers. In doing so, they model the PLC experience which they facilitate for teachers on a monthly basis (see Case Study #6). Similarly, in STIR's partnership with the with

#### Case Study #4: Multimedia approach to improving English in Bangladesh

English in Action (EIA) used mobile phones, the internet, print-materials, television, and peer-to-peer learning to help 25 million Bangladeshis improve their English as a route into work and out of poverty. The EIA schools program focused on facilitating peer to peer learning and support for teachers through audio-visual professional development and classroom resources made available at a low-cost through memory (SD) cards on teachers' mobile phones along with print material. The program was implemented in 64 districts across 7 divisions. The program used the classroom/school as the key site of learning for teachers. Teachers received ongoing support through paired teachers in schools who were encouraged to regularly meet, discuss the audio-visual material, plan lessons and engage in other collaborative activities. This was supplemented by regular locally-based cluster meetings of teachers led by Local Teacher Facilitators (TFs) and workshops however the core of the learning took place at the school level. Strong collaboration with sub-district staff improved their technical capacity in observing behaviors which make up a 'learning classroom' and giving teachers constructive feedback. It also increased the level of collaboration between school and middle tier staff.

In terms of results, baseline studies showed that in 90% of English lessons observed, teachers spoke from the front of the class, spoke almost exclusively in Bangla, asked closed questions and students had few opportunities to participate beyond choral responses. Subsequent studied revealed a marked increase in the quality of English language instruction, student performance in assessments as well changes in mindset regarding the difficulty of learning English. As a result, EIA resources have been institutionalized in Bangladesh, in teacher training and education officials' professional development, in an effort to improve education quality.

Inclusion underpinned the design and program implementation at three levels. At the operational level, the program ensured districts were chosen in alignment with national profiles of deprivation to ensure the full spectrum of contexts were catered for. At the school level, developing teacher content to enhance inclusive pedagogy through communicative English teaching ensured all students could participate fully in lessons including those with learning difficulties. This included children with disabilities, minority groups and girls for example. Lastly, the program aimed to be inclusive of its participants, that is, teachers. By not relying on residential face to face training, female teachers were able to fully access professional development opportunities and not constrained by logistical challenges and cultural expectations, which limited their travel.

the Delhi government, teacher mentors at the middle tier have continuous monthly coaching, mirroring the coaching which they themselves provide to teachers (see Case Study #5).

In the "future", district level professional development can be professionalized by re-purposing or creating dedicated institutions to design and deliver high quality programs. Such institutions are an important part of an adaptive, continuously improving system: as a center of excellence, they are able to scan the horizon to meet changing policy and workforce needs. An example from a high-income country is the New York Leadership Academy, which has a focus on developing leadership for equity at both district and school level, including school boards, superintendents, and system leaders who supervise school leaders.<sup>116</sup>

Teachers already in the workforce with low academic qualifications and poor quality teacher training can benefit greatly from tools and support that enable them to scaffold their teaching.<sup>117</sup> In contexts with historically low qualification entry requirements, and low quality initial teacher training, these include qualified teachers. In such situations there is strong evidence of the effectiveness of structured pedagogy on learning

outcomes.<sup>118</sup> These programs use evidence-based instructional approaches, and provide teachers with lesson plans and training. The use of such structured pedagogy should only be seen as an interim solution, while systems train up more autonomous teachers. Helping teachers better understand their students' abilities and knowledge level can help them target teaching at student level. In Liberia and Malawi, interventions that supported teachers to better evaluate their students was effective, especially when combined with training and additional materials. Open Educational Resources can be used to promote engaging pedagogical techniques and help to scaffold teaching.<sup>119</sup> Coaching can be used to support the use of structured lesson plans. In a coaching pilot study in South Africa, classroom observations showed that teachers in two coaching groups, one assigned to receive on-site coaching and the other to receive virtual coaching, were more likely to keep on track with structured lesson plans than the comparison group, and were also more likely to meet with their head of department in their school on a regular basis, suggesting that the existence of a pedagogical coach (whether on-site or virtual) prompts in-school mentors to provide more regular follow-up. Both interventions also resulted in strong, significant increases in learning.<sup>120</sup>

#### Applying the 2Revolutions lens:

- "Next": data-driven coaching at school and district level, to drive continuous improvement and motivate professionals to improve practice
- "Future": collective learnings drive a self-improving system, through area-wide cycles of experimentation, improvement and learning

#### Peer learning can contribute to motivation and professional development

**Bringing teachers together for peer support and challenge can spark motivation and mindset change, as well as increased student performance.**<sup>121</sup> Teacher and school collaboration and networks have the potential both to support professional development through sharing of skills and promoting refection, and to develop and sustain intrinsic motivation within the education workforce. Professional learning communities of teachers that reflect on students' work and data on students' learning are linked to school improvement.<sup>122</sup> For example, 'tutor' networks in Mexico have been shown to be impactful on student learning across thousands of schools, often in multi-grade classrooms and underserved areas, as part of a new pedagogical approach called the Learning Community Project<sup>123</sup>. Evidence from Japan and Canada supports the assertion that exchange of practice among teachers in a school is a core strategy in high-performing systems.<sup>124</sup> However, findings from a review of evidence from 25 countries indicated that only around a fifth of teachers reported participating in mentoring or collaborative work.<sup>125</sup>

These kinds of collaborative networks can flourish beyond schools to create wider professional capital across an education system. Networks of schools and educators have been shown to productively organize the diverse expertise needed to solve complex educational issues.<sup>126</sup> Some organizational scholars have suggested that the types of novel interactions and information exchanges in **network improvement communities** make them suitable for innovation as they can work to surface and test new insights with diverse sets of individuals working in highly varied circumstances and they can enable more fluid exchanges across contexts and institutional boundaries.<sup>127</sup>

Collaborative working in this way also helps to develop an atmosphere of trust where there is professional openness to taking risks and making mistakes.<sup>128</sup> This kind of professional trust is essential for professional

development: peer learning through professional learning communities or wider networks meet many of the criteria listed above for effective professional development. A sense of trust and agency also means professionals are more likely to invest in working collaboratively to improve shared outcomes, thus reducing the need for externally imposed accountability approaches.<sup>129</sup> However, it should be noted that they also require external expert input in order to be fully effective and to avoid sharing of poor practice.

The workforce design presented in the design paper is centered around education professionals working together in teams that enable learning between peers but also between professionals with different skill sets, training and experience.<sup>130</sup> For example, it includes apprentice and newly qualified teachers working in teams with experienced teachers, and with input from specialized teachers. In the "future" phase it envisages greater learning across school networks.

Many of the case studies presented elsewhere in this paper also include peer learning as a central element to their success. For example, as part of the Education in Action (EIA) program, paired teachers were encouraged to plan lessons together, observe lessons and work through activities. Cluster level meetings, facilitated by local teacher facilitators, built on this learning through school-to-school sharing of experiences. Through these meetings, participants developed shared understanding and practical actions for how EIA's methods could be successful in the local context (see Case Study #4). As with STIR's collaboration with the Delhi government in India, EIA helped propagate intrinsic motivation. Once participants, which included teachers, headteachers and education officials, started observing evidence of the impact on EIA materials and methods on their classes, they sought to achieve similar results elsewhere.

#### Case Study #5: STIR Education: harnessing teacher intrinsic motivation in India and Uganda

STIR Education have recognized that, in many education systems, lack of teacher motivation has been driving a key factor driving the global learning crisis. They developed a Teacher Intrinsic Motivation model to tackle this, which they have now expanded to the wider education workforce. STIR have been working at scale in Delhi and Uganda since 2014 and 2015 respectively. Their approach in focuses on the development of school-led teacher networks in which teachers regularly share ideas with peers and gain support to try new practices in the classroom. The networks are supported by education system officials who are given the tools and skills to conduct training, workshops and coaching for the teacher networks by STIR staff.

Teachers are supported in school by Teacher Development Co-ordinators (TDCs), nominated professionals who lead the initiative and help to facilitate weekly network meetings and monthly review forums. TDCs themselves are managed by Teacher Mentors who work across schools, providing support and challenge to TDCs, teachers and school leaders.

Evaluation data on the STIR model shows positive impact on teacher motivation, teacher practice and student learning outcomes. In Uganda for example, 57% of STIR teachers also reported feeling confident in their own abilities as a teacher, as compared to only 45% of their non-STIR colleagues. This also seems to have had an effect on their classroom practice, including more experimentation with different classroom initiatives, use of improved teaching aids, and increased use of questioning techniques Specifically in Delhi, students in the pilot program were found to have improved math scores (an increase of 0.15 standard deviations compared to 0.1 standard deviations in the control group). Mid-line data from Uganda indicate an improvement in teacher attendance, with the average attendance of STIR teachers five percentage points higher than the comparison group (87 percent compared to 82 percent).

STIR's model is also highly cost-effective, costing just US\$0.50 per child per year in Delhi and \$1 per child per year in Uganda. Much of this has to do with their delivery approach which ensures the program is owned by existing system actors. Key to the program's success are strong relationships with government, particularly in Delhi, where the STIR program has become one of three pillars of a key government education reform initiative.

References: See full case study in the Annex

#### Box 4: The benefits of peer-led professional development

- Efficient mechanism for sharing practice and knowledge
- Teachers share real challenges, so discuss meaningful interventions
- Builds intent for action
- Support motivation
- Builds sense of agency and purpose
- Builds collective responsibility and collective capabilities for change
- Develops trust in colleagues, which supports future resilience and resourcefulness
- Makes tacit knowledge visible

#### References

Cuddapah, J. and C. Clayton (2011) "Using Wenger's Communities of Practice to Explore a New Teacher Cohort." *Journal of Teacher Education* 62(1) 62–7. American Association of Colleges for Teacher Education.

Leanna C (2011) "The missing link in school reform." *Stanford Social Innovation Review*. Stanford: Stanford University.

National Council of Teachers of English (2011) "Communities of Practice: a policy research brief." Urbana, Illinois: National Council of Teachers of English.

**Peer learning can be effective in the professional development of all levels of the education workforce, including school and district leaders** (see for example, Box 5 on strengthening school leadership). The T-TEL program in Ghana (see Case Study #3) includes weekly professional development sessions for college of education tutors, facilitated by tutors themselves. There are no financial incentives for participation but there is high attendance (over 70 percent) as they are viewed as an opportunity for career development.

**Well-designed peer learning can be transformational because it plays a critical role in building collective leadership capabilities to deliver educational change**, an important aspect of professionalism. A study in the United States found that districts that had developed a sense of collective efficacy among school leaders tended to demonstrate higher levels of student achievement.<sup>131</sup> In Rwanda, the National Leaders of Learning (see Case Study #6) undergo an accredited professional development program which has been designed to build collective responsibility for change: the system leaders complete their certificate by jointly work to address a Ministerial commission on a strategic national issue in the Education Sector Strategic Plan.

#### Peer learning enabling factors

Several enabling factors need to be in place for peer learning networks to be effective and sustainable:

- They need formal support, including sponsorship from a school or district leader. This includes
  allocating teachers time for in school peer learning activities and building space into their teaching
  schedules, as has been done in Ceara (see Case Study #8), Chile (see Case Study #7) and Delhi (see
  Case Study #5). School principals also need to support teachers to implement actions agreed in learning
  networks.
- They need strong facilitation. Without this, momentum and focus can be lost. This can be provided by role-holders for whom coordination of peer learning networks is an explicit part of their job description, such as the pedagogic coordinators (see Case Study #8), the Teacher Development Coordinators in Delhi (see Case Study #5) or by the "schools network manager" role as envisaged at the district level in the "future" phase in the design paper. These role holders should be recruited on the basis of skills in collaborative leadership, and school level coordinators provided with clear protocols and supported by district level mentors.
- They need access to high levels of expertise. Either in the form of specialist teachers or structured materials which can provide content. Without this there is a danger that peer learning groups simply function to recycle and reinforce poor practice. As Jensen et al. comment, they "should not be content agnostic".<sup>132</sup>
- They benefit from harnessing social media. Social media has been used by many of the programs
  illustrated in this report to maintain professional communities of practice over distance and time. For
  example, mentors working as part of the STIR program in Delhi use social media groups to keep in
  touch with the teachers they support. In some projects these social media groups have be set up under
  the initiative of participants rather than pre-planned part of the original initiative. For example, in Jordan,

teachers set up their own social media groups to share how they were putting what they had learned into practice.<sup>133</sup>

• They can be operationalized through clusters of schools. This enables peer learning to take place between schools. Clusters supported by cluster resource centers in Ethiopia increased teacher motivation and improved practices.<sup>134</sup> Districts can play an important role in facilitating and coordinating peer networks: In the USA, districts that had created strong networks to encourage collaborative professional demonstrated higher levels of student achievement than those without. <sup>135</sup>

#### Applying the 2Revolutions lens:

- "Next": teachers and school and district leaders participate in peer learning through mentoring and collaborative work, supported by high quality content or technical expertise, co-ordination and governance
- "Future': interschool and inter-district professional learning communities collaborate to solve shared challenges. District support provided to peer learning facilitates scaling innovations and learnings, and aligning content to reflect district level insights on what is and is not working

## Policymakers should celebrate and leverage the expertise of high performing professionals as 'system leaders'

**High performing teachers and school leaders should be given prominence and a role as 'system leaders' at the district level**. These are high performing practitioners who share their expertise and practice with schools other than their own. The concept has been used to support rapid school improvement in several contexts. For example, as part of Rio de Janeiro's successful school turnaround strategy, the city's Secretary for Education used sophisticated data analysis to identify 'godmother schools' as system leaders, who then collaborated with struggling schools in the same area to support them to transform learning.<sup>136</sup>

Using high performing practitioners as education leaders is a cost effective and powerful way to support peer professionals, and increase the professionalization of education leadership. Teachers are more likely to change their practices when they see colleagues they admire, not just official leaders, championing desired improvements.<sup>137</sup> Similarly, using high performing headteachers to mentor others working in similar schools (see box 5) is effective because it motivates practitioners to raise standards as they can see 'what is possible' in contexts similar to their own and it enables practitioners by providing access to highly tailored local solutions.<sup>138</sup> Formal awards and public recognition, such as the Varkey Global Teacher Prize the World Innovation Summit for Education (WISE) Awards, and the Star Teacher Awards in Punjab, Pakistan<sup>139</sup>, can be used to motivate high performing teachers and encourage innovation.

#### Box 5: How system leadership supports a self-improving system

- Highly contextualised expertise, from those closest to issues, is shared with teachers
- Best practice and expertise of high performers is leveraged for the benefit of all
- Celebrates success and provides public recognition of good practice
- Role model effect high performing practitioners inspire peer teachers
- Credible and trusted- system leaders are practitioners and not in an ivory tower

- No excuses for not raising the bar-system leaders, as practitioners, show what is possible
- A mechanism for ensuring the best practitioners can work with struggling schools

#### References

Case Study #6 on system leadership in Rwanda; also:

Crehan, L (2016) "Cleverlands: the secrets behind the success of the world's education superpowers." London: Random House.

Jensen, B., Sonnemann, J., Roberts-Hull, K., and Hunter, A. (2016) "Beyond PD: Teacher Professional Learning in High-Performing Systems." Teacher Quality Systems in Top Performing Countries. National Center on Education and the Economy.

Rudd, P., Poet, H., Featherstone, G., Lamont, E., Durbin, B., Bergeron, C., Bramley, G., Kettlewell, K. and Hart, R. (2011) "Evaluation of City Challenge leadership strategies: overview report." Slough: NFER.

#### Case Study #6: Developing National Leaders of Education in Kenya, India and Rwanda

Education Development Trust has been pioneering a systems approach to strengthening school leadership in Kenya, India and Rwanda based on successful models from the UK, New Zealand and other high performing systems. The approach identifies high performing school principals in a locality and supports them to drive improvement in other local schools, in addition their own. The program's aim is to build a cadre of 'system leaders' who have the will and capability to support future wider reform efforts. It also supports the development of a more autonomous self-improving school system. The approach involves three key pillars:

- 1. Appropriate selection and pairing of high performing school principals system leaders with a peer school principal, typically from a struggling but statistically similar school, or an early career school principal.
- 2. System leaders benefit from high caliber training and support to develop their coaching and mentoring skills as well as build their capacity to support other schools to drive change.
- 3. System leaders meet regularly with their paired school principal to provide support and challenge against a defined school improvement priority.

The approach is being used at scale in Rwanda, with the appointment of almost 500 National and Local Leaders of Learning nationally, from the highest performing school principals. The role holders lead data-driven school improvement planning across their districts, working in collaboration with peers through 1:1 coaching and by running Professional Learning Communities.

The approach has shown impressive impact on student learning outcomes in the UK, for both the beneficiary school and the system leader's school. Likewise, in proof of concept pilots in Kenya and India, there have been rapid and statistically significant improvements in the leadership competence of mentors and their ability to give quality feedback. Teaching quality in the mentees' schools also increased by 20%, based on a standardized teaching quality instrument, and school leaders reported substantial changes at their schools in relation to their school improvement priority supported by evidence.

Two main factors underpin the success of the program:

- 1. Ensuring system leaders' selection was based on capabilities and dispositions (motivations, will and desire for change) in addition to strong learning outcomes at their respective schools
- 2. Wider enabling factors and a conducive policy environment geared towards shared accountability and results provided fertile ground for change. Learning from the program emphasized the key role of district officials and their institutional knowledge and skills in its design and implementation, the importance of marrying local and international best practice and the need to facilitate even deeper knowledge sharing via professional learning communities.

References: see full case study in annex

#### Applying the 2Revolutions lens:

 "Next": sharing the expertise of high performing teachers and school leaders across schools as system leaders

• "Future": system leaders are formal roles with district level or national responsibility to raise area-wide standards, and they are given voice and prominence as local leaders

## Career progression should be based on performance and linked to salary increases

In many education systems career progression is largely determined by qualifications and years of experience, despite the evidence that these factors are poor predictors of teacher performance. Such a career path can be highly demotivating and inequitable: staff unable to afford or access courses leading to higher qualifications become trapped into lower pay bands; colleagues see less dedicated and lower performing staff automatically promoted into higher pay bands.<sup>140</sup> This system disproportionately disadvantages women, as they are more likely to take career breaks to take on childcare responsibilities and tend to have less access to residential training and higher education courses than men.

The "gradient" of a pay scale has implications for the attractiveness of a profession. Entrants may accept a low starting salary if there is potential for promotion to higher pay bands. However, compared to other professions, education salary structures are relatively flat.<sup>141</sup> For example, in Uganda the salary of a headteacher at the top of the pay scale is less than twice the salary of a newly qualified teacher, whereas in the UK the top headteachers are paid nearly five times as much.<sup>142</sup>

Promoting teachers as a result of successful appraisal is becoming increasingly common and is recommended by education researchers and economists.<sup>143</sup> In Kenya, the Teacher Service Commission (TSC) has developed a Teacher Performance Appraisal Development tool which monitors teachers' classroom performance, professional knowledge, innovation and creativity, engagement with parents, attendance and syllabus coverage. It involves regular classroom observations by county education supervisors, together with an on-line teacher self-assessment. The results are used to inform the TSC's decisions regarding promotion.<sup>144</sup>

Where career structures are single track, promotion based on instructional performance can lead to the best teachers being promoted into administration and managerial posts, where they currently have few opportunities to apply their expertise. Technical specialist teacher roles can serve not only as a way of sharing the expertise of the best teachers across schools, but can also provide a technical track for career progression beyond the school.

Whilst increasing salaries across the board can help to attract more candidates into teaching, it does not necessarily improve performance of those already employed.<sup>145</sup> Reforming pay scale structures linked to career progression based on competencies and performance (see Case Study #7), and ensuring that promotions result in real salary increases, not just small increments, has greater potential for impacting staff motivation and performance.

#### Case Study #7: Reforming the teaching profession in Chile

The Government of Chile and civil society organizations recognized the need to improve the structures and systems used to attract, train and retain good teachers. After extensive, multi-level stakeholder consultations including government, higher education institutions, teacher and student unions, school leaders, churches and NGOs such as *Elige Educar*, the Teacher's Plan (*el Plan Maestro*) was established to address issues relating to teachers. The 20.903 Law (la ley N° 20.903) was passed and established the National System for Teacher Professional Development (*Sistema de Desarrollo Profesional Docente*) which is being implemented between 2016-2026. Along with wider education and national reforms, its objective is to significantly increase the attractiveness of the teaching professional development. Specifically, this includes stricter entry requirements to study education/pedagogy courses. A new pay scale benchmarked to performance has been introduced and teachers benefit from professional mentors and free training, provided by the Government, from induction throughout their teaching career to support their progression on this new scale.

Previously, Chile had one of highest ratios of teaching hours versus non-teaching hours among OECD countries reducing teachers' capacity to engage in professional development and other activities. To address this, the number of designated hours for non-teaching tasks such as lesson planning, reviews of assessments and peer collaboration has increased. Teachers are also actively encouraged to collaborate with other teachers at their schools as well as engage with teacher professional networks. Early impact from the reform demonstrates that despite increases in entry requirements for teaching qualifications, the number of teaching candidates has not been adversely affected. Nonetheless, higher entry requirements can prove challenging in rural and/or disadvantaged locations. PACE Chile, another program being implemented by the Government of Chile and university partners is addressing this by facilitating the access and progress of outstanding high school students from disadvantaged backgrounds to higher education courses in education/teaching/pedagogy. As the reform is still in its early stages, impact on teaching quality and the efficacy of the new teacher progression structure are pending.

References: See full case study in the Annex

#### Applying the 2Revolutions lens:

- "Next": career progression linked to appraisal of performance
- "Future": diversified career tracks with managerial and technical tracks, and promotional pathways that recognize and effectively utilize technical instructional expertise.

## Lead, monitor and manage

## In some systems, ensuring that teachers are present in the classroom is the first necessary step to improving instruction

High levels of absenteeism across the education workforce pose a barrier to learning and reinforce disparities.<sup>146</sup> There is evidence that teacher absenteeism is higher when the head teacher is absent,<sup>147</sup> and in schools that are rarely visited by district officials.<sup>148</sup> School and district leaders therefore clearly have an important part to play in reducing teacher absenteeism. And yet in many contexts school and district leaders demonstrate higher level of absenteeism that the teachers.<sup>149</sup>

Systems experiencing high levels of absenteeism need to address the root causes. Base salaries need to be set at a level at which teachers are able to provide for their families without recourse to second jobs. Salary payments need to be reliable, regular and not require staff to take time away from their work to collect them. Teachers, and where possible, head teachers should not be expected to use scheduled class time for training, meetings or non-school work such as elections. Monitoring and accountability systems are needed at school, district and higher levels to ensure that high levels of absenteeism are investigated, action plans put in place, and followed up on. School and district leaders need the authority to sanction teachers. Field work conducted in Ghana to inform the workforce design found that school leadership lacked authority to sanction teachers, and this diminished their incentive to undertake monitoring of, for example, teacher attendance.<sup>150</sup>

A systematic review of interventions to reduce teacher absenteeism identified two broad approaches that had led to statistically significant reductions in teacher absenteeism in low and middle income counties: direct approaches using a combination of close monitoring combined with monetary incentives linked to attendance, and indirect interventions involving the community and parents in school management and accountability processes.<sup>151</sup> Effective approaches involving communities include the use of participatory report cards in Uganda and school-based management training for parents, headteachers and teachers in the Gambia, which reduced teacher absenteeism by 23 percent.<sup>152</sup>

A close monitoring system may work in the short term. However, it can undermine teacher professionalism by signaling a lack of trust in teachers, and is not a common feature of high performing systems. Once the root causes of absenteeism have been addressed, the longer-term goal of education systems should be to build a professional and an intrinsically motivated workforce. This needs to be done by addressing all points of the workforce lifecycle, from selection, deployment, professional development and career paths, as described above.

#### Applying the 2Revolutions lens:

- "Next": salaries are sufficient and reliably paid. Class contact time is protected. Accountability systems in place.
- "Future": a self-regulating professional workforce, with strong internal motivation and accountability
### Instructional leadership should be evidence based

Instructional leaders (working either at the school or district level) need to be able to accurately diagnose problems, or short comings in current instructional practices and to prescribe high potential "treatments" based on the best evidence available of what works. To do this effectively they need to draw on *diagnostic evidence* of teacher performance (including lesson observations, learning outcomes data, evidence of learner well-being, equity, and inclusion) benchmarked against contextually relevant standards. They then need to be able to select from a range of *evidence based teaching strategies* for teachers to employ to address the problem identified.<sup>153</sup> They then need to continue to monitor teacher performance and student outcomes to understand whether a) teachers are implementing the strategy correctly and b) whether the strategy is having the desired impact in that context. Cycles of quality improvement should therefore be informed both by internally generated diagnostic evidence and externally generated evidence of what works.

Experience from Latin America indicates that school based instructional leaders (either headteachers or an assigned pedagogical coordinator role as in the Ceara case study below) often struggle to identify problems in performance and provide critical feedback when working in isolation. They need to be directly supported by experts working at the district or regional level, and guided by common rubrics and standards.<sup>154</sup>

Pedagogic coordinators in the Ceara example were able to access knowledge of *evidence-based teaching strategies* through the self-help materials provided by the program. Similar practice is seen in an evidence-based supervision project in Jordan. The project provides English language supervisors with a set of 50 "clinical practice" guidance cards summarizing the research evidence on why particular pedagogic approaches as effective.<sup>155</sup>

As instructional leaders gain experience in monitoring the effectiveness of specific teaching strategies within the contexts in which they work, they have the potential to become generators of evidence of what works. This could be purely observational and relatively informal: identifying effective practice among the teachers they supervise and facilitating the sharing of these practices with other teachers. But if instructional leaders are given training in conducting and documenting experimental research on teaching strategies, they would have the capacity to identify effective instructional strategies more rigorously, and share their findings more widely.

Instructional leaders need access to up to date global research evidence on effective practice in a form that they can apply it to the schools and classrooms in which they work. Universities engaged in teacher training have traditionally been the place where emerging research is curated and translated into actionable practice. Knowledge brokers working at the middle level could act as a conduit to put research evidence in the hands of instructional leaders and teachers, as well as supporting them to disseminate their own evidence of effective practice.

**Districts and schools should look for opportunities to identify high potential individuals and provide early leadership opportunities, to proactively build a talent pipeline**. Distributed leadership has been growing in prominence in recent years in high performing education systems, practiced as an education workforce strategy to nurture future talent.<sup>156</sup> Instead of top down leadership, school and district leaders look for opportunities to share responsibilities, including with high potential individuals. In the UK, distributed leadership has been used to address the head teacher recruitment and retention crisis. In a study of nearly 200 schools over a four year

period in the US, researchers found significant direct effects of distributed leadership on change in the schools' academic capacity and indirect effects on student growth rates in mathematics.<sup>157</sup>

#### Case Study # 8: Using lesson observation data to drive improvement in Ceará, Brazil

The State led Ceará program sought to address research evidence of large variations in teacher quality within schools. In 2014, in partnership with the World Bank and the Lemann Foundation, the State of Ceará delivered a one-year program which provided feedback to secondary school teachers on their classroom practices and gave them access to expert educational coaching through one-on-one sessions delivered via Skype. The Ceará program had four key elements: an 'information shock', giving teachers benchmarked feedback about their practice based on classroom observations using the Stallings method, three face-to-face orientation sessions for school directors and pedagogical coordinators with a highly-skilled team of trainers, ongoing Skype interactions throughout the 2015 academic year with the training team and self-help materials, notably the Portuguese language version (Aula Nota 10) of the book by US educator Douglas Lemov, *Teach Like a Champion*.

The initial stage - 'information shock' - was intended to show schools they had room for improvement as well as to identify some of the individual teachers who managed class time most effectively, used interactive (question and answer) teaching practices and kept students engaged. The coaching program aimed at turning the pedagogical coordinator in each school into a stronger resource for school improvement, by developing her ability to observe teachers' classroom practice and provide useful feedback, and to promote collaboration and exchange of practice among teachers. Leveraging the teaching skills that existed within schools by promoting greater collaboration and exchange of practice among teachers offered a low-cost strategy for raising teachers' effectiveness at US\$2.40 per student in each treatment school.

The underlying theory of change suggested that by exposing gaps in classroom practice between the best and worst teachers in the school this would create motivation to improve, and the pedagogical coordinators and coaches would provide support. A randomized controlled trial evaluation of the program found that over the course of the year, teachers' classroom practices improved, teaching time increased and students were more engaged. Teachers' time on administrative tasks also decreased as they engaged in more purposeful classroom interactions. Student results in state-based assessments in math and Portuguese also increased with the strongest impacts seen in the classrooms where teachers initially had the lowest times on instruction. Based on these results, the Ceará government made the program's curriculum and technology available to municipal primary schools in 2017.

References: See full case study in the Annex

#### Applying the 2Revolutions lens:

- "Next": instructional leaders provide benchmarked feedback, helping teachers select and apply evidence-based strategies
- "Future": instructional leaders generate and use their own evidence, and knowledge brokers connect them with up to date global evidence of what works

Good data and objective criteria are needed to ensure that the workforce is deployed and managed effectively and equitably

As a first step in improving efficiency, systems need to ensure that their payrolls reflect the actual **workforce**. This involves linking teacher management information data with payrolls. In systems recovering from conflict it may be necessary to conduct an education workforce headcount to ensure that ghost teachers are removed from payrolls.<sup>158</sup>

Countries also need workforce management system that collects data on the supply of the workforce, for example, the pipeline of teacher trainees, levels of attrition, numbers likely to retire, and then match this to data on the demand, for example, population growth data, numbers of out of school children, teacher shortages by subject, level and location. These data can then be used to inform planning around investments in teacher training and recruitment.

Assuming the overall supply of teachers and other personnel is sufficient, these human resources need to be distributed evenly across school populations in order to optimize efficient and equitable use of the workforce. Yet we know this is often not the case. There are high levels of variation in pupil teacher ratios between districts and within districts, with the most marginalized communities often served by the fewest, least qualified teachers, and better served communities enjoying relatively low teacher pupil ratios.<sup>159</sup> District level human resources are also unevenly utilized. For example, in Zimbabwe, while a teacher is on average visited every two and a half years by a supervisor, those in rural areas have to wait 4 years.<sup>160</sup>

Evidence from India and Malawi indicate that teachers use informal networks and political influence to resist deployment to undesirable schools, and that administrative officials are unable to counter these pressures due to lack of reliable data and objective criteria for teacher allocation.<sup>161</sup> In Malawi it was noted that incentives to teach in rural areas are poorly targeted, with 85 percent of teachers receiving them. Use of Global Positioning Satellite data has more accurately mapped schools so that incentives can be targeted to remote unpopular areas rather than being applied on a blanket basis to rural districts.<sup>162</sup> An analysis of teacher development and deployment in India concluded that an integrated teacher management information system was needed to improve effective management of the teacher cadre, as developed in Bihar.<sup>163</sup> But the report recognized that data alone are not sufficient. Districts need greater capacity to handle and use the data, rather than just being conduits for passing data from the school to the central level. District officers therefore need to be equipped with the skills, tools and authority to analyze and report teacher data in formats that can be used to inform teacher deployment decisions.

**Focusing on Pupil Teacher Ratio data alone will not ensure equitable deployment of resources. Data are needed on the teacher capacities and specific support needs of schools**. Zimbabwe, with the support of GPE, has established a Teacher Training and Development Information System, which is linked to school and pupil data, and designed to facilitate better needs-based deployment of qualified teachers as well as better targeting of teacher professional development inputs. The approach looks promising, but there are still problems with data completeness, reliability, and application of the data to inform the intended planning processes.<sup>164</sup>

Collection and reporting of data on workforce diversity are also an important step in addressing equitable representation. For example, Ethiopia now includes statistics on the number of trainee teachers with disabilities as part of its annual education statistical abstract.<sup>165</sup>

Data on school performance can be used by districts to target supervision and support services to the schools that need it most, rather than to the schools most accessible to the district office. It can also be used to identify high performing teachers and headteachers with the capacity to mentor others, as described above.

#### Applying the 2Revolutions lens:

- "Next": data on workforce management and distribution drive the deployment of human resources to enable equitable service delivery
- "Future": districts use data to identify school specific support needs to enable effective targeting of specialized support services.

# Key considerations for policymakers

Every system has a unique context and will face different workforce opportunities and challenges. The binding constraints that limit the workforce effectiveness vary greatly from context to context. In some cases there is an absolute shortage of school graduates to recruit into teacher training, elsewhere there may be a large pool of potential recruits but teacher training courses and teaching are too unattractive, elsewhere there may be a good supply of qualified teachers but the qualifications may not be a reliable indication of teaching competence and dispositions suited to teaching. Teaching quality can be limited by teachers' limited content knowledge, by teachers' limited pedagogical knowledge or due to poor motivation and management. Strategies to strengthen the workforce are unlikely to be effective until the binding constraints have been addressed.

When drawing on international evidence of "what works", policy makers need to be aware that strategies proven to be effective in some contexts are often ineffective elsewhere (see for example the contrasting cases of the use of video lessons in Brazil and Ethiopia discussed above), and that the successful implementation of workforce strengthening strategies are highly reliant on the capabilities of the existing workforce as well as political economy factors discussed in the political economy paper.<sup>166</sup>

To help policymakers make use of the different options, this section offers some key considerations for policymakers to take into account as they plan how to strengthen their workforce. Policymakers may wish to use these questions as a tool to work through the process of evaluating their system needs and applying the proposals to make optimum impact in their local context.

Below we share a range of key considerations for the strengthening process.

		Questions for consideration			
1.	Take into account	→ Are career entry, training, and career progression opportunities accessibl			
	cultural, social,	to all? Which groups are underrepresented on training programs (ITT and CPD)			
	equity and	and at different levels of seniority? How will proposed reforms impact on gender			
		equity and representation of minority groups within the workforce?			

political considerations	→ What is the cultural and political status of workforce roles? To what extent are qualifications and certification important for maintaining the professional
	<ul> <li>→ How can a culture of collective practice be built? How can leadership roles be supported to model a team-based approach? How can training and development approaches be designed to foster and develop team working skills? How can peer learning systems be developed in ways that value both the experience of older workforce members and the more up to date knowledge of those recruited and trained more recently?</li> <li>→ How can service design support the delivery of education workforce strengthening reforms across different contexts? How can elements of workforce strengthening such as initial teacher training, supervision and CPD be designed to work in contexts facing different connectivity challenges (geographical and technological) and to fit the scale of existing district level structures?</li> <li>→ What is politically feasible regarding the management of those already in the workforce who do not meet revised standards and qualification requirements. Professional development opportunities can be provided to enable underqualified and underperforming staff to upgrade their skills, however ultimately if they are not able to gain the professional capabilities given additional training, they need to be managed into alternative roles or out of the system, which is politically challenging.</li> </ul>
2. Consider the capabilities within the existing education workforce	<ul> <li>What are the skills and capabilities levels of the current workforce? What data available? What further data collection and analysis are needed? Understanding of the best performers in the system can help to set realistic aspirations.</li> <li>What is the relationship between qualifications, capabilities and performance of workforce members? Where the relationship between teaching qualifications and capabilities is weak (ie where qualified staff do not demonstrate greater capabilities than unqualified staff), there is a strong case for investing in reforming teacher training colleges and other bodies responsible for teacher accreditation. Where the relationship between workforce capabilities and performance is weak (i.e. where capable individuals underperform), improving motivation and management should be the focus of reforms.</li> <li>Are there shortages of specific skills and capabilities within the education workforce? For example, are new processes needed to attract, train and recruit staff with expertise in local languages, technology, change management, data management etc.</li> <li>What steps and timeframe are needed for long term development towards a fully professionalized workforce? A fully professionalized workforce should be a goal to work towards, but planners and policy makers need to be cognizant of the potential pitfalls of aspiration reality gaps. Some systems need to acknowledge that the workforce already in place, and the pool of potential new recruits from which they can currently draw may often not have the capabilities to operate as fully autonomous professionals but will need extensive scaffolding, coaching and other support in the medium term.</li> </ul>

		<ul> <li>→ At what level in the system is instructional leadership and pedagogic coaching feasible? Are there staff already in schools with the capabilities and potential to provide instructional leadership and pedagogic coaching, or will these need to be delivered at the district level whilst school level capacity is built?</li> <li>→ What is the capacity of the teacher training institutes to support workforce strengthening? Do tutors have recent, relevant experience of teaching in the sort of schools where trainees will eventually teach? Are tutors and schools abl to work together effectively to enable more school-based training? Are tutors able to update their knowledge on new techniques and new curricular areas (fo example, skills for sustainable development, teaching using technology)?</li> <li>→ Does the current career structure recognize and reward merit? To what extent is the workforce recruited and promoted on the basis of merit or other factors such as political or familial connections? This needs to be addressed through improving the transparency and accountability of the recruitment process. Is it based on performance, or qualifications and experience alone? This can be addressed by introducing probationary periods and performance reviews.</li> </ul>
3.	Present a clear business case for investment in workforce reform	<ul> <li>→ Are existing policies being implemented efficiently and as intended? For some systems a necessary first step of strengthening is to address hygiene issues: ensuring that payrolls are correct, appointments are merit based and th monitoring and accountability systems are fit for purpose and adhered to.</li> <li>→ Is current investment sufficient to cover the costs of a workforce capable delivering the education SDGs and to realize the economic potential of quality education for all? Developing a professional education workforce means significant investment: in decent basic salaries, in targeted incentives ar scholarships, in salary structures that recognize and reward performance and capabilities through career progression, and in training and development programs that enable the workforce to grow its own capabilities and profession knowledge base. Whilst most systems have some inefficiencies which can be improved through technical solutions, low government spending on education remains a major barrier in many contexts, and limits what technical fixes alone can achieve.</li> <li>→ Have the long-term costs and benefits of different workforce strengthenin policy options been carefully considered? (see paper on costing and financir for further details of what this involves)</li> </ul>
4.	Be respectful of the maturity of the system and the pace of change desired	<ul> <li>→ What are the current binding constraints or inefficiencies in the workforce development systems which affect education outcomes? For example, if a major limiting factor is the lack of teacher training applicants with good foundational subject knowledge, then medium term investment should be in developing bridging courses and assessing trainees' knowledge of the content that they will be teaching. If teacher absenteeism is high, additional training is unlikely to lead to significant gains in learning.</li> <li>→ How can policymakers take a long term view? When considering policies to improve workforce capacity and/or performance, the longer term impacts on</li> </ul>

		workforce professionalism need to be considered alongside immediate potential
5.	Embed systems thinking into workforce re- design	<ul> <li>→ Where are the most critical bottlenecks to access, learning and inclusion within the system? Planners need to review data on attendance and learning outcomes to understand where dropout occurs and where learning outcome gaps widen. For example, if a large proportion of learnings are falling behind in the early grades, resources should be focused on improving foundational learning.</li> <li>→ How can workforce initiatives be aligned across system levels? For example, efforts to improve pedagogical coaching at district level will struggle if a culture of coaching and trust is not cultivated and modelled by leaders at state level.</li> <li>→ What interdependencies might there be between workforce reforms and other policy initiatives including wider reforms across the workforce lifecycle? Are upper secondary schools producing sufficient numbers of graduates to supply the number and range of teacher training candidates required (including graduates from minority groups and graduates with academic qualifications in shortage subjects)? Are teacher training colleges, district level and school level instructional leaders consistent in the teaching standards and practices that they promote? Are workforce reforms aligned to curriculum reform?</li> </ul>
6.	Involve the workforce in policy development	<ul> <li>→ How can policy makers most effectively engage with the school-based workforce? System need to respect and acknowledged the professional expertise of their school-based workforce by ensuring that teachers and school leaders are fully involved in policy reforms. They need to be consulted on the designs and given opportunities to feed back on the outcomes of reforms, both intended and unintended.</li> <li>→ How can the policy makers harness the potential of the workforce as agents of change? Policy makers need to recognize that teachers and other members of the workforce are change agents and when supported and developed will lead the change needed to improve education outcomes. There is an opportunity to build in change management techniques when strengthening the workforce, for example, using system leaders as agents of change, giving teachers a voice, developing and nurturing champions for change within the workforce</li> <li>→ How can policymakers identify, celebrate and build on local innovation and existing strengths? Using benchmarked school and district performance data, such as value added estimates of learning outcomes, can help to identify high performing, and rapidly improving schools and districts. Mixed research methods can be used to investigate the local initiatives and individuals driving improvements.</li> <li>→ What success measures and evaluation processes can be put in place for new initiatives to generate new local evidence on what works? If equipped with research skills and tools, professionals in the workforce can be involved in trialing of proposed solutions and collecting robust evidence of what is most effective within that context. By engaging with and participating in evidence</li> </ul>

generation, the education workforce can contribute to its own professional knowledge base and move towards becoming an evidence informed profession driven by frontline workers.

# Summary of next and future changes in workforce strengthening

	'Next'	'Future'
Goal	Get the system working and create learning	Create a learning system
	teams	
Attract, train, induct	<ul> <li>Routes into teaching and other roles draw from the local community</li> <li>Teacher selection based on dispositions for quality delivery of the curriculum</li> <li>Instructional leaders recruited for skills in leadership as well as instructional competence using a meritocratic process</li> <li>Other roles recruited for the dispositions and competencies needed</li> <li>Initial training equips teachers with contextually relevant content and skills and techniques for quality instruction including practical experience</li> <li>Induction programs for newly qualified teachers involve mentoring and linked to probation period</li> <li>Induction programs for all new workforce roles involving inter- school, inter-district and intersector peer mentoring for school leaders and middle tier professionals</li> </ul>	<ul> <li>Promotes teaching as a high-status profession</li> <li>Attracts the best candidates for each role</li> <li>Selects adaptive practitioners who can act as designers and facilitators of learning for future curricula</li> <li>Recruits instructional leaders for skills in leading area-wide learning and scaling of best practice</li> <li>Training to equip key roles with self-directed learning, peer- learning, teamwork and evaluation skills, skills in generating and using evidence</li> </ul>
Motivate, develop, progress	<ul> <li>Policymakers consult and engage members of the workforce on new policy ideas, and ask for their feedback on what works</li> <li>Data-driven coaching at school and district level, to drive continuous improvement and motivate professionals to improve practice</li> <li>Teachers and other key roles participate in peer learning through mentoring and collaborative work, this is supported by external expertise and co-ordination and governance</li> </ul>	<ul> <li>Learning collectively drives a self-improving system, through area-wide cycles of experimentation, improvement and learning</li> <li>Collaborating interschool, inter-district and multi-disciplinary professional learning communities solve shared challenges and to share specialist resources</li> <li>System leader roles formalized with district level or national responsibility to raise area-wide standards, giving them voice and prominence as local leaders</li> <li>Mentoring and coaching conducted remotely</li> </ul>

	<ul> <li>Expertise of high performing teachers and school leaders is shared across schools</li> <li>All key roles within the workforce access online training courses and teaching materials, including videos of good practice. Face to face peer learning and coaching relationships are supplemented by ongoing professional skill sharing through social media</li> <li>Career progression linked to appraisal of performance</li> </ul>	<ul> <li>Offering diversified career tracks with managerial and technical tracks, and promotional pathways that recognize and effectively utilize technical instructional expertise</li> <li>Colleges/ HEIs as hubs of knowledge and new research from the profession, with inputs from practicing teachers</li> </ul>
Lead, monitor, manage	<ul> <li>Salaries are sufficient and reliably paid</li> <li>Class contact time is protected as is planning and assessment time</li> <li>Accountability systems in place</li> <li>Instructional leaders provide benchmarked feedback, helping teachers select and apply evidence-based strategies</li> <li>Data on workforce distribution drives the deployment of human resources to enable equitable service delivery</li> <li>High potential individuals identified and provide informal leadership opportunities to nurture their talent</li> </ul>	<ul> <li>Sustaining a self-regulating professional workforce, with strong internal motivation and accountability</li> <li>Instructional leaders generate and utilize their own evidence, they act as knowledge brokers connecting with up to date global evidence of what works</li> <li>Data is utilized to identify school specific support needs, districts enable effective targeting of specialized support services</li> <li>Talent pipelines are analyzed against mission critical roles and capabilities at district level</li> </ul>

# Endnotes

<sup>2</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>3</sup> Aslam, Monazza and Shenila Rawal. 2019. "Political Economy of the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission. And:

Atherton, Paul, Alasdair Mackintosh, and Alfonso Accinelli with Caine Rolleston. 2019. "Planning, Costing, and Financing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>4</sup> Education Commission. 2019. "Transforming the Education Workforce: Learning Teams for a Learning Generation". New York: Education Commission.

<sup>5</sup> Data from http://data.uis.unesco.org/#

<sup>6</sup> Mourshed, M. Barber, M. & Chijoke, C. 2010 "How the world's most improved school systems keep

getting better." Washington D. C.: McKinsey

<sup>7</sup> Barber, M.I and Mona Mourshed, M. 2007. How the world's best-performing school systems come out on top. New York: McKinsey & Company. And Lewis, L. 2016. "Leadership Development Guidance Note." Background paper for the report The Learning Generation: Investing in education for a changing world. Teach for All (TFA). <sup>8</sup> OECD 2014. "TALIS 2013 Teaching & Learning international Survey." Paris; OECD

<sup>9</sup> Wolfenden, F., Buckler, A., Santos, C. & Mittelmeier, J. 2018. "Re-envisioning and Strengthening the Education Workforce Initial Literature Review." New York: Education Commission

<sup>10</sup> De Grauwe, A. 2008 "School monitoring systems and their impact on disparities. Overcoming inequality: why governance matters". Paper commissioned for the EFA Global Monitoring Report 2009, Overcoming Inequality: why governance matters. Paris: UNESCO

<sup>11</sup> Leithwood, K. 2013."Strong districts & their leadership". Toronto, Ontario: Ontario Institute of Education Leadership, see also case study #2.

<sup>12</sup> Gallagher, E., Hallgarten, J. and Jones, C. 2019. "A 'Learning Partner' formative evaluation of STIR Education's Intrinsic Motivation model." Education Development Trust, DFID.

<sup>13</sup> Godwin, Katie and Amy Bellinger. 2019. "Why Do We Need to Rethink the Education Workforce?" Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>14</sup> Bennell, P., & Akyeampong, K. 2007. "Teacher motivation in sub-Saharan Africa and south Asia". London: DflD. And: Godwin, Katie and Amy Bellinger. 2019. "Why Do We Need to Rethink the Education Workforce?" Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>15</sup> Godwin, Katie and Amy Bellinger. 2019. "Why Do We Need to Rethink the Education Workforce?" Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>16</sup> Atherton, Paul, Alasdair Mackintosh, and Alfonso Accinelli with Caine Rolleston. 2019. "Planning, Costing, and Financing the Education Workforce." Forthcoming Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>&</sup>lt;sup>1</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>17</sup> Godwin, Katie and Amy Bellinger. 2019. "Why Do We Need to Rethink the Education Workforce?" Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>18</sup> Atherton, Paul, Alasdair Mackintosh, and Alfonso Accinelli with Caine Rolleston. 2019. "Planning, Costing, and Financing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>19</sup> Data from http://data.uis.unesco.org/#

<sup>20</sup> Global Partnership for Education 2017 "How GPE supports teaching and learning." Policy Brief September 2017. Washington DC. Global Partnership for Education

<sup>21</sup> Global Partnership for Education 2013 "More children learning in Mozambique." Blog by the GPE secretariat published July 11,2013. <u>https://www.globalpartnership.org/blog/more-children-learn-mozambique</u>

<sup>22</sup> Mulkeen, A., Ratteree, A. W. & Voss-Lengnik, I. 2017 "Teachers and teacher policy in primary and secondary education - Discussion Paper Education." Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

<sup>23</sup> Wedgwood, R. 2007 "Education and Poverty Reduction in Tanzania." *International Journal of Educational Development* 27 (4) pp.383-396

<sup>24</sup> Mulkeen, A. 2010 "Teachers in Anglophone Africa." Washington, DC: The International Bank for Reconstruction and Development / The World Bank.

<sup>25</sup> Kingdon G, Aslam M, Rawal S, Das S. 2013 "Are contract and para-teachers a cost-effective intervention to address teacher shortages and improve learning outcomes?" London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

<sup>26</sup> Mulkeen, A., Ratteree, A. W. & Voss-Lengnik, I. 2017 "Teachers and teacher policy in primary and secondary education - Discussion Paper Education." Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).
 <sup>27</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>28</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission

<sup>29</sup> See for example the Camfed learner guide program discussed in Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission. Also and the GATE program, described in more detail later in this paper.

<sup>30</sup> Mulhadiran, Khartik 2015 "A new approach to public sector hiring" Paper presented at NCAER-Brookings India Policy Forum, New Delhi, 15<sup>th</sup> July 2015 <u>http://www.ncaer.org/uploads/photo-</u>

gallery/files/1436783346IPF%202015%20Karthik%20Conference%20Version%20Draft.pdf

<sup>31</sup> Mulkeen, A., Ratteree, A. W. & Voss-Lengnik, I. 2017 "Teachers and teacher policy in primary and secondary education - Discussion Paper Education." Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

<sup>32</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission

<sup>33</sup> Barber, M. and J. Klein 2016 "Unleashing Greatness: Nine Plays to Spark Innovation in Education." World Economic Forum, Global Agenda Council on Education.

<sup>34</sup> Perlman Robinson, Jenny and Winthrop, Rebecca 2016 "Millions Learning: Scaling up quality education in developing countries." Washington DC: Brookings Institution.

<sup>35</sup> Lemma, B. 2006. "Plasma television teachers: When different reality takes over African education."

In L. Dahlström & J. Mannberg (Eds.), 2006 "Critical educational visions and practices

in neo-liberal times" (pp. 71–88). Sweden: Global South Network Publisher. Also Semela, Tesfaye 2014. "Teacher preparation in Ethiopia: a critical analysis of reforms." *Cambridge Journal of Education* 44:1, 113-145

<sup>36</sup> Mulkeen, A., Ratteree, A. W. & Voss-Lengnik, I. 2017 "Teachers and teacher policy in primary and secondary education - Discussion Paper Education." Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). <sup>37</sup> Ministerio de Educación, Chile 2018 "PACE: Proceso de admisión 2019." [Online] Available at:

https://pace.mineduc.cl/wp-content/uploads/sites/70/2018/11/pace-oferta-2019.pdf [Accessed 21 December 2018] <sup>38</sup> Wolfenden, F., Buckler, A., Santos, C. & Mittelmeier, J. 2018. "Re-envisioning and Strengthening the Education Workforce Initial Literature Review." New York: Education Commission

<sup>39</sup> Godwin, Katie and Amy Bellinger. 2019. "Why Do We Need to Rethink the Education Workforce?" Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>40</sup> Mulkeen, A., Ratteree, A. W. & Voss-Lengnik, I. 2017 "Teachers and teacher policy in primary and secondary education - Discussion Paper Education." Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Also Mulkeen, A. 2010 "Teachers in Anglophone Africa." The International Bank for Reconstruction and Development / The World Bank. Washington, DC

<sup>41</sup> Wolfenden, F., Buckler, A., Santos, C. & Mittelmeier, J. 2018. "Re-envisioning and Strengthening the Education Workforce Initial Literature Review." New York: Education Commission

<sup>42</sup> UNESCO 2014 "Teaching and learning: achieving quality for all; EFA global monitoring report, 2013-2014." Paris: UNESCO. p247

<sup>43</sup> Mulkeen, A., Ratteree, A. W. & Voss-Lengnik, I. 2017 "Teachers and teacher policy in primary and secondary education - Discussion Paper Education." Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

<sup>44</sup> Mulkeen, A., Ratteree, A. W. & Voss-Lengnik, I. 2017 "Teachers and teacher policy in primary and secondary education - Discussion Paper Education." Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

<sup>45</sup> Open University and Plan International (2017)," It takes a village to raise a teacher: The learning assistant programme in Sierra Leone." Open University <u>http://www.open.ac.uk/about/international-</u>

development/sites/www.open.ac.uk.about.international-

development/files/files/Sierra%20Leone%20LA%20Research%20Report%20170517%20FINAL.PDF

<sup>46</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>47</sup> Gershenson, Seth andCassandra Hart, Constance Lindsay, and Nicholas Papageorge, 2017 "The Long-Run Impacts of Same-Race Teachers", IZA discussion paper 10630,; Gene Sperling and Rebecca Winthrop, 2016 "What Works in Girls Education: Evidence for the World's Best Investment." Brookings Institution.

<sup>48</sup> UNESCO Institute for Statistics (UIS) 2006 "Teachers and educational quality: Monitoring global needs for 2015." Quebec, Canada: UIS.

<sup>49</sup> Wedgwood, R. 2007 "Teacher Training Assessment for Northern States of Sudan." Khartoum, Education Action International/ UNICEF

<sup>50</sup> Liu, E., & Johnson, S. M. 2006 "New teachers' experiences of hiring: Late, rushed, and information-poor." Educational Administration Quarterly, 42(3), 324-360.

 <sup>51</sup> Best, A., Tournier, B., Chimier, C. 2018 "Topical questions on teacher management." Paris; UNESCO IIEP
 <sup>52</sup> Ramachandran, V., Béteille, T., Linden, T., Dey, S., Goyal, S. & Chatterjee, P. G. 2018 "Getting the Right Teachers into the Right Schools: Managing India's Teacher Workforce." World Bank Studies. Washington, DC: World Bank.
 <sup>53</sup> Estrada, R. 2017 "Rules vs. discretion in public service: teacher hiring in Mexico." CAF – Working paper N° 2017/11,

Buenos Aires: CAF. Retrieved from http://scioteca.caf.com/handle/123456789/1083

<sup>54</sup> See for example: National Teaching Council 2017 "National Teachers' Standards for Ghana. Guidelines." Accra: Ministry of Education, Republic of Ghana.

<sup>55</sup> Klassen, R. M., & Kim, L. E. 2018. "Teacher selection methods: A meta-analysis." TSP Working Paper 2018-1. [Online] Available at: <u>https://psyarxiv.com/muzrp/</u> [Accessed 10 December 2018]

<sup>56</sup> Klassen, R. M., & Kim, L. E. 2018. "Teacher selection methods: A meta-analysis." TSP Working Paper 2018-1. <sup>57</sup> Saavedra, Jaime and Hanna Alasuutari, Marcela Utierrez 2018 "Teachers and trust: cornerstones of the Finnish education system." World Bank blog posted December 28, 2018 <u>http://blogs.worldbank.org/education/teachers-andtrust-cornerstones-finnish-education-system</u>

<sup>58</sup> Bowles, T., Hattie, J., Dinham, S., Scull, J. & Clinton, J. 2014. "Proposing a comprehensive model for identifying teaching candidates." *Australian Education Research* 41: 365-380

<sup>59</sup> Mulhadiran, Khartik 2015 "A new approach to public sector hiring" Paper presented at NCAER-Brookings India Policy Forum, New Delhi, 15th July 2015 <u>http://www.ncaer.org/uploads/photo-</u>

gallery/files/1436783346IPF%202015%20Karthik%20Conference%20Version%20Draft.pdf

<sup>60</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission

<sup>61</sup> See section below on career progression, also Haugen, C., Klees, S., Stromquist, N., Lin, J., Choti, T., & Corneilse, C., 2014 "Increasing the number of female primary school teachers in African countries: effect, barriers, and policies." *International Review of Education*, 60(6), 753-776

<sup>62</sup> UNESCO IIEP 2017 "Decentralization in education: Examining the role of the district education office." Research brief, Paris: UNESCO

<sup>63</sup> De Grauwe, A.; Segniagbeto, K.; Maoudi, J.; Hyacinthe, G.; David, O. 2009. "*Transformer la planification et la gestion de l'éducation au Bénin par le renforcement des capacités: analyser les contraintes, identifier des solutions*." Paris: IIEP-UNESCO.

<sup>64</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>65</sup> OECD 2017 "Core skills for public sector innovation - a beta model of skills to promote and enable innovation in public sector organization. " NESTA

<sup>66</sup> Leithwood, K. 2013. "Strong districts & their leadership." Toronto, Ontario: Ontario Institute of Education Leadership.
 <sup>67</sup> OECD. 2016. "What makes a school a learning organization? A guide for policy makers, school leaders and teachers."
 Paris: OECD Publishing. Page 10

<sup>68</sup> Perlman Robinson, Jenny and Winthrop, Rebecca 2016 "Millions Learning: Scaling up quality education in developing countries." Washington DC: Brookings Institution.

<sup>69</sup> Godwin, Katie and Amy Bellinger. 2019. "Why Do We Need to Rethink the Education Workforce?" Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>70</sup> UNESCO 2014 "Teaching and learning: achieving quality for all; EFA global monitoring report, 2013-2014." Paris: UNESCO. p247

<sup>71</sup> Akyeampong, K. 2017 "Teacher educators' practice and vision of good teaching in teacher education reform context in Ghana." *Education Researcher*. Volume 46 Number 4. May 2017. <sup>72</sup> Mulkeen et al. (2017)

<sup>73</sup> Bold, Tessa; Filmer, Deon P.; Martin, Gayle; Molina, Ezequiel; Rockmore, Christophe; Stacy, Brian William; Svensson, Jakob; Wane, Waly. 2017. "What do teachers know and do? Does it matter? Evidence from primary schools in Africa (English)." Policy Research working paper; no. WPS 7956; WDR 2018 background paper. Washington, D.C. : World Bank Group.

<sup>74</sup> UNESCO 2016 "A review of evaluative evidence on teacher policy." Paris: UNESCO evaluation office

<sup>75</sup> Bramwell, Daniela, Stephen Anderson & Karen Mundy 2014 "Teachers and teacher development: a rapid review of the literature." Ontario Institute for Studies in Education University of Toronto.

<sup>76</sup> Mulkeen, A., Chapman, D., DeJaeghere, J., & Leu, E. 2007. Recruiting, retaining and retraining secondary school teachers and principals in Sub-Saharan Africa. World Bank Working Paper No. 99. Secondary Education in Africa (SEIA), Africa Region Human Development Department. Washington: World Bank.

<sup>77</sup> OECD 2014 "Indicator D6: What does it take to become a teacher?" in Education at a Glance 2014: OECD Indicators, OECD Publishing

<sup>78</sup> Hardman, Frank, Jim Ackers, Niki Abrishamian, and Margo O'Sullivan. 2011 "Developing a systemic approach to teacher education in sub-Saharan Africa: Emerging lessons from Kenya, Tanzania and Uganda." *Compare: A Journal of Comparative and International Education* 41.5 (2011): 669-683.

See also: Mattson, E., 2006. "Field-Based Models of Primary Teacher Training: Case Studies of Student Support Systems from Sub-Saharan Africa." London: DFID,

<sup>79</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>80</sup> Evans, David K., and Anna Popova. 2015 "What really works to improve learning in developing countries? An analysis of divergent findings in systematic reviews." The World Bank Research Observer 31.2 (2016): 242-270

<sup>81</sup> Evans, David K., and Anna Popova. 2015 "What really works to improve learning in developing countries? An analysis of divergent findings in systematic reviews." The World Bank Research Observer 31.2 (2016): 242-270 Huberman, Michael. "The professional life cycle of teachers." Teachers college record (1989)

 <sup>82</sup> See for example TESSA India described in Wolfenden, F., Buckler, A., Santos, C. & Mittelmeier, J. 2018. "Reenvisioning and Strengthening the Education Workforce Initial Literature Review." New York: Education Commission.
 <sup>83</sup> Mulkeen, A., Ratteree, A. W. & Voss-Lengnik, I. 2017 "Teachers and teacher policy in primary and secondary education - Discussion Paper Education." Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

<sup>84</sup> McAleavy, T., Hall-Chen, A., Horrocks, S. & Riggall, A. 2018 "Technology-supported professional development for teachers: lessons from developing countries." Reading; Education Development Trust.

<sup>85</sup> The Education Commission 2019 "Transforming the Education Workforce: learning teams for a learning generation." New York: The Education Commission

<sup>86</sup> Lewis, I., & Bagree, S., (N.d.) Teachers for all: inclusive teaching for children with disabilities. International Disability and Development Consortium. Downloaded from

https://www.eenet.org.uk/resources/docs/IDDC Paper Teachers for all.pdf

<sup>87</sup> Popova, Anna, David K. Evans, and Violeta Arancibia. 2016 "Inside in-service teacher training: What works and how do we measure it?" World Bank Policy Research Working Paper 7834.16,2016.

<sup>88</sup> UNESCO 2013 "EFA Global Monitoring Report 2013/14: Teaching and learning: achieving quality for all." Paris: UNESCO.

See also Westbrook, Jo & Durrani, Naureen & Brown, Rhona & Orr, David & Pryor, John & Boddy, Janet & Salvi, Francesca. 2013. "Pedagogy, curriculum, teaching practices and teacher education in developing countries." Education Rigorous Literature Review. Department for International Development

<sup>89</sup> Wolfenden, F., Buckler, A., Santos, C. & Mittelmeier, J. 2018. "Re-envisioning and Strengthening the Education Workforce Initial Literature Review." New York: Education Commission

<sup>90</sup> Churches, R., Korin, A. and Sims, K. 2019, in press "A global revolution in teacher research." Reading: Education Development Trust.

<sup>91</sup> Dommett, E. and Churches, R. 2018 "Bridging the gap between evidence and classroom 'clinical practice' – The potential of teacher-led randomised controlled trials to advance the science of learning" Impact Journal of the chartered college of teaching, March 07, 2018 <u>https://impact.chartered.college/article/dommett-bridging-evidence-classroom-teacher-rcts/</u>

<sup>92</sup> Mulkeen, A., & Crowe-Taft, N. 2010. "Teacher attrition in sub-Saharan Africa: The neglected dimension of the teacher supply challenge." Paris: UNESCO.

<sup>93</sup> Darling-Hammond, L. 2010. "Teacher education and the American future." *Journal of Teacher Education*, 61, 35-47. See also Darling-Hammond, L., R. Chung, F. Frelow 2002 "Variation in teacher preparation: how well do different pathways prepare teachers to teach?" Stanford University. *Journal of Teacher Education*, Vol. 53, No. 4, September/October 2002 286-302

<sup>94</sup> Chester, M. D., & Beaudin, B. Q. 1996. "Efficacy beliefs of newly hired teachers in urban schools." *American Educational Research Journal*, 33(1), 233-257.

<sup>95</sup> UNESCO 2014 "Teaching and learning: achieving quality for all; EFA global monitoring report, 2013-2014." Paris: UNESCO.

<sup>96</sup> See for example Ingersoll, R.M. 2004 "Why do high poverty schools have difficulty staffing their classrooms with qualified teachers?" Washington DC: Center for American Progress.

<sup>97</sup> Mulkeen, A., Ratteree, A. W. & Voss-Lengnik, I. 2017 "Teachers and teacher policy in primary and secondary education - Discussion Paper Education." Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

<sup>98</sup> OECD 2015. "Learning support staff: a literature review." Working Paper no 125.

<sup>99</sup> Wolfenden, F., Buckler, A., Santos, C. & Mittelmeier, J. 2018. "Re-envisioning and Strengthening the Education Workforce Initial Literature Review." New York: Education Commission

<sup>100</sup> Collins, M. 2015 "Partners for Possibility." South Africa: Knowledge Resources.

<sup>101</sup> Global School Leaders (no date) *Global School Leaders Intro.* [Accessed 8 December 2018] see also <u>https://www.globalschoolleaders.org/read-me-1-1-2/</u>

<sup>102</sup> Bruns, B.; Luque, J. 2015. "Great Teachers: How to Raise Student Learning in Latin America and the Caribbean." Washington, DC: World Bank.

 <sup>103</sup> Aslam, Monazza and Shenila Rawal. 2019. "Political Economy of the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.
 <sup>104</sup> UNESCO 2017 "Global Education Monitoring Report 2017. Accountability in education: meeting our commitments." Paris: UNESCO.

<sup>105</sup> Bansal, S. & Bhattacharya, A. 2017. "A Breakthrough in Education Reform in India." The Boston Consultancy Group <sup>106</sup> Gallagher, E., Hallgarten, J. and Jones, C. 2019 "A 'Learning Partner' formative evaluation of STIR Education's Intrinsic Motivation model." Education Development Trust, DFID

<sup>107</sup> McAleavy, T. and Fitzpatrick, R. 2018 "Promising Practice: Government Schools in Vietnam." Reading: Education Development Trust.

<sup>108</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>109</sup> Aslam, Monazza and Shenila Rawal. 2019. "Political Economy of the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>110</sup> Dumont, H., Instance, D. and Benavides, F. 2010 "The Nature of Learning: Using Research to Inspire Practice. How can the learning sciences inform the design of 21st century learning environments?" Innovative Learning Environments Project. OECD.

<sup>111</sup> Darling-Hammond, L., Hyler, M.E., Gardner, M. 2017 "Effective Teacher Professional Development." (research brief) Palo Alto, CA: Learning Policy Institute.

<sup>112</sup> Churches, R., Aghajanian, L. & Hutchinson, G. 2018 "Evidence-based supervision: An evidence-in-practice thinkpiece." Education Development Trust [Online]

<sup>113</sup> Timperley, H., Kaser, L. and Halbert, J. 2014 "A framework for transforming learning in schools: Innovation and the spiral of inquiry." Centre for Strategic Education, Seminar Series Paper No. 234, April 2014

<sup>114</sup> Wolfenden, F., Buckler, A., Santos, C. & Mittelmeier, J. 2018. "Re-envisioning and Strengthening the Education Workforce Initial Literature Review." New York: Education Commission

<sup>115</sup> UNESCO 2013 "Background and Criteria for Teacher Policy Development in Latin America and the Caribbean." Santiago: OREALC/ UNESCO

<sup>116</sup> See https://www.nycleadershipacademy.org/district-leadership/

<sup>117</sup> Mourshed, M. Barber, M. & Chijoke, C. 2010 "How the world's most improved school systems keep getting better." Washington D. C.: McKinsey.

<sup>118</sup> Snilstveit, B., Stevenson, J., Phillips, D., Vojtkova, M., Gallagher, E., Schmidt, T., Jobse, H., Geelen, M., Pastorello, M., and Eyers, J. 2015 "Interventions for improving learning outcomes and access to education in low- and middleincome countries: a systematic review." 3ie Systematic Review 24. London: International Initiative for Impact Evaluation (3ie). <u>http://www.3ieimpact.org/media/filer\_public/2015/12/31/education-review-finalreport.pdf</u>

<sup>119</sup> Wolfenden, F., Buckler, A., Santos, C. & Mittelmeier, J. 2018. "Re-envisioning and Strengthening the Education Workforce Initial Literature Review." New York: Education Commission

<sup>120</sup> Kotze, J., Fleisch, B. & Taylor, S. 2019 "Alternative forms of early grade instructional coaching: Emerging evidence from field experiments in South Africa." *International Journal of Educational Development, 66*(1), 203-213. Elsevier Ltd. <sup>121</sup> From STIRs internal documentation of their theory of change based on Ryan, R. M., & Deci, E. L. 2000. "Selfdetermination theory and the facilitation of intrinsic motivation, social development, and well-being." *American Psychologist*, 55, 68-78.

https://selfdeterminationtheory.org/SDT/documents/2000\_RyanDeci\_SDT.pdf

<sup>122</sup> Darling-Hammond, L., Hyler, M.E., Gardner, M. 2017 "Effective Teacher Professional Development" (research brief) Palo Alto, CA: Learning Policy Institute.

<sup>123</sup> Rincon-Gallardo, S. 2016 "Large scale pedagogical transformation as widespread cultural change in Mexican public schools." Journal of Educational Change (2016) 17:411–436 DOI 10.1007/s10833-016-9286-4

<sup>124</sup> Bruns, B., Costa, L., Cunha, N. 2017 "Through the Looking Glass Can Classroom Observation and Coaching Improve Teacher Performance in Brazil?" Policy Research Working Paper 8156 [Online] Available at:

http://documents.worldbank.org/curated/en/551861501523958003/pdf/WPS8156.pdf [Accessed 20 December 2018]

<sup>125</sup> Attias-Delattre, V. 2018 "Governance of the teaching profession: Requirements for entry into teaching, teacher standards, and teacher tasks, evidence from 25 countries." CIES 2018 Remapping Global Education: North –south dialogue. Mexico City, March 2018.

<sup>126</sup> Fullan, M. and Hargreaves, A 2013 "The power of professional capital. With an Investment in Collaboration, Teachers Become Nation Builders." *Journal of Staff Development*, v34 n3 p36-39 Jun 2013

<sup>127</sup> Bryk, A.S, Gomez, L.M. & Grunow, A. 2011 "Getting Ideas into Action: Building Networked Improvement Communities in Education." Frontiers in Sociology of Education

<sup>128</sup> Timperley, H., Kaser, L. and Halbert, J. 2014 "A framework for transforming learning in schools: Innovation and the spiral of inquiry." Centre for Strategic Education, Seminar Series Paper No. 234, April 2014

<sup>129</sup> UNESCO 2017 "Global Education Monitoring Report 2017. Accountability in education: meeting our commitments." Paris: UNESCO.

<sup>130</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli (Education Development Trust), Yeukai Mlambo, Ann Nielsen and Iveta Silova (Arizona State University), and Freda Wolfenden (The Open University). 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>131</sup> Leithwood, K. 2013 "Strong districts & their leadership." Toronto, Ontario: Ontario Institute of Education Leadership. <sup>132</sup> Jensen, B., Sonnemann, J., Roberts-Hull, K., & Hunter, A. 2016. "Beyond PD: Teacher Professional Learning in High-Performing Systems. Teacher Quality Systems in Top Performing Countries." *National Center on Education and the Economy*.

<sup>133</sup> Fitzpatrick, R. & Aghajanian, L. 2018 "Improving the English skills of Syrian refugees in Jordan: insights and lessons learned." Alexandria Schools Trust (AST), Education Development Trust Internal document [Accessed 11 December 2018]

<sup>134</sup> UNESCO 2016 "A review of evaluative evidence on teacher policy". Paris: UNESCO evaluation office

<sup>135</sup> Leithwood, K. 2013. "Strong districts & their leadership". Toronto, Ontario: Ontario Institute of Education Leadership.
 <sup>136</sup> Elwick, A. and T. McAleavy 2015 "Interesting Cities. Five Approaches to Urban Reform". Reading: Education Development Trust.

<sup>137</sup> Jensen, B., Sonnemann, J., Roberts-Hull, K., & Hunter, A. 2016. "Beyond PD: Teacher Professional Learning in High-Performing Systems. Teacher Quality Systems in Top Performing Countries." *National Center on Education and the Economy*.

<sup>138</sup> See case study # 6, and also Rudd, P., Poet, H., Featherstone, G., Lamont, E., Durbin, B., Bergeron, C., Bramley, G.,Kettlewell, K. & Hart, R. 2011."Evaluation of City Challenge leadership strategies: overview report." Slough: NFER.
 <sup>139</sup> Alif Ailaan 2018. 2013-2018 Five Years of Education Reforms in the Punjab. Wins, Losses and challenges for 2018-2023. Islamabad: Alif Ailaan. 50 pp.

<sup>140</sup> Crehan, L. (2016b) Exploring the impact of career models on teacher motivation. Paris; UNESCO IIEP

<sup>141</sup> Atherton, Paul, Alasdair Mackintosh, and Alfonso Accinelli with Caine Rolleston. 2019. "Planning, Costing, and Financing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>142</sup> Martin, J. 2018 "Putting the Spotlight on teacher performance." Education Think piece series. UNICEF

<sup>143</sup> Crehan, L. 2016. "Exploring the impact of career models on teacher motivation." Paris; UNESCO IIEP

<sup>144</sup> GPE 2017 "Transforming teaching in Kenya." https://www.globalpartnership.org/blog/transforming-teaching-kenya
 <sup>145</sup> See for example, de Ree, J. Karthik Muralidharan, K., Menno Pradhan, M. and Rogers, H. 2016 "Double for Nothing? Experimental evidence on the impact of unconditional teacher salary increase on student performance in Indonesia." NBER working paper no. 21806

<sup>146</sup> UNESCO 2014 "Global Education Monitoring Report: Teaching and learning: Achieving quality for all." Paris, France: UNESCO

<sup>147</sup> Bold, Tessa; Filmer, Deon P.; Martin, Gayle; Molina, Ezequiel; Rockmore, Christophe; Stacy, Brian William; Svensson, Jakob; Wane, Waly. 2017. "What do teachers know and do? Does it matter? Evidence from primary schools in Africa (English)." Policy Research working paper; no. WPS 7956; WDR 2018 background paper. Washington, D.C. : World Bank Group.

<sup>148</sup> UNESCO. 2017. "Global Education Monitoring Report: Accountability in education: meeting our commitments." Paris: UNESCO.

<sup>149</sup> Transparency International. 2013. "Global Corruption Report: Education." New York: Routledge

<sup>150</sup> Jones, Charlotte, Ruth Naylor and Tal Rafaeli, Yeukai Mlambo, Ann Nielsen, Iveta Silova, and Freda Wolfenden. 2019. "Designing the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

<sup>151</sup> Guerrero, Gabriela Juan Leon, Mayli Zapata & Santiago Cueto 2013 "Getting teachers back to the classroom. A systematic review on what works to improve teacher attendance in developing countries." *Journal of Development Effectiveness* 5:4, 466-488,

<sup>152</sup> UNESCO 2017 "Global Education Monitoring Report: Accountability in education: meeting our commitments." Paris: UNESCO.

<sup>153</sup> Churches, R., Aghajanian, L. & Hutchinson, G. 2018 "Evidence-based supervision: An evidence-in-practice thinkpiece." [Online] Available at:

https://www.educationdevelopmenttrust.com/~/media/EDT/files/insights/eddevtrust\_evidence-based\_supervision.pdf [Accessed 11 December 2018]

<sup>154</sup> Bruns, B.; Luque, J. 2015 "Great teachers: how to raise student learning in Latin America and the Caribbean." Washington, DC: World Bank.

<sup>155</sup> Churches, R., Aghajanian, L. & Hutchinson, G. 2018 "Evidence-based supervision: An evidence-in-practice thinkpiece."

<sup>156</sup> Torrance, D. 2013 "Distributed leadership: challenging five generally held assumptions." *School Leadership & Management*, 33:4, 354-372

<sup>157</sup> Heck, R. and P. Hallinger 2009 "Assessing the Contribution of Distributed Leadership to School Improvement and Growth in Math Achievement." *American Educational Research Journal*. September 2009, Vol 46, No. 3, pp659-689.

<sup>158</sup> Dolan, J., Golden, A., Ndaruhutse, S. and Winthrop, R. 2012 "Building effective teacher salary systems in fragile and conflict-affected states." Policy report. Reading: CfBT Education Trust and Centre for Universal Education at Brookings
 <sup>159</sup> Wolfenden, F., Buckler, A., Santos, C. & Mittelmeier, J. 2018. "Re-envisioning and Strengthening the Education Workforce Initial Literature Review." New York: Education Commission

<sup>160</sup> De Grauwe, A. 2007 "Transforming School Supervision into a tool for quality improvement." International Review of Education (2007) 53: 709-714. DOI: 10.1007/s11159-007-9057-9

<sup>161</sup> Asim, S, J P G Chimombo, D Chugunov, and R M Gera. 2017. "Moving Teachers to Malawi's Remote Communities: A Data-Driven Approach to Teacher Deployment." Policy Research Working Paper 8253, World Bank, Washington, DC; and Ramachandran, V., Béteille, T., Linden, T., Dey, S., Goyal, S. & Chatterjee, P. G. 2018 "Getting the Right Teachers into the Right Schools: Managing India's Teacher Workforce." World Bank Studies. Washington, DC: World Bank.
<sup>162</sup> World Bank. 2016 "Teacher management 2.0 : improving teacher deployment in Malawi." Education Global Practice; Innovations in Education - Africa. Washington, D.C. : World Bank Group.

http://documents.worldbank.org/curated/en/780321468194950346/Teacher-management-2-0-improving-teacher-deployment-in-Malawi

 <sup>163</sup> Ramachandran, V., Béteille, T., Linden, T., Dey, S., Goyal, S. & Chatterjee, P. G. 2018 "Getting the Right Teachers into the Right Schools: Managing India's Teacher Workforce." World Bank Studies. Washington, DC: World Bank
 <sup>164</sup> Smith, M., Chideme, P., Dom, C., Fenning, C., Hodson, B., Kajokot, L., Riddell, A., 2018 "Summative evaluation of UNICEF support for education in Zimbabwe EDF 2012-2015, GPE 2014-2016." Oxford; Mokoro Ltd

<sup>165</sup> Federal Democratic Republic of Ethiopia Ministry of Education EMIS and ICT directorate 2018 "Education Statistics annual Abstract 2009 E.C. (2016/17)." Addis Ababa: Federal Democratic Republic of Ethiopia Ministry of Education EMIS and ICT directorate

<sup>166</sup> Aslam, Monazza and Shenila Rawal. 2019. "Political Economy of the Education Workforce." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

# Annex: Full case studies

### Case Study #1: Targeting teacher dispositions: the teacher selection project

**Program name:** Teacher Selection Project (TSP) **Focus of program:** Strengthening teacher selection processes **Main role(s) addressed:** Teachers **Location:** UK, Australia, Finland, Lithuania, and Malawi

#### **Program overview:**

The Teacher Selection Project (TSP) is one of the first international research projects to develop contextualized teacher selection processes supported by robust research evidence. Funded by a €1.4million grant from the European Research Council and led by a team of researchers at the University of York, the TSP draws on interdisciplinary educational and organizational psychology approaches to develop contextualized, evidence-based teacher selection frameworks. Central to the TSP's approach is assessing implicit and explicit non-cognitive attributes (motivations, traits, attitudes and beliefs) that predict teaching behavior and effectiveness. The project therefore moves beyond standard candidate assessments for initial teacher education which generally focus on academic qualifications, relevant experience and other personal characteristics.

The project accomplishes this through two main mechanisms - situational judgement tests (SJTs) and multiple mini-interviews (MMIs). SJTs are a popular organizational psychology tool used in selection panels is based on their relatively high levels of predictive validity, their ease-of-use and cost effectiveness. Furthermore, research suggests that situational judgment is a valid predictor of a range of performance outcomes. In the TSP, SJTs use text and video-based tasks which require candidates to choose from a predetermined set of responses involving complex classroom scenarios. Candidate responses reveal implicit non-cognitive attributes such as empathy, communication, resilience, planning, organization and adaptability. In low-income contexts, the project adapted to using paper-based stimuli. MMIs involve a series of independent brief interview stations (approx. 6-10, lasting 5 minutes each) where candidates respond to challenging scenarios. Each interview station targets a specific non-cognitive attribute using standardized scoring protocol.

Cost: €1.4million

Scale: UK, Australia, Finland, Lithuania, and Malawi

#### **Results to date:**

In the UK, the project uses the International Comparative Analysis of Teaching and Learning (ICALT) teacher observation tool developed by the University of Groningen for classroom observations. Generally, however, the project uses secondary data from university partners who conduct their own classroom observations. Observations focus on pedagogy, interactions and non-cognitive attributes as they are more challenging to measure.

Results published in peer-reviewed publications demonstrate encouraging results showing that the project's teacher selection SJTs are reliable (reliability coefficient > 0.80) and valid (significant correlations with 7/8 interview criteria, and capable of differentiating between applicants (i.e., scores are near-normally distributed). Furthermore, the SJT was reviewed favorably by applicants, with high ratings for fairness and relevance. In the next phase of the program, the project seeks to use student evaluations to improve predicative validity and measure impact on learning outcomes starting in Bulgaria. The most recent results show SJTs are more effective predictors of pre-service teaching performance than other interview methods (Klassen & Kim, 2018; Klassen & Rushby, 2019).

#### Key drivers for success/enabling factors:

The existing solid research base on recruitment/selection processes and its effectiveness outside education especially in the medical field/health sector. The TSP has been able to build upon strong evidence from the medical sector to create a growing evidence base in education of predictive validity over the course of three years. The project has proven that predictive validity is very poor with standard methods of selection in education such as face to face interview and cover letters and more systematic approaches to effective teacher recruitment is needed (Klassen & Kim, 2019).

Support from ITE institutions and partners such as Teach First, and alignment in terms of perspectives on the importance of assessing *how* teachers are recruited as opposed to enrolment numbers was key. This awareness created greater demand for evidence to support decisions that the education sector makes in recruitment and selection. Another example is support from multiple levels of government, with Malawi as an example. High levels of support for evidence-based practice throughout the education system from the Ministry to teacher training college (TTC) levels meant the project could systematically adapt the tools to work effectively in the Malawian context with wide support. A challenge however is the lack of outcome data on teachers in Malawi generally, so there is less available information on what works and what doesn't work on teacher effectiveness there.

### Lessons learned:

Countries where teachers have higher status are more forthcoming with regards to the TSP approach. Such contexts display a strong interest in identifying if their methods are working. Competition is also a key factor. Where there is not much competition for teaching roles, selection is less important, for example in the UK. In Malawi for example, teaching is more competitive and there is a larger pool of applicants which creates a stronger desire to understand if selection processes are recruiting effective teachers.

Measuring teacher outcomes and indicators greater than a year is a challenge and few do it effectively. For this reason, establishing longitudinal outcomes is challenging if the required data is not collected early on in program design. There is often a lack of evidence in ministries or districts about teacher selection processes and how they work (in most contexts not only LICs). The project acknowledged that increased effort to access more data to make these comparisons in the initial stages would have been beneficial. Notwithstanding, this kind of data has always been a difficult thing to measure.

There is some resistance to testing of selection methods and processes. Face to face interviews are often preferred even though there is some consensus that interviews are not very predictive. When compared to other sectors such as medicine, education is novel in this way, in that it expects tacit behaviors to be observed in candidate interviews despite interviews being highly subjective.

The TSP has the potential of increasing the attractiveness of the teaching profession through the rigor, selectivity of the process as it generally leads to positive perceptions of the profession. In other fields, selection processes are highly valued and therefore raises the status of the work.

The TSP methodology is scalable though the cultural distance predicts how much adaptation is required. When contextualizing their tools, the TSP does not only focus on changing terminology but ensuring that non-cognitive attributes of teacher characteristics are fit for purpose for each context in which they work. Some non-cognitive attributes are universal however e.g. adaptability and resilience. These are scalable and can be looked at using similar kinds of SJT and MMI content after contextualizing. Some attributes however are local or national and distinct to those contexts.

#### Timeline of key milestones

- **2009-2012** Foundational research conducted on the links between teacher characteristics and effectiveness. Funding from Spencer Foundation (USA) and SSHRC (Canada) used to explore the development of teachers' self-efficacy and engagement
- 2012-2015 Initial research in the UK on developing tools to predict new teacher effectiveness carried out the University of York (funding from Social Sciences and Humanities Research Council [SSHRC, Canada] and from the University of York External Engagement Fund). Research resulted in findings that teachers' motivation (self-efficacy) and personality are associated with objectively-measured teacher effectiveness. Key publication: Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis
- **2013-2014** Multiple workshops and focus groups with education professionals in UK conducted to identify key non-cognitive attributes for novice teachers
- 2014 Development and pilot-testing of initial situational judgment test (SJT) for teacher selection. Publication: Applicant reactions to a situational judgment test used for selection into initial teacher education
- **2015** Key funding provided by European Research Council for 5-year project (2015-2020) Improving educational outcomes by transforming the selection of future teachers.

Teacher Selection Project (TSP) research team formed at University of York and initial research partners (ITE providers) identified in England, Scotland, and Northern Ireland 2016 TSP expands to additional EU countries--Finland and Lithuania--with initial identification of teachers' key non-cognitive attributes followed by development of situational judgment tests (SJTs) reflecting national and cultural contexts 2017 Initial work with German development agency (GIZ) and Malawi's Department of Teacher Education (DTED) and Ministry of Education, Science and Technology (MoEST) on identifying a model of the key non-cognitive attributes of effective teachers in Malawi. Collaborative project with representatives from DTED, GIZ, and each of the public primary Teacher Training Colleges (TTCs). Key publication: Cultural context and teacher characteristics: Exploring the noncognitive attributes of prospective teachers in four countries. 2017 Publication of article from TSP research: Developing a proof-of-concept selection test for entry into primary teacher education programs 2017-2018 Development and testing of video-based SJTs with trialing in two UK sites. Testing of user engagement (initial results show higher engagement with video-based than text-based SJTs) and predictive validity 2018 Continuation of work in Malawi focused on developing and implementing SJTs to assess noncognitive attributes of candidates for initial teacher education at the public Teacher Training Colleges 2018-2019 Initial development of multiple mini-interview (MMI) selection method at UK site, starting with identifying target non-cognitive attributes and designing of MMI station. Work begins on developing SJTs for prospective teacher selection with Bulgarian teacher education provider 2018 First data collection and analysis linking SJTs administered at selection with pre-service teachers' teaching behaviors during their teaching placements: Results show SJTs significantly predict student teachers' performance during teaching placements (whereas traditional interviews do not). Longitudinal data collection ongoing investigating links between SJT and teaching behaviors. 2018 Release of two Teacher Selection Project Working Papers: Development of an online construct-informed situational judgment test for screening applicants for initial teacher education and Teacher selection methods: A meta-analysis 2019-Further development, refinement, and implementation of SJTs in UK and international initial teacher education sites

#### **References:**

European Commission 2016 "Selection: Improving Educational Outcomes by Transforming the Selection of Future Teachers." [Online] Available at: <u>https://cordis.europa.eu/project/rcn/197857\_en.html</u> [Accessed 10 December 2018]

Teacher Selection Project (TSP) 2018 "Developing new methods to improve the selection of prospective teachers." [Online] Available at: <u>https://www.teacherselect.org/</u> [Accessed 10 December 2018]

Klassen, R. M. & Kim, L. E. 2018 "Development of an online construct-informed situational judgment test for screening applicants for initial teacher education." TSP Working Paper 2018-2. [Online] Available at: <a href="https://psyarxiv.com/64hry/">https://psyarxiv.com/64hry/</a> [Accessed 10 December 2018]

Klassen, R. M. & Kim, L. E. 2019 "Selecting teachers and prospective teachers: A meta-analysis." *Educational Research Review*, 26, pp. 32-51. Available at: <u>https://www.sciencedirect.com/science/article/pii/S1747938X18302173</u> [Accessed 17 January 2019]

Klassen, R. M. & Rushby, J. V. 2019. "The validity of ITE selection methods for predicting preservice teachers' performance in teaching placements." TSP Working Paper 2019-1. [Online] Available at: <u>https://www.teacherselect.org/media/uploads/2019/01/18/tsp-working-paper-january-2019-can-we-predict-preservice-teachers-performance-in-teaching-placements\_-19448.pdf</u>

### Key informant

Robert Klassen, International Research Team Leader, Teacher Selection Project

### Case Study #2: Strengthening district education office capacity in Punjab,

### Pakistan

**Program name:** Punjab School Reforms Roadmap **Focus of program:** Strengthening district office capacity to manage schools **Main role(s) addressed:** District level education workforce **Location:** Punjab, Pakistan

[please note that this case study is given in less detail as it was completed at a later stage in the research process]

#### Program overview

The Punjab School Reforms Roadmap improved school performance by improving the capacity of districts to manage their schools. Prior to the Roadmap, a comprehensive analysis of the district workforce discovered that weak management practices at district-level were limiting school performance. To improve school performance, the Government focused on transforming district-level capacity through the Roadmap.

The district level roles in scope included: 36 districts Chief Executive Officers with overall responsibility for each district, 1,000 Assistant Education Officers (AEOs) with administrative responsibility for schools, 3,600 DTE

(District Teacher Educators) roles across the 36 districts, which are school-facing roles with a remit to provide school-based mentoring to teachers; 144 TEs (Teacher Educators) who have formal line management responsibility for DTE performance; and 2,000 cluster heads (CTSC), serving headteachers who each oversee a cluster of schools.

Key components of the reform included:

- Strengthened recruitment processes for district-level positions with a focus on selecting for leadership skills as well as pedagogical understanding
- Removal of underperforming CEOs and DTEs
- Simplification of reporting structures to clarify and simplify accountability and ensure viable role design e.g. CTSC heads were removed from the delivery chain
- In-service training sessions for DTEs e.g. highly interactive training where DTEs watched a video of teaching and then discussed how they evaluated the teaching and what they would do to help the teacher improve
- Provision of tools for DTEs (such as coaching rubrics) to help improve quality.
- Practice and professional development: regular meetings for district officials to share best practices and learn from each other
- Monthly data packs at individual school level to help them understand performance
- · Redesign and rollout of new textbooks and teacher guides based on best practices
- Monthly monitoring of learning outcomes through simple oral tests to monitor learning levels

Results of the reforms included the establishment of monthly coaching sessions for 150,000 teachers, the provision of new textbooks and teacher guides for 60,000 schools and training to use the guides for 180,000 primary teachers. Additionally, the number of schools visited by monitoring officers each month increased from 54 percent to 88 percent. In addition, a recent report indicates that, annual teacher attendance rates have increased from 91.2 percent to 95.3 percent from 2013 to 2017. Impact on learning outcomes has not yet been fully evaluated.

#### **References:**

Alif Ailaan 2018. "2013-2018 Five Years of Education Reforms in the Punjab. Wins, Losses and challenges for 2018-2023." Islamabad: Alif Ailaan.

Punjab Delivery Unit (2015) program documentation

#### **Key informants**

Will Anderson and Fenton Whelan, consultants (Acasus) for the Punjab Schools Reforms Roadmap

### Case Study #3: Reforming teacher training and induction in Ghana

**Program name:** Transforming Teacher Education and Learning (T-TEL) **Focus of program:** Strengthening initial teacher training/pre-service education **Main role(s) addressed:** Teacher educators and teachers **Location:** Ghana (nationwide)

#### **Program overview:**

Transforming Teacher Education and Learning (T-TEL) (2014-2020) is a Government of Ghana program implemented by Cambridge Education/Mott McDonald in partnership with the Ghanaian Ministry of Education, Ghana Education Service (GES), National Teaching Council (NTC), National Council for Tertiary Education (NCTE), National Accreditation Board (NAB), National Inspectorate Board (NIB), Universities of Cape Coast (UCC), Winneba (UEW), Kwame Nkrumah University of Science & Technology (KNUST), University of Ghana (UoG), University of Development Studies (UDS) and Colleges of Education (CoEs) funded by the UK Department for International Development (DFID). T-TEL supports the implementation of the new policy framework for Pre-Tertiary Teacher Professional Development and Management in Ghana by improving the guality of teaching and learning in relevant national bodies, institutions and all 46 public Colleges of Education (CoEs) across the country. T-TEL focuses on seven key areas in the teacher education sector - policy & institutional development, leadership and management, challenge & payment by results fund, tutor professional development, school partnerships & teaching practice, curriculum reform and gender and inclusion. Practically, this entails tutors participating in weekly professional development sessions led and run by the tutors themselves, supporting college improvement plans and execution through challenge funds, observations of tutors' teaching practice at CoEs, mentoring of trainees, regular school-based visits to partner schools to support teacher trainees, as well as wider national policy activities such as the development of the new 4-year Bachelor degree in education<sup>166</sup>. Through these mechanisms, T-TEL aims to build institutional capacity, transform the delivery of pre-service teacher education and move towards a high quality, practicum focused pre-service education system.

Cost: £25 million over 6 years

Scale: Nationwide (All 46 Colleges of Education)

Timeline of key milestones:

November 2014

T-TEL started as a four-year Government of Ghana program supported by UK Aid, through an investment of £17 million.

#### March 2015

The National Policy Dialogue was held. This was a day of discussion among senior decision makers within the Ministry of Education, teacher education institutions, development partners and civil society organizations designed to improve the quality of pre-service teacher education across Ghana. The National Policy Dialogue was the first major stakeholder event in the start of a process of dialogue for the teacher education sector. This gave birth to a number of ideas that impact on the preparation of future teachers including the need for: a national vision for teacher education; developing national standards for teachers; a national competencies framework for teachers and ultimately, a new curriculum that will guide the training of teachers in Ghana.

#### June 2015

Inauguration of T-TEL Steering and Technical Committee by the Chief Director of the Ministry of Education to provide strategic direction and technical oversight over the lifespan of the program.

#### December 2015

Official Launch of T-TEL program by former Vice President, Paa Kwesi Amissah-Arthur at the Accra International Conference Centre.

#### February 2016

National Stakeholders' Forum recommends the adoption of National Teachers' Standards as the guiding principles underpinning the curriculum for all providers of pre-service teacher education.

#### March 2016

National Teaching Council (NTC) and the University of Cape Coast's Institute of Education (UCC) with support from T-TEL held a National Stakeholder Forum to articulate a vision and identify the key themes and issues that will drive a review of the DBE curriculum. A committee was inaugurated at this forum to develop a National Teacher Education Curriculum Framework (NTECF) to drive the vision of a revised curriculum for preservice education in Ghana.

#### August 2016

Challenge Fund Launched. 13 Colleges of Education signed for an initial grant of GHC 1, 286, 752.30 (approx. US\$ 260,000) to implement innovative concepts that will help improve the quality of teaching and learning in schools through various projects designed by the colleges.

#### December 2016

National Presidential and Parliamentary Elections which see the NDC government of President John Mahama replaced by the NPP government of Nana Akufo-Addo. T-TEL is recognized by the incoming government as a strong and relevant program which is contributing to important reforms of teacher education.

#### March 2017

Seven Teacher Unions endorsed the draft National Teacher Education Curriculum Framework (NTECF) and issued a communique and called on the Government of Ghana to support and provide the required resources for its implementation and sustainability. Over 1,000 Ghanaian Education Policymakers, Researchers and Stakeholders working directly or indirectly with the teacher education community equally made input on the curriculum framework.

#### April 2017

After three successful National Stakeholders Fora, a final stakeholder consultation event was held at the Accra International Trade Fair Centre where the draft curriculum framework was endorsed by participants.

#### August 2017

Minister of Education signs Cabinet Memorandum on Teacher Education Reforms. The memo requested that Cabinet approves the NTS, NTECF, the writing of a new curriculum and the conversion of Colleges of Education into University Colleges to deliver a new Bachelor of Education (B.Ed) degree with affiliated universities.

#### September 2017

Cabinet endorses memorandum for the reform of teacher education.

#### January 2018

Development of Roadmap for Teacher Education Reform setting out the practical steps required to implement the commitments in the Cabinet Memorandum.

#### February 2018

Curriculum writing guide produced by the National Council for Tertiary Education (NCTE).

#### March 2018

5 Public Universities begin writing a new B.Ed curriculum aligned to the NTS and NTECF

#### June 2018

H.E Nana Akufo Addo announces that the new B.Ed curriculum will commence in October 2018 with all 46 Colleges of Education initially affiliated to the University of Cape Coast and then to four additional public universities from October 2019.

#### July 2018

The National Accreditation Board (NAB) formally endorses the new B.Ed curriculum developed by 4 public universities working collaboratively. NAB's international panel of assessors declares the new curriculum to be 'world class'.

#### October 2018

Start of the B.Ed for new entrants into Colleges of Education.

#### Impact:

In terms of impact at the CoE level, endline data (T-TEL Phase I) reported an increase in tutors demonstrating student-focused teaching methods (26.1% to 76.9%) and the proportion of college tutors demonstrating gender-sensitive instructional methods also increased from (2.2% to 68.0%<sup>166</sup>). At the school level, endline<sup>166</sup> evaluation results demonstrated an improved proportion of beginning teachers demonstrating improved core competence in Pre-tertiary Teacher Professional Development and Management (from 1.6% to 31.8%), improved knowledge and application of basic school curriculum and assessment (from 1.6% to 32.5%) and an increase in teachers demonstrating gender-sensitive and student-centered instructional strategies (from 0.5% to 19.1%). At the classroom level, evaluations and observations of the program reported that pupils benefit from more engaging classroom settings, more visual displays and there are active efforts from teachers to engage learners creatively catering to their diverse needs.

#### Key drivers for success/enabling factors:

Pre-service reform is typically more testing than in-service realignment and high levels of political will and political backing are key for providing a conducive environment for deep systemic change. The main driver for T-TEL's success is strong political will at all levels, national, regional, district and school level. Whilst there was some institutional resistance to change, favorable policy conditions such as the officallyy legislated cabinet memorandum from the Presidency acted as the institutional anchor needed to support policy change.

Policy change and updated frameworks such as the Quality Assurance and Accreditation Assessment Instrument (QAAAI)<sup>166</sup> have helped democratize decision making at the CoE, clarified expectations and helped processes become less bureaucratic which has increased the efficacy of the program's work.

Ongoing government support and genuine partnership was also crucial for the program's success in addition to leveraging the knowledge and expertise of existing structures such as the NCTE. T-TEL seeks to support and work through these structures to ensure ownership and sustainability. Partnership was built through early and frequent engagement with a range of stakeholders as well as regular opportunities for continued engagement such as frequent policy dialogues, conferences, regular stakeholder meetings and steering group committees with key government officials, universities as well as other institutions in the Ghanaian education space.

Another key aspect of T-TEL is its philosophy of leveraging local expertise in order to increase the relevancy of its work in the Ghanaian context. The team largely consists of in-country Ghanaian experts with decreasing levels of technical assistance from international colleagues over the duration of the programme. Increasingly this expertise is being leveraged from talented individuals within Colleges of Education as well as expert members of the T-TEL team. This also means that costs of developing materials and providing technical advice have been reduced and it increases the sustainability of the model by leveraging existing structures and local knowledge.

#### Lessons learned:

Large scale training programmes often use cascade or intensive face-to-face training which can be ineffective as well as labor and cost intensive. Furthermore, the systems around training - per diems and other financial incentives act as external motivation and do not promote behavioral change. T-TEL initially utilized some workshop training sessions but shifted towards CoE based professional development. The behavior change mechanism was built into CoEs through weekly professional development sessions, facilitated by members of CoE staff, which have no financial incentives but are viewed as an opportunity for career development. Average attendance at these meetings is high (approximately 71%), costs have reduced, and these sessions have acted as a method of cultivating intrinsic motivation among tutors.

Developing materials and harnessing local expertise is key to facilitate genuine co-creation. Tutors at CoEs co-develop handbooks with T-TEL program staff to promote ownership of materials and to ensure it is relevant to the context and their specific needs.

Collecting the right data from the outset to demonstrate impact is crucial. More creative thinking around collecting data beyond project indicators to illustrate impact would provide additional learning for the project as well as facilitating more knowledge sharing other similar interventions and partners.

The role of the tutor alongside other role holders (such as mentors, head teachers and district education officials) who operate at the CoE level and below needs to be better harnessed to drive better outcomes at the school level. Though there is good evidence of impact at the college level, the program identified that working with over 2000 partner schools inherently presents more challenges than working with 46 CoEs. T-TEL has identified that it has not seen the rate of desired behavioral change in partner schools due to their number but is increasing its focus on this area.

In order to increase sustainability and change which will continue beyond the life of the programme, reducing costs – through reducing international technical assistance for example, keeping the program low tech and leveraging existing networks, structures and expertise are key.

Truly embedding gender sensitive practices and structures has been challenging. Though there is one gender champion in each CoE, gender is often ignored by leadership. Gender responsive improvement plans based on T-TEL score card assessments and payment by results (PBR) is supporting change in this area.

### **References:**

Cambridge Education (n.d.) "Teaching in Ghana: turning the barrier into the solution." [Online] Available at: <u>https://www.camb-ed.com/article/239/t-tel-ghana</u> [Accessed 3 December 2018]

Fynn, E., Fletcher, J. Lugg, R. and Ross, J. 2018 "Transforming Teacher Education and Learning: Evidence of Impact from Ghana." [PowerPoint presentation] Comparative and International Education Society Conference 2018. [Accessed 4 December 2018]

JMK Consulting 2018 "Endline Survey: Transforming Teacher Education and Learning (T-TEL)" Accra: T-TEL [Online] Available at: http://www.t-tel.org/files/docs/Learning%20Hub/Research%20and%20evidence%20-%20teacher%20education%20in%20Ghana/Final%20Endline%20Report,%20August%202018.pdf [Accessed 4 December 2018]

Transforming Teacher Education and Learning (T-TEL) 2017 "Longitudinal Study" [Online] Available at: <u>http://www.t-tel.org/files/docs/Institutional%20Development/Longitudinal%20study%20report.pdf</u> [Accessed 4 December 2018]

Transforming Teacher Education and Learning (T-TEL) 2018a "About Us/What is T-TEL?" [Online] Available at: <u>http://www.t-tel.org/home.html</u> [Accessed 3 December 2018].

Transforming Teacher Education and Learning (T-TEL) 2018b "Our work." [Online] Available at: <u>http://www.t-tel.org/about/our-work.html</u> [Accessed 3 December 2018].

Transforming Teacher Education and Learning (T-TEL) 2018c "Gender and Inclusion." [Online] Available at: <u>http://www.t-tel.org/our-work/gender-and-inclusion.html</u> [Accessed 3 December 2018].

Transforming Teacher Education and Learning (T-TEL) 2018d "Mainstreaming Gender Responsiveness into Ghana's Teacher Education System." [Online] Available at: <u>http://www.t-tel.org/files/docs/Institutional%20Development/T2\_MAINSTREAMING,%20GENDER%20RESPONSIVENESS</u> <u>%20INTO%20GHANA%E2%80%99S%20TEACHER%20EDUCATION%20SYSTEM.pdf</u> [Accessed 3 December 2018].

Transforming Teacher Education and Learning (T-TEL) (n.d) "T-TEL Theory of Change Diagram." [Online] Available at: <u>https://www.t-tel.org/files/docs/Institutional%20Development/T-</u> <u>TEL%20Theory%20of%20Change%20Diagram\_web\_P\_%20Aug2016.pdf</u> [Accessed 3 December 2018].

Waistell, D. 2018 "Driving Teacher Performance" [PowerPoint presentation] Comparative and International Education Society Conference 2018. [Accessed 3 December]

### Case Study #4: Multimedia approach to improving English in Bangladesh

Program name: English in Action (EIA)
Focus of program: Strengthening continuous in-service teacher professional development through technology
Main role(s) addressed: Teachers
Location: Bangladesh

### **Program overview:**

Through mobile phones, print materials and peer to peer learning, English in Action aimed to improve the English language skills of English language teachers in 64 districts across 7 divisions. The innovative 10-year program was funded by the UK Department for International Development (DFID) and implemented by a consortium led by Cambridge Education, the Government of Bangladesh (GoB), BBC Media Action, The Open University, UK and two national NGOs - Underprivileged Children's Educational Program (UCEP) and Friends in Village Development Bangladesh (FIVDB) between 2008 and 2018. Underpinned by international literature on enabling factors for improving educational quality<sup>166</sup>, the EIA schools program included new classroom activities for teachers and students, audio-visual professional development and classroom resources made available at low cost through memory (SD) cards on teachers' mobile phones, with supporting print materials; on-going support through paired teachers in schools, regular locally-based meetings of teachers led by Local Teacher Facilitators (TFs)<sup>166</sup> and launch workshops. EIA teacher professional development materials and classroom resources were linked to the national textbook, English for Today, enabling teachers to incorporate activities and practices into their lessons. The program worked closely with existing government systems such as upazila<sup>166</sup> staff (in over 230 upazilas) who were involved in field level monitoring and many of the EIA Teacher Facilitators became Master Trainers from the formal Government teacher development programmes. As a result of this collaboration, the role of upazila staff has also been strengthened and the program has been embedded in wider national efforts to improve quality education. For example, in 2018, the Directorate of Primary Education in Bangladesh added EIA experience as one of their key selection criteria during the selection of upazila based Teacher Facilitators/Trainers. EIA content is also used in training manuals for education officers outside of the program.

Cost: Approx. £25 million

Scale: 64 districts across 7 divisions

### Timelines/project milestones:

45	Phase 2-Pilot (2008–11)			Phase 4:	
Phase I (2008)	Phase 3: Upscalin           2008-10         2010-11           (2011-14)		Phase 3: Upscaling (2011–14)	Institutionalization (2014–17/8)	
Initial design	Baseline and developmental testing	Pilot cohort 700+ teachers	Cohort 2 (2011–12) Cohort 3 (2013–14) 12,000 teacher total	40,000 teachers	

The four phases of EIA's development (after Power et al, 2019:2)

### Impact:

Baseline studies showed that in 90% of English lessons observed, teachers spoke from the front of the class, spoke almost exclusively in Bangla, asked closed questions and provided few opportunities for student participation beyond choral responses. EIA demonstrated early impact and after four months teachers' English had improved, which was sustained throughout the life of the program. Post-intervention research findings showed teaching interactions were predominantly in English (Over 90%) and teachers demonstrated more interactive pedagogy. With the new opportunity to speak and practice English, students learned more. In three successive studies on student outcomes, at an increasingly large scale, every cohort of EIA students (both primary and secondary) improved proficiency in English Language compared to the baseline, with more students passing the assessment<sup>166</sup>. At the primary level in particular, baseline pass rates were 36%, with subsequent endline pass rates increasing to between 50% and 70% (14%pts – 34%pts increase over the 36% baseline). Those who participated in EIA were also reported to have strong approval for the communicative approach and saw improved learning and motivation in their students. It was reported that fewer students found English difficult to learn.

As the scale of EIA's reach to teachers and students increased and the program became increasingly institutionalized, and costs became comparable to those of Government of Bangladesh teacher development programs. Yet for similar levels of inputs, much greater results were achieved, in terms of improvements in teacher understanding, classroom practice and student learning outcomes.

#### Key drivers for success/enabling factors:

Top down and bottom up approaches are crucial for advocacy. For longer term programs such as EIA and in contexts where government officials change frequently, building a wide and versatile pool of advocates and supporters support program longevity, sustainability and transitions from pilot phase to scale up. Teachers, headteachers and government at different levels were also strong advocates of the program and decentralized program management also contributed to its success.

Collaboration with middle tier staff, that is, upazila staff and other education officers not only strengthened learning outcomes at the classroom level but improved technical skills at the district level. Upazila staff normally function in an administrative capacity and the process of monitoring was often deemed as intimidating. Through EIA, there was a big shift in this perception and upazila staff's technical capacity was geared towards observing for behaviours and characteristics of a 'learning classroom' and to provide more constructive feedback to teachers as opposed to conducting administrative checks only. Upazila staff and TFs working together to support teachers at the cluster level through meetings and forums was a particularly powerful exchange and cultivated a new sense of understanding and value between school and upazila level actors.

Building a strong locally led program is key for program resilience for sustainability. Due to political volatility and security issues, especially in recent years, meant having a locally based program which had strong ownership at the upazila and school levels made EIA quite resilient and reinforced their established local networks.

Scaling was central to the design of the program to ensure consistency in core messaging and quality of teacher development materials. This resulted in sustained improvements of teachers' English during the life of the program. Likewise for students. The program purposely focused its design on video content and not face to face training or a cascade model as research highlights its reduced effectiveness at each tier of training.

Inclusion underpinned the design and program implementation at three levels. At the operational level, the program ensured districts were chosen in alignment with national profiles of depravation to ensure the full spectrum of contexts were catered for. At the school level, developing teacher content to enhance inclusive pedagogy through communicative English teaching ensured all students could participate fully in lessons including those with learning difficulties. This included children with disabilities, minority groups and girls for example. Lastly, the program aimed to be inclusive of its participants, that is, teachers. By not relying on residential face to face training, female teachers were able to fully access professional development opportunities and not constrained by logistical challenges and cultural expectations of travel

### Lessons learned:

**Teachers learn through their own practice and this what drives better teaching and enhanced learning.** Central to EIA's success was the school-based nature of learning and support which was enhanced through collaboration with paired teachers and headteachers. This was a deliberate choice rather than selecting an individual school based 'champions' who may work in silos and lack wider support. Cluster level meetings further harnessed this learning through school-to-school sharing of experiences and developed shared understanding and practical actions for how EIA's methods could be successful in the local context.

**Positive change in and of itself can be a motivator.** Whilst the project did not have formal accountability structures<sup>166</sup>, once evidence of learning was clear, in addition to increased enrolment, positive changes in student mindsets and increased enjoyment of lessons, teachers, headteachers and education officials alike sought to achieve similar results elsewhere and therefore took a strong interest in the program. Rather than punitive monitoring and accountability approaches, EIA sought to further establish teachers as professionals with autonomy and sought to engage them in a supportive professional development journey.

**Tradeoffs between scale and cost in a technology program.** The trajectory of scale up started with a pilot of a few hundred teachers, to thousands and finally institutionalization. As such, the financing available for each teacher decreased as EIA continued to scale up. This ensured the program chose the most effective design elements to take forward in each phase. For example, the program moved from supplying mobile equipment and speakers, to teachers using their own phones and eventually local authorities funding the speakers which was a huge shift. The program identified that projects are often expected to continually provide resources, however 85% of schools bought their own speakers building on their desire to see change. Though small, a key enabler for this shift was the GoB's SLIP fund/grant for such purchases and official circulars from government encouraging schools to invest in speakers and other resources to support learning. A stronger enabler were accessible testimonies of tangible change made by the program and the desire of schools and education officials to emulate positive results.

#### **References:**

English in Action (EiA) (n.d-1) "EIA Schools: Body of Evidence" [Accessed 17 December 2018]

English in Action (EiA) (n.d-2) "Upazilas as champions of change in English language teaching and learning!" [Online] Available at: <u>http://www.eiabd.com/publications/evidence.html?download=46:upazila-as-</u> <u>champions-of-change-in-english-language-teaching-and-learning</u> [Accessed 20 December 2018]

English in Action (EiA) (n.d-3) "English in Action programme provides research evidence showing changes in perceptions, classroom practice and learning outcomes" [Online] Available at: <a href="http://www.eiabd.com/publications/evidence.html?download=42:eia-provides-research-evidence-showing-changes-in-perceptions,-classroom-practice-and-learning-outcomes">http://www.eiabd.com/publications/evidence.html?download=42:eia-provides-research-evidence-showing-changes-in-perceptions,-classroom-practice-and-learning-outcomes</a> [Accessed 20 December 2018]

English in Action (EiA) (n.d-4) "Teachers' experiences of school-based teacher development in support of communicative English language teaching in Government schools in Bangladesh." [Online] Available at: <a href="http://www.eiabd.com/publications/evidence.html?download=40:teachers%E2%80%99-experiences-of-school-based-teacher-development-in-support-of-communicative-english-language-teaching-in-government-schools-in-bangladesh">http://www.eiabd.com/publications/evidence.html?download=40:teachers%E2%80%99-experiences-of-school-based-teacher-development-in-support-of-communicative-english-language-teaching-in-government-schools-in-bangladesh</a> [Accessed 20 December 2018]

English in Action (EiA) 2018a "About EiA." [Online] Available at: <u>http://www.eiabd.com/about-eia/eia-introduction.html</u> [Accessed 20 December 2018]

English in Action (EiA) 2018b "English in Action's impact in schools." [Online] Available at:http://www.eiabd.com/english-in-action%E2%80%99s-impact-in-schools.html [Accessed 20 December 2018]

English in Action (EiA) 2017 "District Training Coordinators across the country are informed about EIA initiatives." [Online] Available at: <u>http://www.eiabd.com/news/latest-news/373-district-training-coordinators-across-the-country-are-informed-about-eia-initiatives.html</u> [Accessed 20 December 2018]

Power, T., Gater, R., Grant, C. & Winters, N. 2014. "Educational Technology Topic Guide." HEART Topic Guides. London: The Health & Education Advice & Resource Team (HEART). [Online] Available at: <u>http://oro.open.ac.uk/41070/1/2014.pdf</u>

Power, T., Eyres, I., and McCormick, R. 2019 "Effecting Change Within and Across a National Education System." In Eyres, I., Power, T., and McCormick, R., editors, *Sustainable English Language Teacher Development at Scale. Lessons from Bangladesh.*, Introduction, pages 1–5. Bloomsbury Publishing.

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: Final report. Education rigorous literature review." EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

#### Key informants:

Tom Power, Programme Director, English in Action Claire Hedges, Senior Project Manager, English in Action

### Case Study #5: STIR Education: harnessing teacher intrinsic motivation in India and Uganda

**Program name:** STIR Education **Focus of program:** Fostering intrinsic motivation for improved teaching practice **Main role(s) addressed:** Teachers and education system officials **Location:** Delhi, India; Uganda (nationwide)

#### **Program overview:**

STIR Education's Intrinsic Motivation approach has been applied in many countries across the world. It has been operating in Uganda and Delhi since 2013 and 2012 respectively. In Delhi, the intervention has been funded and implemented in partnership with the Delhi state government, and the State Council for Education, Research and Training (SCERT). In Uganda, the program is funded as part of a larger DFID education program. Their government partners are the Ministry of Education and Sport (MOES) and the Teacher Instructor Education and Training department (TIET). STIR's mission is to support governments to foster intrinsic motivation in teachers and other education system officials. Their approach involves working in partnership with governments to build teacher networks that reignite teachers' love of teaching, enabling collaboration and leading to improved teaching practice. The basic underlying theory of change is that through building the four key elements of intrinsic motivation – autonomy, mastery, purpose, and relatedness - the networks can help create a virtuous cycle of motivation. Increased motivation is the foundation on which to build confidence and allow teachers to be more innovative with classroom practice. This in turn, can contribute to improved student learning outcomes. Running such networks requires a high degree of support and coordination in order ensure the intervention is sustainable and works to respond to the different needs in each context - either through changing the structure of the coordinating function or adapting the content of network meetings. Though, in all cases, the intervention is led by existing system actors (teachers and officials). In Delhi, teacher networks are run by teachers (called Teacher Development Coordinators) who are given support and training by Mentors and district-level officials. STIR also provide support from their own staff, with the intention that, later in the program, this can be gradually removed to allow the intervention to become self-sustaining. In contrast, the Ugandan model engages school headteachers in running the school networks. The program involves a number of activities at each level of the system, including school-based teacher network meetings, coaching sessions for network leaders (either Teacher Development Coordinators) or headteachers). At the district and state/national level STIR conduct monthly alignment activities and training institutes to ensure buy-in and involvement throughout the system.

Cost: In India, the cost of the intervention per child is \$0.50 per year, in Uganda this is higher at \$1.30 per child per year. STIR is actively working to bring this cost down further over time.

#### Scale:

In Delhi: all 9 districts of Delhi (1029 schools) In Uganda: nationwide. Currently covering 29 districts (of 127) in Uganda.

#### Impact:

STIR's has big ambitions for impact at scale. This year in India their work is impacting over 200,000 teachers and 6 million children across 4 states in India. In Uganda, they currently reach 25% of school age children in government schools across the country. Their work in Delhi and Uganda has been continuously monitored and evaluated. IDInsight published a rigorous evaluation of STIR's pilot program in Delhi private schools in 2018. While, in Uganda, STIR have commissioned a number of qualitative studies and teacher motivation surveys.

There is evidence to suggest that the STIR program led to increased intrinsic motivation, based on findings from a psychometric teacher motivation survey administered during the Delhi pilot. Similarly, in Uganda, the data suggested large increases in teacher motivation, with around 63% of STIR teachers reporting that they felt they were making a positive contribution to the lives of their students. 57% of STIR teachers also reported feeling confident in their own abilities as a teacher, as compared to only 45% of their non-STIR colleagues. The data from Uganda also demonstrated improvements in STIR teachers' classroom behaviors, including increased use of questioning techniques to check for understanding (70% compared to 42% in the non-intervention group) other observed positive behaviors included improved teaching aids, increased incidents of teamwork and problem solving amongst school staff, a greater focus on student-centered learning, and improved time management. Further, during school visits it was found that 91% of STIR teachers were implementing new teaching strategies as a result of their involvement with the program.

Finally, there is also emerging evidence to suggest that the STIR program has contributed to improved schooling outcomes for students. In Uganda, the data has showed improved student attendance (an increase from 25% to 57%) and increased student engagement in the classroom (from 62% to 82%). Students in the Delhi pilot program were also found to have improved math scores (an increase of 0.15 standard deviations). This increase in math scores was seen for the whole school, even when only 20% of teachers in a school were directly involved in the programme).

### Key drivers for success/enabling factors:

Key drivers for STIRs success at scale have included strong political will. This is especially true in Delhi, where political pressure for meaningful education reform drove the decision to scale three major interventions simultaneously. STIR have harnessed this and continued to develop relationships and demonstrate impact with key government supporters in order to ensure ongoing political buy-in and alignment, even in the face of policy changes.

STIR's delivery model always ensures that no roles are duplicated. They recruit teachers and officials - either with existing skills or the potential to develop these skills - to act as change agents in the system. STIR's own staff lead and support training, and monitor progress where required. However, over time this responsibility gradually moves to the system. Just as important, however, is the amount of autonomy STIR's model encourages. The model is intended to be flexible, meaning that teachers, headteachers and system officials have the autonomy to manage their workloads, and experiment with new initiatives in their respective schools, leading to improved ownership of the program amongst participants.

Another key success factor for STIR at scale is that their approach has been highly contextualized in each location to ensure that the right system actors are in the right roles. STIR developed a system diagnostics tools which has helped them understand the key system roles and overall political economy. In Delhi, this has

led to a two-tier system to support the teacher networks. A Teacher Development Coordinator leads each individual school network, with support from a Mentor Teacher who provides overall support to a cluster of 5 school networks. In Uganda, however, the system diagnostic highlighted that headteachers would be more suitable to lead the teacher networks. As districts are smaller in Uganda, support is provided by County Coordinating Tutors (CCTs), with one CCT to two districts. The contextualization does not stop at the design phase however. STIR also conduct ongoing rapid learning cycles in order to understand where the bottlenecks are in the system. Once identified, the STIR team negotiate 'tweaks' to the intervention to unblock these.

#### Lessons learned:

Intrinsic motivation itself can be a difficult concept to understand in terms of system reform and is often the less obvious choice for investment. STIR have recognized the need to advocate for their approach while still acknowledging the importance of investment in infrastructure and technical interventions. Their key message is that a demotivated workforce can be a major barrier to the impact and sustainability of other more technical interventions. Therefore, STIR aims to show how improved motivation can be the 'soil' in which the 'seeds' of improved teaching can grow. It is the foundation for success.

In Delhi, there was clear political buy-in from the outset. However, this was less apparent in Uganda where other priorities made policy alignment hard during the initial stages. Key to ensuring alignment of goals was STIR's approach to demonstrating the necessity of focusing on intrinsic motivation. This has largely been done through demonstrating the cost-effectiveness of the intervention. The use of existing system officials and teaching staff ensures that there are very few upfront costs for the government. While it is important to recognize the other challenges within the system (e.g. teacher pay is a bigger issue in Uganda than in India), fostering teacher motivation involves a relatively simple and cost-effective system reform. STIR's approach is therefore to advocate for intrinsic motivation as the foundational issue to be tackled and thus paving the way for other essential – but costly - investments.

While involving existing system actors is a good idea for ensuring cost-effectiveness and ownership of a program, it can also come with its challenges. In both contexts, STIR have faced difficulties with keeping the roles focused on teaching and learning. In Delhi for instance, the Mentor Teachers (MTs) should be seconded to the STIR program for around 50% of their time. However, in practice, they are often dealing with ad hoc last-minute requests for administrative data, not related to teaching and learning. Having recognized this, STIR has begun to prioritize its efforts towards ensuring that the whole system have awareness and understanding of the program, even if they are not directly involved in its implementation. In the Delhi context, this means working more directly with the bureaucratic elements of government – who control MTs' workloads – to demonstrate the importance of their program and build an understanding of why MTs need ring-fenced time to focus on teaching and learning.

STIR is an organization with an active learning culture. As far as possible, they base design and implementation decisions on data. This works well in Delhi where technology enables real-time data collection (for example, using smartphones or Google forms). However, this has been a challenge in Uganda where smartphone ownership is much lower and networks are much less reliable. In both contexts, STIR have developed an approach of collecting 'good enough data', which in practice means collecting whatever data is available in order to support decision-making, even if it is not particularly sophisticated or nuanced. Their
longer-term strategy is to support and develop a culture of data-driven decision-making by the system itself to ensure that meaningful real time data is available. However, this is a slow and iterative process.

#### **References:**

Center for Education Innovations 2015 "STIR Education" [Online] Available at: <u>https://educationinnovations.org/program/stir-education</u> [Accessed 4 January 2019]

Financial Express 2018 "How Delhi government schools performed better than private schools in CBSE 12<sup>th</sup> exams" [Online] Available at: <u>https://www.financialexpress.com/india-news/how-delhi-government-schools-performed-better-than-private-schools-in-cbse-12th-exams/1183001/</u> [Accessed 3 January 2019]

IDInsight 2018 "Impact of STIR's programming on teacher motivation and student learning Endline report" [Online] Available at: <u>https://www.idinsight.org/projects/2018/8/23/empowering-teachers-to-improve-education-outcomes</u> [Accessed 3 January 2019]

Jeevan, S., Terwindt R., Townsend J., Gurukumar N 2018 "Finding the sweet spot: our learning journey within systems." STIR Education, unpublished.

Jeevan S., Townsend 2015 "Forging a New Deal in Education" [Online] Available at: JMK Consulting (2017) Midline Survey: Transforming Teacher Education and Learning (T-TEL) Accra: T-TEL [Online] Available at: <u>https://ssir.org/articles/entry/forging a new deal in education#</u> [Accessed 9 January 2019]

STIR Education (n.d) "STIR Education At a Glance" [Online] Available at: <u>https://stireducation.org/resources-media/At-a-Glance.html</u> [Accessed 4 January 2019]

STIR Education (n.d) "Our Learning Framework" [Internal Document]

## Case Study #6: Developing National Leaders of Education in Kenya, India and Rwanda

Program name: System Leadership in Developing Country Contexts
Focus of program: Strengthening system leadership
Main role(s) addressed: School leaders
Location: UK, Kenya, India, Rwanda

#### **Program overview:**

Education Development Trust (EdDevTrust) identified through research and evidence that ineffective school improvement and leadership development has resulted in a lack of systems approach with schools in many contexts working in isolation. To move towards a systematic approach to strengthening school leadership which is high-impact, low-cost and sustainable, EdDevTrust's system leadership program enables schools to become self-improving through by harnessing the expertise of successful school principals within a local education system - system leaders - and empowering them to act as change agents through raising leadership and teaching standards of all schools across the system.

Building on examples and evidence from high-performing education systems, such as Canada, New Zealand and England, the program has several elements: 'Statistical neighbors', that is high and low performing schools with similar characteristics but are performing differently are identified and paired. High performing school principals are trained to be 'system leaders' and benefit from high caliber training to develop their coaching & mentoring skills. Characteristics of high performing school principals are codified, and both groups of principals collaborate to clearly articulate what makes good practice in their respective contexts. Together, system leaders and their paired principal set a specific school improvement priority, co-create a strategy and after a defined period review impact. The program's theory of change suggests that creating powerful coaching relationships between school leaders; enables high-impact contextualized school improvement solutions to be codified and shared; and promotes 'learning on the job' as the most powerful form of professional development. Underpinning this is strong collective will, motivation to change and that leaders should strive for the success of all schools and their students, not just their own.

#### Cost: £50,000 for pilot in Kenya

#### Impact:

An evaluation of the NLE (National Leader of Education) program in England (which the EdDevTrust model draws inspiration from) showed impressive results. Schools supported by an NLE, an experienced headteacher with an outstanding inspection rating, improved their end of primary results by an average of 3.9% in the first year of the program. This compared to a national average of 0.9%. Through reflection and codifying excellent practices, even high performing school principals were challenged to improve further which was particularly important. The rate of improvement at the NLEs' own schools was 1.9% demonstrating this mutual benefit to both schools.

A study of NLE in the UK found that student attainment in supported schools improved much more quickly than the national average (the proportion of their pupils gaining level 4 for English and maths at Key Stage 2 increased by a total of 10 percentage points in the study period, compared to a zero increase in the national average). This also made an important stride towards closing the attainment gap between struggling schools, where the program was targeted, and the national average.

In 2016, Education Development Trust piloted the system leadership model in 42 low-cost schools in Nairobi and 19 in Mumbai. In both pilots the evaluations found rapid and statistically significant improvements in the leadership competence of mentors – both self-assessed and as reported by teachers, teaching quality in the mentees' schools and mentees' skills in giving lesson quality feedback to teachers<sup>166</sup>. In terms of improvement in leadership competence, results were statistically significant for mentors but non-significant for mentees. School leaders reported substantial changes in their schools in relation to their school improvement priority supported by evidence.

#### Key drivers for success/enabling factors:

Selecting the right system leaders was the biggest factor for the program's success. It was identified early on that the very best school principals are not only defined by achieving high outcomes. Outstanding system leaders in all program contexts had the willingness and skills to help other schools in addition to their own.

The program selected such individuals through establishing clear selection criteria as well as cultivating this mentality through training, coaching and support.

Having wider enablers for the system leadership models to flourish was crucial as the program cannot be implemented in isolation. This is key from the national level down to the school level. If the general policy direction is not moving towards a school system driven by self-improvement, this can pose a significant challenge. In the ideal state, there should be a shared sense of responsibility and collective goals for the entire system not only individual schools or settings. Without this in place, it is unlikely that the program would be impactful.

Ensuring the program was evidence driven throughout – in conversations, training, coaching and impact was challenging however the program insisted on this throughout to emphasize the importance of evidence-based change which resulted in increased motivation at school level upwards.

#### Lessons learned:

Building a system leadership model without the middle tier feeling undermined or as though the program was creating a parallel system was crucial. EdDevTrust addressed this through collaboration with the different tiers of government but started by trying to understand more about what each district role is, its function and how each role undertakes their role. The program then co-constructed its design with the middle tier officials to build deeper understanding of the model and how it could complement existing efforts. It was emphasized that accountability and monitoring functions firmly sit within the middle tier, and that system leaders were purely there for developmental reasons. As result, middle tier officials are actively involved in the selection of system leaders and participate in joint forums in order to increase representation of school led voices in decision making.

Feedback from participants in Kenya suggested that for continuous improvement to take place beyond the initial stages of the program, the model would have to move beyond one-to-one coaching relationships. The Rwandan iteration of the program therefore adapted the model and established professional learning communities where Local Leaders of Learning facilitate peer learning through group sessions with five to six school principals within a sector.

Pairing high performing and lower performing school principals was more effective than peer to peer pairing, as was done in Kenya and India respectively. This was mainly because poor practice was being recycled among lower performing school principals and higher performing principals lacked challenge or impetus to do more. Expectations were increased through high/low pairing and had a positive effect on intrinsic motivation.

In some contexts, shifting mindsets and perspectives from administrative and management functions to focusing on learning outcomes was challenging even amongst some high performing school principals. The biggest shift in this area was among mentees and this was facilitated through the coaching relationship over time.

Whilst of the utmost importance, highly contextualized local practice cannot be siloed otherwise there is the risk of recycling existing practice with no room for innovation or new perspectives. The program combined

local and international best practice through its system leaders, pairing up with school principals in the UK and through training content and resources.

#### Timeline of key milestones

2006 National Leaders of Education program launched in England
 2016 Pilots launched in India and Kenya
 Jan 2018 System leadership program launched in Rwanda

#### **References:**

Education Development Trust 2017a "System Leadership in Developing Country Contexts (NLE Playbook Part 1)." [PowerPoint presentation] [Accessed 5 December 2018]

Education Development Trust 2017b "System Leadership in Developing Country Contexts (NLE Playbook Part 2&3)." [PowerPoint presentation] [Accessed 5 December 2018]

#### Key informant

Kieran Cooke, Strategic Development Manager - Consultancy, Education Development Trust

### Case Study #7: Reforming the teaching profession in Chile

**Program name:** National System for Teacher Professional Development/Sistema de Desarrollo Profesional Docente

Focus of program: Strengthening career progression structures Main role(s) addressed: Teachers Location: Chile

#### **Program overview:**

In 2016, the Government of Chile passed the 20.903 Law (la ley N° 20.903) creating a new national system for teacher professional development which is being implemented by the Ministry of Education through the *Centro de Perfeccionamiento, Experimentación e Investigaciones Pedagógicas* (CPEIP) (Center for Further Education, Innovation and Pedagogical Research). This law was passed after extensive, multi-level consultations with key education stakeholders ranging from higher education institutions to student unions. The new career progression system forms one of the key pillars of broader educational and national reforms intended to ensure quality and equitable education for all children in Chile. All teachers and education professionals in state funded institutions irrespective of specialism and level are included in the new system. Teachers in private government subsidized schools may choose to be incorporated into the new system until 2025, when it will become compulsory for them also. Its key objective is to increase the status and value of the teaching profession by improving the standards and rigor on entry and progression throughout a teacher's career. The new system represents one of the biggest investments of the Education Reform plan and includes the implementation of a new pay scale benchmarked against distinct levels of professional development. The number of non-contact hours focused on non-teaching tasks such as lesson planning, performance reviews, peer collaboration and engaging in teacher networks, has also increased allowing

designated time for teachers to engage in collaborative tasks and professional development activities with teacher networks.

Additionally, it will create new rights for teachers to access better quality training and guidance from professional mentors from induction and over the course of their professional lives in order to support progression (from beginner to expert) on the new progression scale. As described in the law, this support will be guaranteed by the State at no cost to teachers. The system will also implement stricter requirements for entry onto teacher training courses, making accreditation obligatory. The right to teach was given to any professional in a related area. As part of the teacher evaluation and progression process, teachers will take subject content exams and prepare portfolios to demonstrate their individual development. This change in entry standards aims to promote a higher quality training program for future teachers and educators.

**Cost:** By the end of full implementation in 2026, expenditure on teacher components are estimated to be approx. US\$2.5 million annually

#### Impact:

A survey explored initial perceptions and experiences of the new reform. Some of the headline results are described here. The methods implemented by the 20.903 Law has had a positive reception among teachers (80%). They particularly emphasized the continued free professional development provided and obligatory accreditation in education/pedagogy courses. One in every three teachers stated that they are now in higher grades on the teacher development scale and expressed their contentment with the new structures and where they currently sit. Approx. 40% of teachers are very satisfied or satisfied with increases in salary. 8% did not notice any difference in pay and close to 30% were dissatisfied or very dissatisfied. Just over half of teachers surveyed were satisfied with the additional hours allocated for non-teaching activities including professional development. The remaining percentage disagreed (Elige Educar & Centro de Políticas Públicas UC, 2018).

Early impact from the reform demonstrates that increases in entry requirements for teaching qualifications has seen a reduction in absolute numbers of candidates entering the profession but this mostly affects institutions with lower levels of accreditation. Higher entry requirements can prove challenging in rural and/or disadvantaged locations. As the reform is still in its early stages, impact on teaching quality and the efficacy of the new teacher progression structure are pending.

#### Key drivers for success/enabling factors:

The government's commitment to teachers and the education system has been key in the success of the reform thus far. The level of financing allocated to the reform is unprecedented and extensive consultation among different stakeholders, involving genuine dialogue and recognition of teachers' challenges was crucial in pushing the Teacher's Plan and subsequent law through parliament. This also involved cross-party collaboration in the pursuit of achieving the collective goal of improving teaching and learning in Chile.

Chile has introduced reform incrementally. Firstly the government gathered data on student performance, then it introduced teacher evaluations on a voluntary basis, with incentives for teacher demonstrating

excellence. This gave the system time to test and develop the evaluation process, before it was became a requirement as art of the new law (Bruns and Luque, 2015).

#### Lessons learned:

According to one survey of the reform, whilst more than half of the teachers understood what the 20.903 Law was about, less than a third thought the official communication was clear and well-articulated. Furthermore, 70% of teachers recognize the need to have a performance appraisal but only 40% think the new system of assessment supports better classroom teaching/pedagogy (Elige Educar & Centro de Políticas Públicas UC, 2018).

As mentioned earlier, teachers under the reform have been allocated increased hours for non-teaching activities though teacher workloads are still relatively high. An additional, significant cost of the reform is the use of contract teachers who supplement teaching activities while full time teachers engage in non-teaching activities.

Increasing the entry requirements for teaching courses may pose challenges across the country in the longterm particularly for teaching candidates from rural and/or disadvantaged areas. PACE Chile (Programa de Acompañamiento y Acceso Efectivo a la Educación Superior), another program implemented by the Government of Chile (GoC) and 29 partner universities is addressing this by facilitating the access and progress of outstanding high school students from disadvantaged backgrounds to higher education courses in education and pedagogy. Whilst PACE Chile addresses some of these challenges this will have to be monitored carefully over the coming years.

There were two matters not addressed by the 20.903 Law - class sizes and conditions for retirement. The issue of class size is overlooked in the new policy although the Public Education Law does set out a maximum of 35 students per class. This is only for public school teachers however. Teachers in private subsidized schools therefore have no regulations around maximum class size, which average around 45 pupils per class. In terms of retirement, due to its administration, salary debts owed by government and other factors, teachers rarely retire at pension age (65 for men, 60 for women). Reasons provided for its exclusion from the Law involve the high cost implications for government in administering pensions appropriately.

#### Timeline of key milestones:

- 1. From 2017, gradual increases in university entry examination requirements for teacher applicants will be implemented. The thresholds are below:
  - 2017: 500 pts (ranking 50% or higher in overall group), or ranking 30% or higher in secondary school examination marks, or have been part of PACE Chile
  - 2020: 525 pts (ranking 60% or higher in overall group), or ranking 20% or higher in secondary school examination marks,
  - 2023: 550 pts (ranking 70% or higher in overall group) or ranking 10% or higher in secondary school examination marks

- 2. From 2017 until 2022, the gradual implementation of one-year induction and mentoring for new teachers will be implemented. The new system of teacher professional development administered at local level, has been in place since 2017.
- 3. From 2017, all public-school teachers have been incorporated into the new career system. Private government subsidized school teachers may enter the career system voluntarily from 2017 until 2025, after which it will be compulsory for all. Entry into the career system will mean an average salary increase of 30%.
- 4. Increase in non-teaching time from 2017 to 2019 (30% to 35%). Teachers in schools with school populations with over 80% classified as vulnerable or disadvantaged will have 40% paid non-teaching time. Voucher increases between 2017-2019 will pay for increased non-teaching time.
- 5. Early childhood teachers will be incorporated into the career system gradually from 2020 to 2025
- 6. By 2025 the career system will be fully in place.

#### **References:**

Sistema Nacional de Desarrollo Profesional Docente, Chile.

Ávalos, B. & Bellei, C. 2019. "Is Chilean education departing from market-oriented and new public management systems?" In Carlos Ornelas (Editor), *Politics of Education in Latin America: Reforms, Resistance and Persistence*. Boston: Brill-Sense Publishers.

Bruns, Barbara, B., Luque, J. 2015 "Great Teachers: How to Raise Student Learning in Latin America and the Caribbean." Washington, DC: World Bank.

CIAE (U Chile) CIDE (U Alberto Hurtado) and CEPPE (P.U. Católica) 2013 "Seminario Profesión Docente, El (f)actor indispensable." Available at: <u>http://www.cide.cl/documentos/profesion\_docente\_ceppe.pdf</u>

Educación 2020 (2014) "La profesión docente que Chile necesita" [Online] <u>http://educacion2020.cl/noticias/la-profesion-docente-que-chile-necesita/</u> [Accessed 10 January 2019]

Elige Educar & Centro de Políticas Públicas UC 2018 "Voces Docentes 2018. Tercera versión de la encuesta nacional a profesores y profesoras de aula. Una mirada a la implementación temprana de la Política Nacional Docente." Santiago de Chile: Elige Educar.

Eyzaguirre, S. & Ochoa, F. 2015 "Fortalecimiento de la Carrera Docente." In Propuestas de Política Pública, N° 8, Centro de Estudios Públicos, Chile. [Online] Available at: <u>https://www.researchgate.net/publication/299482432\_Fortalecimiento\_de\_la\_carrera\_docente</u> [Accessed 25 January 2019]

Ley 20.903 (2016) "Crea el Sistema de Desarrollo Profesional Docente y Modifica Otras Normas." Santiago: Ministerio de Educación de Chile.

Ruffinelli Vargas, A. 2016 "Ley de desarrollo profesional docente en Chile: de la precarización sistemática a los logros, avances y desafíos pendientes para la profesionalización." *Estudios Pedagógicos XLII, N° 4: 261-279.* 

UNESCO 2015a "Teaching careers in Latin America: Merit-based measures for professional development." *Regional Strategy for Teachers: OREALC/UNESCO Santiago*. Paris & Santiago: UNESCO [Accessed 21 December 2018]

UNESCO 2015b "Critical issues for formulation new teacher policies in Latin America and the Caribbean: the current debate." *Regional Strategy for Teachers: OREALC/UNESCO Santiago.* Paris & Santiago: UNESCO [Accessed 21 December 2018]

#### Key informants

Beatrice Ávalos, Profesora Titular, CIAE, Universidad de Chile

Carlos Vargas Tamez, Chief of the Teacher Development Unit, Regional Bureau for Education in Latin America and the Caribbean (OREALC/ UNESCO Santiago)

#### Case Study # 8: Using lesson observation data to drive improvement in Ceará, Brazil

Program name: Ceará, Brasil Focus of program: Strengthening peer learning and professional development Main role(s) addressed: Teachers and pedagogical coordinators Location: Brazil

#### **Program overview:**

To address challenges in the variation in teacher practice and quality in schools, a Brazilian federal government policy in 2013 mandated that schools free up approx. a third of teacher working hours for inschool teacher collaboration and development programs. In 2014, the Ceará education secretariat, located in the country's northeast and one of Brazil's most populous and poorest states, worked with Strategic Impact Evaluation Fund (SIEF) researchers from the World Bank to develop and test a training program for secondary schools. In partnership with Brazilian NGO, the Lemann Foundation, the Ceará state delivered a one-year program which provided feedback to secondary school teachers on their classroom practices and gave them access to expert educational coaching through one-on-one sessions delivered via Skype. The program had two main elements: Schools received benchmarked performance feedback based on an initial round of classroom observations at the end of the 2014 school year. These results were benchmarked against the top-performing school in their district, and against the averages for Ceará state, for Brazil and Stallings good practice benchmarks. Data were gathered using the Stallings "classroom snapshot" method and results were shared through school-specific bulletins that provided easy-to-compare data on indicators such as the share of class time teachers used for instruction, pedagogical techniques, classroom materials used most frequently, and the share of class time students were engaged.

Secondly, pedagogical coordinators, responsible for providing individual feedback to teachers and promoting teacher collaboration and best teaching practices within schools, participated in three face-to-face one-day training sessions with the external coaching team on key strategies for increasing instruction time and increasing student engagement. Over the year, each pedagogical coordinator also had at least two private sessions with an assigned coach via Skype. Coordinators also had access to a private website with support materials for lesson planning and for sharing videos of themselves providing feedback to their teachers, so the coaches could make suggestions. Finally, teachers and their coordinators had access to online videos filmed in Brazilian classrooms that illustrated examples from the Portuguese language version (*Aula Nota 10*) of the book by US educator Douglas Lemov, *Teach Like a Champion*.

Cost: US\$ 295,072

Scale: Ceara State, Brasil

#### Impact:

The randomized control trial (RCT) evaluation of the program found that over the course of the year, teachers' classroom practices improved, teaching time increased, students were more engaged, and students' standardized test scores improved. Student learning results were measured on two different tests—the Ceará state achievement test and the national high school exit exam.

By the end of the school year, teachers in program schools spent close to 10 percent more of their time in the classroom teaching, they achieved this by reducing time spent on classroom management and time out of the classroom. Teacher instruction time in schools that received the program increased to 76 percent of class time, as compared with 70 percent in control schools. Increases in instruction time translated into an additional 59 more hours per year, or an additional two weeks of schooling per year in program schools when compared to control schools.

The amount of time spent on classroom management, administrative tasks and teacher time off task (e.g. being out of the classroom or chatting with visitors) decreased also and in schools where teachers received mentoring and feedback, students were better engaged in classroom activities. Progress in this area was modest however and whilst teachers in the program were more likely to use interactive teaching methods, the majority of teaching still involved lecturing from the blackboard. In terms of learning outcomes, the program led to an increase in mathematics and Portuguese test results, with the strongest impacts seen in the classrooms where teachers initially had the lowest times on instruction. Students in schools that received the program scored four points higher in math and two points higher in Portuguese on the Ceará state assessment.

#### Key drivers for success/enabling factors:

The focus on teacher praxis and behavioral change being cultivated at the school level was important in embedding change. Teachers were given classroom-based examples on how to initiate change, combined with regular coaching this facilitated strong motivation to implement new activities in the classroom.

Information sharing amongst teachers created a sense of accountability in discussing results. This also built trust and a shared sense of commitment to improvement and professional growth. This was particularly important in the 'information shock' phase where teachers addressed areas in which they needed to improve.

A shared culture of results and constant improvement is critical from the government down to the school level. The State of Ceará was selected for the experiment due a long history of sustained excellent improvements in education quality at the secondary level and its ability to implement the program well. The state has a strong culture of results supported by an effective and robust supervision and accountability system. Accountability mechanisms include student assessments against other state and national benchmarks, frequent constructive dialogue at the government and school levels on areas in which to improve and rewards and incentives for best practice. More specifically, it also involved follow ups from secretariat officials if pedagogical coordinators did not attend training sessions for example. The state education secretariat also developed a highly effective communications strategy to illustrate the merits of the program, its overall aim and why collaboration was key.

#### Lessons learned:

In the initial stages, expert coaches focused on strengthening the capacity of the schools' pedagogical coordinators, who are responsible for providing individual feedback to teachers and promoting teacher collaboration and best teaching practices within schools. Prior to the program starting, Secretariat supervisors did not find evidence of systematic classroom observation at the school level by pedagogical supervisors. The program therefore engaged pedagogical coordinators differently to fulfil their defined roles in order to support teachers effectively and become a stronger school-based resource.

Scale is challenging if the enabling conditions do not currently exist. Though relatively low cost, the main cost drivers for the program were the consultants who provided expert coaching. As the program scaled at the primary level, which is managed by the municipal level of government, lack of resourcing at that level meant elements such as coaching had to be removed and such initiatives focused on the print materials to support teachers. In other states, teacher unions were a significant barrier to the introduction to the program and other states rejected the program due to program expectations and state motivations. Misinformation about the nature of the program - that it was there to monitor and scrutinize teachers - stresses the need for an effective communications strategy to convey the actual intended outcomes of the program. The overall assumptions and design of the program made it difficult to replicate in other states and program design has changed significantly in many cases.

#### **References:**

World Bank 2018 "Brazil: Can Providing Teachers with Feedback and Coaching Improve Learning? From Evidence to Policy: Learning what works for better programs and policies." [Online] Available at: <a href="https://openknowledge.worldbank.org/bitstream/handle/10986/29352/123175-rev-E2P-Brazil-Ed.pdf?sequence=1&isAllowed=y">https://openknowledge.worldbank.org/bitstream/handle/10986/29352/123175-rev-E2P-Brazil-Ed.pdf?sequence=1&isAllowed=y</a> [Accessed 20 December 2018]

Bruns, B., Costa, L., Cunha, N. 2017 "Through the Looking Glass Can Classroom Observation and Coaching Improve Teacher Performance in Brazil?" Policy Research Working Paper 8156 [Online] Available at: <a href="http://documents.worldbank.org/curated/en/551861501523958003/pdf/WPS8156.pdf">http://documents.worldbank.org/curated/en/551861501523958003/pdf/WPS8156.pdf</a> [Accessed 20 December 2018]

Key informants: Leandro Costa, Senior Economist, World Bank

The International Commission on Financing Global Education Opportunity

educationcommission.org