



## IMPROVING TEACHER QUALITY

LESSONS LEARNED FROM GRANTEES OF THE PARTNERSHIP TO  
STRENGTHEN INNOVATION AND PRACTICE IN SECONDARY  
EDUCATION

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**Clemencia Cosentino and Swetha Sridharan**

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## EXECUTIVE SUMMARY

With half of its population under the age of 25, the African continent is facing an immense opportunity and an equally immense challenge. African youth could propel the continent into an era of shared prosperity, but only if well prepared by effective educational systems. Unfortunately, these educational systems may not be preparing the next generation to participate effectively in 21st century economies.

The Partnership to Strengthen Innovation and Practice in Secondary Education (PSIPSE)—a donor collaborative—has been supporting grantees that are testing approaches to improving teacher quality. Based on a review of project documents, a web survey, and telephone interviews—the main goal of this study was to draw lessons from the experiences of these grantees as they implemented teacher training programs. These lessons and implications can inform the work of implementers in the field as well as future grant-making and strategy development among PSIPSE donors and other stakeholders seeking to catalyze systemic reforms to improve teacher quality.

This paper presents findings from our analysis, which focused on learning about ongoing efforts to **provide teacher training**, leverage or **increase teacher motivation** as a strategy to improve teacher quality, **measure the effectiveness** of these interventions, and **engage government** and other stakeholders to facilitate implementation and prepare for scale. Key findings (listed below) focus largely on *in-service* training, given most PSIPSE interventions seek to influence the classroom practices of existing teachers.

1. A robust intervention design considers key enablers and inhibitors of change (such as school size, level of support from the head teacher, ICT infrastructure, and more).
2. Developing tailored training *content* (e.g. streamlined methods to facilitate active

learning in the classroom) and employing a strategic training *structure* (e.g. a phased approach to facilitate gradual acquisition of skills) can promote the use of new pedagogies.

3. Simple, straightforward in-service teacher training models may be more easily scaled—and more successfully cascaded—than complex models that have multiple components.
4. In-service teacher training could be leveraged to strengthen pre-service training efforts and catalyze broader improvements in the teaching force.
5. A combination of intrinsic and extrinsic incentives may be needed to motivate teachers and improve teaching quality, especially at scale.

Drawing on these findings, the paper ends with considerations for the PSIPSE and other education stakeholders. Relying on analyses conducted by the World Bank as part of the Systems Approach for Better Education Results (SABER), this study suggests that mapping the policies affecting the teaching force in each country or jurisdiction of focus will enable the PSIPSE and other education stakeholders to find and support innovative solutions to identified challenges and promote the widespread adoption of successful practices. It could even foster reforms to deepen the internal coherence of teacher-focused policies in the target educational systems.

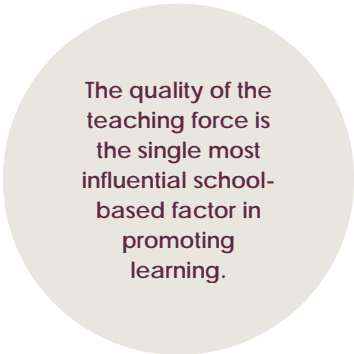
### ACKNOWLEDGMENTS

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## 1. INTRODUCTION

With half of its population under the age of 25, the African continent is facing an immense opportunity and an equally immense challenge. African youth could propel the continent into an era of shared prosperity, but only if well prepared by effective educational systems. Unfortunately, these educational systems may not be preparing the next generation to participate effectively in 21st century economies and democratic governments. Some progress has undoubtedly been made. Over the past two decades, the continent witnessed tremendous expansion in primary education followed by sweeping policy changes to offer universal secondary education to the growing number of youth completing primary school (UNESCO Institute for Statistics 2011; the Africa-America Institute 2015). We know, however, that improving participation does not necessarily improve learning or foster acquisition of the transferable skills needed to succeed in a modern economy. This is Africa’s great challenge. “We are entering a learning crisis,” notes Albert Zeufack, Chief Economist for Africa at the World Bank, speaking in October 2017 on the state of the Africa region. “We need to focus on what improves learning outcomes,” and do so while striking the “right balance between skills for productivity and skills for inclusion” (World Bank 2017). Embedded in these assertions are two important considerations: (1) that increases in learning drive economic growth (Hanushek and Kimko 2000; Hanushek and Woessman 2012) and (2) that inclusion or equitable access to learning and employment opportunities are critical to shared economic prosperity.

So we ask: What improves learning—and equitably so? The scholarly literature finds that a key pre-condition for learning is access to adequate health care and proper nutrition in early childhood, as research shows that these resources are essential for fostering cognitive development (Tanner et al. 2015; Walker et al. 2011). Once children enter the educational system, however, their family background is the strongest predictor of their learning outcomes and educational attainment (Jones and Schipper 2015). For secondary education, this finding means that we need to focus on changes that help us deliver equitable outcomes regardless of the educational support and enrichment opportunities children have at home.



The quality of the teaching force is the single most influential school-based factor in promoting learning.

Educational systems deploy multiple inputs to serve students—policies, infrastructure, management, teachers, curricula, textbooks and so on. Of these, evidence from developed and developing nations indicates that the quality of the teaching force is the single most influential factor in promoting learning (Bruns and Luque 2014; Barber and Mourshed 2007; Hanushek and Rivkin 2006). This presents a challenge for education in Africa given limitations in the size and preparation of the teaching force (particularly given broad expansion in student enrollment) (Lauwerier and Akkari 2015).

There are multiple and mutually reinforcing ways to nurture an effective teaching force, including recruiting individuals with a vocation and aptitude for teaching, providing them with high-quality pre-service training on 21st century pedagogical approaches, ensuring that they show potential to be good teachers (through certification exams, for example), placing them in supportive teaching environments with effective instructional leaders, incentivizing them to perform, and supporting them through in-

service mentoring and training at different stages in their careers (novice teachers may need support with classroom management and lesson plans, while experienced teachers may need support to upgrade their use of technology and other pedagogical techniques). Intervening in these domains is central to strengthening educational systems, such that they can deliver on their promise to ensure learning for all.

**The Partnership to Strengthen Innovation and Practice in Secondary Education (PSIPSE)** seeks to catalyze innovation and systemic change to improve participation, quality, and relevance of secondary education in developing nations to improve the life chances of marginalized young people. Formed in 2012, currently participating donor members include Dubai Cares, the Mastercard Foundation, Echidna Giving, and an anonymous donor.

To foster innovation and systemic change in these areas, the Partnership to Strengthen Innovation and Practice in Secondary Education (PSIPSE) has been supporting grantees that are testing approaches to improving teacher quality. We selected eight PSIPSE grantees that are engaged in this work for this study. Based on a review of project documents, a web survey, and telephone interviews—*this study aims to distill lessons learned from the work of these grantees* (these lessons include insights shared by grantees as well as findings inferred from their experiences).

This paper summarizes findings from our analysis. Section 2 outlines the study approach. Section 3 describes the teacher training strategies adopted by grantees. Section 4 presents cross-cutting lessons learned from ongoing efforts to provide **in-service teacher training**, leverage or **increase teacher motivation** as a strategy to improve teacher quality, **measure the effectiveness** of these interventions, and **engage government** and other stakeholders to facilitate implementation and prepare for scale. Section 5 identifies potential implications of these lessons. These lessons and implications can inform the work of implementers in the field as well as future grant-making and strategy development among PSIPSE donors and other stakeholders seeking to catalyze systemic reforms to improve teacher quality.

## 2. STUDY APPROACH

### Research Questions

This study was guided by four key questions about approaches to (1) providing teacher training, (2) motivating teachers, (3) assessing the effectiveness of the strategies used, and (4) engaging with government to implement or scale changes. (Table 2.1 lists detailed questions and sub-questions.)

**TABLE 2.1. IN-SERVICE TEACHER TRAINING STUDY: RESEARCH QUESTIONS**

| Research question  | Selected sub-questions  |
|--|---|
| <b>1. Teacher training approaches</b>  |   |
| What practices are grantees implementing to improve teacher quality?   | <ul style="list-style-type: none"> <li>• What training approaches are grantees offering? Do they focus on improving content knowledge, strengthening pedagogical skills, or both? How are grantees delivering training and how intensely?</li> <li>• How did grantees design their teacher training approaches? Are these approaches evidence-based?</li> </ul> |
| <b>2. Motivation</b>   |   |
| How are grantees, as part of their training approach, seeking to incentivize teachers or build their motivation to excel as educators? | <ul style="list-style-type: none"> <li>• How are grantees seeking to motivate teachers or foster a sense of personal accountability in teachers?</li> <li>• Are grantees using evidence-based strategies?</li> </ul>  |
| <b>3. Effectiveness</b>  |   |
| Are grantees seeking to assess the effectiveness of their strategies? If so, what have they found?                                     | <ul style="list-style-type: none"> <li>• Are grantees assessing (1) the quality of trainings, (2) teachers' use of new skills and knowledge in the classroom, and (3) the training's influence on student learning? How?</li> <li>• What have grantees found regarding the effectiveness of their teacher-training strategies?</li> </ul>                       |
| <b>4. Government and other stakeholder engagement</b>  |   |
| How are grantees engaging with government and other partners to launch, implement, and scale teacher training efforts?                 | <ul style="list-style-type: none"> <li>• What role do relevant government bodies play in the interventions? To what extent are grantees partnering with government and other stakeholders to scale up their interventions?</li> <li>• What have grantees learned about how to prepare for scale or effectively scale their interventions?</li> </ul>            |

### Data Sources

Data analyzed for this study come from the following sources:

- Project documents, including proposals, narrative reports, descriptions of program models and teacher training approaches, transcripts from earlier interviews, and reports from project evaluations
- Telephone interviews with representatives of eight grantee organizations and one key informant (19 respondents altogether)
- Web survey of grantees with monitoring information on project approaches, monitoring and evaluation activities, partnerships, challenges and lessons, and other topics



**Grantee Selection**

Based on our analysis of documents and survey responses from 48 currently active PSIPSE grantees, we identified all grantees (a total of 8) that focus on in-service teacher training or have embedded strong in-service teacher training approaches in their multi-component models (Table 2.2). As described in more detail in Section 3 below, the projects selected for this study differ in training content areas, pedagogical approaches on which teachers are being trained, mechanisms for improving teacher motivation and collaboration, and strategies for measuring teacher quality. These projects also vary in size and scope, with grant awards ranging from about \$140,000 to over \$8 million. Five are at the pilot stage, and three are engaged in expanding or scaling their approach. Note that grant awards often covered multiple components, including teacher training as well as other intervention activities. Almost all projects are based in East Africa, the PSIPSE’s current geographic area of focus. Most projects are being implemented by international non-governmental organizations (NGOs).

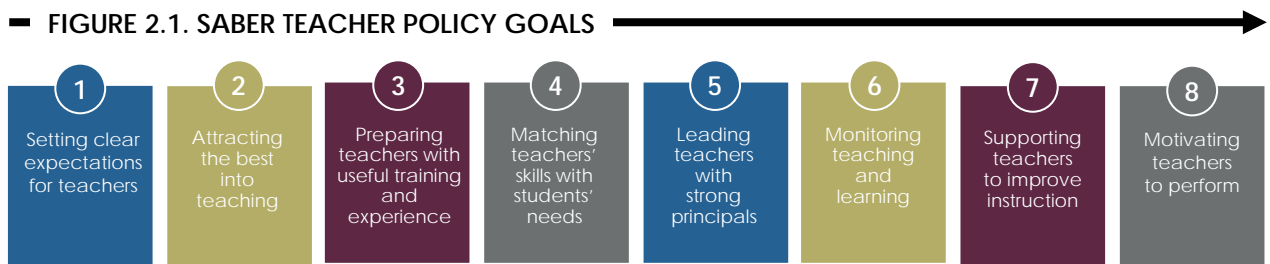
**TABLE 2.2. GRANTEES INCLUDED IN THE TEACHER TRAINING STUDY**

| Grantee                    | Type of organization | Country                        | Award Year | Stage   | Funding                  |
|----------------------------|----------------------|--------------------------------|------------|---|--------------------------|
| Aga Khan Academy           | International NGO    | Kenya                          | 2013       | Pilot   | \$300,000                |
| CRECCOM                    | Local NGO            | Malawi                         | 2014       | Pilot   | \$1,347,000 <sup>1</sup> |
| Educate!                   | Regional NGO         | Uganda, Rwanda                 | 2014       | Expand and Adapt                              | \$1,100,000              |
| GESCI                      | International NGO    | Kenya, Tanzania, Côte d’Ivoire | 2012       | Pilot to scale-up to pre-scale implementation | \$8,088,857              |
| Sazani                     | International NGO    | Tanzania                       | 2012       | Pilot   | \$500,000                |
| STIR                       | International NGO    | India, Uganda                  | 2013       | Scale-up                                      | \$6,458,226              |
| The Supply Education Group | International NGO    | Kenya                          | 2014       | Pilot   | \$143,000                |
| VSO                        | International NGO    | Tanzania                       | 2013       | Pilot   | \$591,917                |

<sup>1</sup> This amount includes funding for Miske Witt Associates International, a consulting firm that supported CRECCOM in designing, implementing, administering, and evaluating this project.

## SABER Framework

To assist governments seeking to develop a comprehensive strategy to promote teacher quality based on available empirical evidence, the World Bank developed the Systems Approach for Better Education Results (SABER). The SABER framework identifies the “functions that all high-performing education systems fulfill to a certain extent to ensure that every classroom has a motivated, supported, and competent teacher who can advance the learning of each and every student” (World Bank 2013). SABER articulates these functions as eight teacher policy goals—ranging from setting expectations and recruiting “the best” into the profession to supporting and motivating them (Figure 2.1). We use this framework as an analytical tool to identify policy areas in which PSIPSE grantees could contribute knowledge and flag gaps in programming, thereby potentially helping to guide other teacher support initiatives.



### 3. TEACHER TRAINING PROJECTS AT A GLANCE

The eight programs examined for this study provide in-service training to teachers in East African countries. They vary, however, along various dimensions (Table 3.1). They differ in scope, reaching anywhere between 40 and 7,000 teachers. They also vary in intensity, with the dosage of training offered ranging from 24 to 96 hours per teacher. Half of the programs focus on specific subjects or topics, including English; Science, Technology, Engineering, and Mathematics (STEM); and service learning. The other half do not focus on a particular subject.

Most of the training programs we examined sought to encourage and equip teachers to transition from a traditional, lecture-based approach to more interactive, learner-centered pedagogies. Specific pedagogies include the following (see Table 3.2 for more details):

**TABLE 3.1. PSIPSE-SUPPORTED TEACHER TRAINING EFFORTS**

| Grantee                    | Teachers trained in 2016 | Training hours per teacher in 2016 | Content focus      |
|----------------------------|--------------------------|------------------------------------|--------------------|
| Aga Khan Academy           | 64                       | 96                                 | Science            |
| CRECCOM                    | 402                      | 12                                 | English            |
| Educate!                   | 683                      | 40                                 | Across disciplines |
| GESCI                      | 79                       | 24                                 | STEM               |
| Sazani                     | 51                       | 48                                 | Across disciplines |
| STIR                       | 6,939                    | N/A                                | Across disciplines |
| The Supply Education Group | 40                       | 50                                 | Service learning   |
| VSO                        | 272                      | 3                                  | Across disciplines |

- Activity- and project-based learning—engaging students in interactive projects and other hands-on learning activities

For example, Aga Khan Academy (AKA) trains Kenyan teachers in activity-based science instruction and on how to support students to create science clubs and develop and run community-based science projects. These activities are intended to build students’ critical thinking and problem-solving skills.

- Competency-based teaching—focusing on using active learning pedagogies to help students acquire specific knowledge, skills, and attitudes

Educate! trains teachers in Rwanda to structure their lessons to build student competencies related to entrepreneurship.

- ICT-infused teaching—integrating ICT into classroom instruction to improve students’ acquisition of subject matter knowledge or critical thinking skills

GESCI trains STEM teachers in Kenya and Tanzania to integrate ICT approaches into classroom activities. Its goal is to deepen students’ understanding of core concepts, enable application of these concepts to real world problems, and develop students’ critical thinking, communication, and problem-solving skills.



Two grantees do not teach specific pedagogical approaches but, instead, seek to leverage the power of collaborative learning to strengthen teacher effectiveness and motivation. STIR Education develops teacher networks to facilitate joint problem solving, innovation, and shared reflection on how teachers may be impacting students. The goal is to strengthen teachers’ intrinsic motivation and ultimately improve classroom practice. Sazani Associates trains teachers in the lesson study approach, which entails developing new lessons and modifying instruction based on collaborative planning among teachers, peer observations, and student input. Table 3.2 provides more details on each of the programs studied.


One grantee seeks to shape teacher attitudes related to gender. CRECCOM discusses gender equality and empowerment issues with teachers. It brings attention to how their negative attitudes regarding the role of women in families and communities can affect their interactions with girls in the classroom, and ultimately influence female students’ performance and future. Accordingly, it encourages teachers to adopt gender-responsive pedagogical strategies, challenging them to provide high-quality teaching and learning opportunities to both boys and girls.


**TABLE 3.2. TEACHER TRAINING APPROACHES ADOPTED BY PSIPSE GRANTEES**


| Grantee                 | Pedagogy focus  | Pedagogical approach  |
|-------------------------|---|---|
| <b>Aga Khan Academy</b> | Active learning (activity-based instruction)              | <ul style="list-style-type: none"> <li>• Three trainings during holidays to train teachers on <b>ACTIVITY-BASED SCIENCE INSTRUCTION</b>, including the 7E approach (elicit, engage, explain, explore, elaborate, evaluate, extend), to build students’ critical thinking, problem solving, and research skills.</li> <li>• Teachers also trained on how to support students to create science clubs and develop and run community-based science projects.</li> <li>• Reflection meetings during term for teachers to share ideas and experiences.</li> </ul>  |
| <b>CRECCOM</b>          | Active learning; gender-sensitive pedagogy                | <ul style="list-style-type: none"> <li>• One-day trainings twice a term on <b>ENGLISH LANGUAGE LITERACY AND GENDER-SENSITIVE PEDAGOGY</b></li> <li>• English language component helps teachers improve students’ reading, writing, and critical thinking through strategies such as Story Star, Character Map, Role Play, and Description Map.</li> <li>• Gender-sensitive pedagogy entails discussing gender equality and empowerment issues with teachers and bringing attention to how teacher attitudes toward and interactions with female students may influence students’ performance and future.</li> </ul>                         |
| <b>Educate!</b>         | Active learning (in support of competency-based approach) | <ul style="list-style-type: none"> <li>• Workshops for teachers in each term on the <b>SKILLS LAB</b> approach, which has three steps (see Figure 3.1 for more detail): <ol style="list-style-type: none"> <li>1. Build: interactively share knowledge and skills</li> <li>2. Practice: have students practice skills in groups (discussion, role play, group work)</li> <li>3. Present: have groups present what they discussed</li> </ol> </li> <li>• In Rwanda, Educate! is also piloting a <b>PEER EXCHANGE</b> program, where teachers observe each other and provide feedback.</li> </ul>   |
| <b>GESCI</b>            | ICT-infused teaching and learning                         | <ul style="list-style-type: none"> <li>• Training for STEM teachers on using ICT to enhance and enrich their teaching.</li> <li>• Training has three phases: <ol style="list-style-type: none"> <li>1. <b>TECHNOLOGY LITERACY</b>: Teachers learn how to use relevant software and ICT tools</li> <li>2. <b>KNOWLEDGE DEEPENING</b>: Teachers design classroom activities that integrate ICT approaches</li> <li>3. <b>KNOWLEDGE CREATION</b>: Teachers help students incorporate multimedia and web technologies into their projects to support learning</li> </ol> </li> <li>• Training combines in-person and online courses.</li> </ul> |


| Grantee                    | Pedagogy focus   | Pedagogical approach   |
|----------------------------|--|--|
| Sazani                     | Teacher-led research and collaboration on lesson design        | <ul style="list-style-type: none"> <li>• Eight-week course (two days each week) for three teachers from each school (head teacher plus two “cascade” teachers—one experienced and one novice).</li> <li>• Teachers trained on <b>LESSON STUDY</b>, a method whereby (1) teachers jointly identify a need at their school (e.g., numeracy), (2) one teacher teaches while others observe two students and interview them to get their input, and (3) teachers review input and plan next lesson.</li> <li>• Three trained teachers cascade training to “triad” teachers at schools over an academic year (4-6 hours per week)</li> </ul>                                      |
| STIR                       | Teacher networks to improve motivation and classroom practices | <p>Five-year model:</p> <ul style="list-style-type: none"> <li>• Intensive support in the initial two years through <b>LEARNING IMPROVEMENT CYCLES</b> (LICs): each cycle lasts three to four months and consists of three meetings, during which teachers (1) identify a problem and develop a solution, (2) reflect on and adapt the solution, and (3) evaluate the solution. LICs focus on classroom environment, classroom routines, checking for understanding, and engaging all learners.</li> <li>• Lighter support in the latter three years to improve teachers’ skills in other thematic areas (e.g., 21st century skills).</li> </ul>                             |
| The Supply Education Group | Active learning (project-based instruction)                    | <ul style="list-style-type: none"> <li>• Yearly retreat for teachers to review <b>SERVICE LEARNING CURRICULUM</b>, which entails the teacher putting forward a research question related to human rights in their community, and students reflecting on this question with peers, engaging in community or textbook research, and designing a project to address the identified challenge.</li> <li>• Monthly group or one-on-one sessions for teachers based on need.</li> </ul>  |
| VSO                        | Varied learner-centric approaches                              | <ul style="list-style-type: none"> <li>• One 3-hour training for teachers on four concepts: <ol style="list-style-type: none"> <li>1. <b>THINKING</b>: facilitation of independent thinking and problem solving among students</li> <li>2. <b>QUESTIONING</b>: strategies that inform students’ level of understanding: e.g., mix of open and closed questions</li> <li>3. <b>TARGETING</b>: adaptation of strategies for different abilities in their classroom</li> <li>4. <b>ENGAGING</b>: experiments, demonstrations, games, etc. to actively involve students in learning</li> </ol> </li> <li>• These trained “teacher mentors” cascade training to peers.</li> </ul> |

The eight programs selected for this study operate in Policy Domains 5 through 8 of the SABER framework: leading teachers with strong principals, monitoring teaching and learning, supporting teachers to improve instruction, and motivating teachers to perform (Table 3.3).

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About half the grantees involve *head teachers* in their programs to support teachers in implementing what they learned during training or to create a broader enabling environment for teaching.
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All grantees have mechanisms to *monitor* changes in teachers’ use of new pedagogies, though this varies in rigor. Teacher observations are common across grantees, as is collection of data from students, but rigorous or quasi-experimental studies to *evaluate* program impact are rare.
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Some grantees are also testing approaches to providing *ongoing support* to teachers after in-service training. These methods include training teaching coordinators and principals to provide feedback based on classroom observations.
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A few grantees have formal mechanisms to motivate teachers to use skills acquired during training and improve student learning. These include very different approaches, ranging from offering financial incentives to seeking to awaken intrinsic motivation among teachers.

**TABLE 3.3. INTERVENTION ACTIVITIES, BY SABER FRAMEWORK POLICY GOALS**

|  | Aga Khan Academy   | CRECCOM   | Educate!  | GESCI   | Sazani   | STIR  | The Supply Education Group   | VSO  |
|--|--|---|---|---|--|---|--|--|
|  | 1. Setting clear expectations for teachers   |   | 2. Attracting the best into teaching  |   | 3. Preparing teachers with useful training and experience  |   | 4. Matching teachers' skills with students' needs  |  |
| <b>5. Leading teachers with strong principals</b>    |  | <ul style="list-style-type: none"> <li>Head teacher included in the training; ensures school-based continuous professional development related to training takes place</li> </ul>   |   | <ul style="list-style-type: none"> <li>School leaders responsible for creating an ICT-enabling environment</li> </ul>   | <ul style="list-style-type: none"> <li>Head teacher included in the training</li> </ul>  | <ul style="list-style-type: none"> <li>Every term, meetings for head teachers to encourage them to support teacher collaboration</li> </ul>   |  |  |
| <b>6. Monitoring teaching and learning</b>           | <ul style="list-style-type: none"> <li>Teacher observations each term by AKA teachers</li> <li>Baseline and endline data collection from students and teachers in participating schools</li> </ul> | <ul style="list-style-type: none"> <li>Head teachers conduct regular observations</li> <li>Project staff conducted observations each term, and once in conjunction with directorial inspector of education</li> <li>Baseline &amp; endline data from teachers, head teachers, students, and administrative sources in selected schools</li> </ul> | <ul style="list-style-type: none"> <li>In Uganda, observations conducted every by youth mentor, who leads the student-level entrepreneurship component</li> <li>In Rwanda, observations conducted by district trainers and peer teachers</li> <li>RCT and QED evaluations of different versions of model</li> </ul> | <ul style="list-style-type: none"> <li>Classroom observations by project coordinators (accompanied at times by government stakeholders and university partners), followed by group discussions with teachers to assess what is working well and what could be improved</li> </ul> | <ul style="list-style-type: none"> <li>Sazani staff conduct lesson observations and learning walks—informally observing four classrooms in one hour; they observe cascade, triad, and non-project teachers</li> <li>Student and teacher focus groups after learning walk</li> <li>Student performance monitoring tests in participating schools (to be administered at regular intervals)</li> </ul> | <ul style="list-style-type: none"> <li>Un-announced classroom visits</li> <li>Assessment of teacher portfolios</li> <li>RCT and quasi-experimental evaluation of different versions of model</li> </ul> | <ul style="list-style-type: none"> <li>Weekly classroom visits by project staff to assess teachers (observation summaries also include student reflections)</li> <li>Baseline data collection from pilot school and 13 comparison schools identified through networking</li> </ul> | <ul style="list-style-type: none"> <li>Two to three observations of each teacher mentor by project staff (data from these observations are analyzed regularly to track changes in four domains listed above)</li> <li>Observations with teacher mentors of teachers who were trained by teacher mentors</li> </ul> |
| <b>7. Supporting teachers to improve instruction</b> | In-service teacher training (Table 3.2) and follow-on support ↓  |   |   |   |  |   |  |  |
|  | <ul style="list-style-type: none"> <li>Feedback following teacher observations</li> <li>Micro-teaching</li> <li>Higher uptake teachers present successful strategies to other teachers</li> </ul>  | <ul style="list-style-type: none"> <li>Head teachers (who also participate in the training) observe teachers implementing new skills in the classroom and provide feedback and support</li> </ul>   | <ul style="list-style-type: none"> <li>In Rwanda, Educate! is piloting a two-year add-on to the program where teachers visit each other's classrooms, observe implementation of the Skills Lab approach, and provide feedback</li> </ul>  | <ul style="list-style-type: none"> <li>Some teachers are trained to be school-based coordinators contracted by GESCI to mentor and support other teachers participating in the program</li> </ul>   |  | <ul style="list-style-type: none"> <li>Engage head teachers to create supportive environment for teachers to collaborate and use Learning Improvement Cycles (see 5)</li> </ul>                         |  | <ul style="list-style-type: none"> <li>Feedback following teacher observations</li> </ul>  |
| <b>8. Motivating teachers to perform</b>             | <ul style="list-style-type: none"> <li>Teachers receive certificates as recognition</li> </ul>   | <ul style="list-style-type: none"> <li>Teachers report on success of new strategies to instructors and peers at subsequent trainings</li> </ul>   |   | <ul style="list-style-type: none"> <li>Teacher &amp; school awards for strong performance</li> <li>Recognition at conferences</li> <li>Accumulated credits toward certification</li> </ul>  |  | <ul style="list-style-type: none"> <li>Focus is to "reignite and sustain" teachers' intrinsic motivation</li> </ul>   | <ul style="list-style-type: none"> <li>Base incentive based on implementation</li> <li>Bonus based on performance</li> </ul>   |  |

**Across the PSIPSE portfolio, grantees are not focusing on implementing initiatives related to Domains 1, 2, 3, and 4, which center on pre-service activities (including recruitment activities to attract candidates into the teaching profession and formal pre-service training for individuals seeking to become teachers), setting expectations, and strategically placing teachers in classrooms where their skills match students' needs.**

## 4. KEY LEARNINGS

In this chapter, we summarize key learnings on four thematic areas aligned with each of the study's overarching research questions: (A) designing and implementing in-service teacher training programs, (B) building teacher motivation, (C) measuring the effectiveness of teacher training, and (D) engaging government and scaling up. These lessons learned are based on insights shared by grantees included in the study, or inferences the authors made based on the information grantees shared.

### A. DESIGNING AND IMPLEMENTING TEACHER TRAINING

#### Training focus

**Offering strategies to facilitate integration of active learning pedagogies into ongoing classroom practices may foster adoption among reluctant teachers.**

In alignment with the scholarly literature on effective pedagogies, several PSIPSE grantees are training teachers on the use of active learning approaches, such as inquiry-based instruction, hands-on activities, or group projects. However, many grantees note that although teachers participating in their trainings appreciated the importance of using active methods in the classroom, they find these methods challenging to implement given they are responsible for delivering ambitious curricula geared towards examinations, not skills. In other words, they see these methods as an additional demand with uncertain value in meeting the learning needs for which they feel accountable.

Educate! has responded to this challenge by stopping short of suggesting that teachers change their pedagogical style entirely. Rather, Educate! asks teachers to use one period a week to implement an engaging, hands-on activity—namely, its “skills lab” approach of “build–practice–present”. In the “build” step, teachers share knowledge and build skills interactively (for example by giving examples, administering quizzes, and engaging in question and answer sessions). In the “practice” step, teachers have students work in small groups and engage in a variety of exercises, including case study analysis, discussion, and role play. Finally, in the “present” step, groups share their work with the rest of the classroom. These three mutually reinforcing steps are intended to foster peer-to-peer learning and communication and critical thinking skills. The last step, in which students present the group's work, also gives teachers the opportunity to assess students' understanding of the material. This enables teachers who are reluctant to relinquish their traditional teaching methods to become comfortable with active learning approaches in a low-risk environment, in which time diverted to new activities is limited and they can continue to deliver classroom instruction as they see fit. It will be important to assess the extent to which, over time, teachers exposed to the skills lab approach devote increasing amounts of instructional time to active learning activities. An increase may signal growing awareness of the value of these pedagogical approaches and confidence in their contribution to achieving the learning goals of the required curriculum.

#### Training focus

**Teachers with low literacy in international languages (such as English) need specialized training in countries where the language of instruction switches to an international language in secondary school.**

One grantee found that in contexts where teachers' and students' English literacy is uneven, but instruction must be carried out in English, teachers need targeted support. Sazani is working in Tanzania, where the language of instruction switches from Swahili to English from standard 6 to standard 7. To support teachers who themselves have weak English skills, and build their confidence and comfort with English language instruction, Sazani trains teachers by asking them to begin their conversations in Swahili, take notes in English during these training sessions, and then engage in whole group discussions in English. The goal is to ensure a clear understanding of the concepts being discussed before moving to English to cover that same material. This grantee's approach to improving teacher quality underscores the value of leveraging strengths teachers bring to the classroom, such as their fluency in their native language.

Training  
structure

**Grantees find that offering in-service teacher trainings in phases—each lasting an adequate amount of time—allows teachers to improve their skills incrementally.**

In-service trainings often make a big ask of teachers—to shed practices they have followed for years and adopt often radically new methods they are not sure will work. Training programs need to acknowledge this challenge upfront and build in adequate time for teachers to develop a thorough understanding of the new pedagogies, become comfortable with them by testing them in the classroom, and—through trial and error—become adept at implementing them. The evolution of GESCI's model makes a strong case for ensuring that teacher training programs are carefully paced. GESCI's training model for ICT-infused STEM teaching has three stages: (1) technology literacy, when teachers learn how to use relevant software and ICT tools; (2) knowledge deepening, when teachers design classroom activities that integrate ICT approaches; and (3) knowledge creation, when teachers help students incorporate multimedia and web technologies into their own projects to support learning.

In Phase 1 of program implementation, GESCI tried to roll out all three stages over three terms. In hindsight, this timeline was not long enough for teachers to learn multiple skills of varying difficulty and begin applying them in the classroom. Mainly, GESCI found that several teachers got “stuck” on the technology literacy step. They were excited about new tools, such as presentation software, and used them to strengthen their existing lecture-based approach, but they often stopped short of transitioning to the next step of knowledge deepening, which entails “developing units and classroom activities [that] integrate in a structured way a range of ICT tools and devices to support student learning” (UNESCO 2016). The current phase of GESCI's rollout stretches the three-step approach over three years, which will allow teachers adequate time to buy into an ICT/project-based approach, and understand, internalize, and implement new teaching methods.

Training  
intensity

**In-service teacher trainings need to be offered at sufficient dosage.**

It can be difficult to reach a large number of teachers while also ensuring that each teacher receives adequate support. For example, CRECCOM found that its approach of selecting specific teachers to attend all training sessions was leading to feelings of inequity and demotivation (among teachers who were not selected). It therefore revised its implementation model to allow teachers to take turns attending

the training sessions, of which there are six altogether. After attending the training session, the teacher is expected to share new knowledge and skills with other teachers in his or her school. Although the new model is more inclusive, it could reduce teachers' exposure to trainings run by a skilled teacher trainer, and have implications for the training's overall effectiveness. In addition, the general feeling among teachers trained by colleagues is that they are getting lower-quality training, which has implementation repercussions.

School environment

### **Integrating and sensitizing head teachers could help create an enabling environment for training take-up and quality improvement.**

Several grantees pointed to the vital role that head teachers play in ensuring the success of their interventions. When head teachers are left out of the intervention, projects either stall or fail because they lack buy-in from the school administration. What is more, schools where head teachers are highly motivated and passionate about improving instructional quality and student performance generally make the most of the intervention. These head teachers behave as academic leaders in seeking to build a culture of aspiring for quality, which in turn encourages teachers to use the training to improve instruction.

Some grantees have sought to build this enabling environment where it does not exist by including head teachers in their training. For example, Sazani includes three individuals from each school—the head teacher and two other teachers—who work together to identify school needs, observe each other in the classroom, and jointly refine lesson plans. This approach ensures that head teachers are more involved and supportive once teachers return to the classroom and ideally implement what they learned during the training. CRECCOM includes head teachers in its trainings to ensure they are able to monitor and assess teachers' use of new knowledge and skills when they conduct their classroom observations, and provide feedback and support as needed.



GESCI has been particularly committed to building a strong enabling environment for teacher training. In its first phase of implementation, GESCI found that although school principals observed their teachers wield new skills in the classroom, they seemed somewhat removed from the intervention. This did not bode well for sustainability of a pedagogical approach that requires institutional resources. GESCI staff reasoned that, for the use of ICT in instruction to continue without GESCI support, schools would need to take the initiative to build a supportive environment. To facilitate this, GESCI developed the “digital school of distinction” model, which identifies four stages of ICT integration and motivates

schools to progress through these stages. This approach strengthens support from school leadership for ICT-infused teaching, builds an “ICT culture” in the school, and ensures that teachers have the infrastructure and resources they need to use ICT approaches in the classroom.

School Environment

**Considering school size—and leveraging strengths of small and big schools—is important in designing a training delivery strategy.**

Grantees find that working in small schools has significant positive externalities. For example, Sazani felt that its project was most beneficial in smaller schools, where teachers were regularly sharing experiences and ideas with one another and collectively planning around the project. (This is particularly important for their “lesson study” approach, which requires teachers to work together to develop, review, and refine lesson plans.) This type of collaboration does not happen quite as organically at larger schools. However, grantees could enable knowledge-sharing in these schools by training teachers in unified groups or cohorts—for example, all teachers in a specific department.

Engaging tertiary institutions

**Engaging teacher training colleges in in-service teacher training efforts may help identify gaps in knowledge or skills that could motivate reforms in pre-service training to better equip subsequent cohorts of teachers.**

Several grantees pointed out that teachers did not receive the preparation they needed to become effective teachers. Consequently, they use in-service training to help ensure that teachers who are already in the workforce are not using *only* traditional, rote learning-based pedagogical approaches, and that they are beginning to adopt the types of pedagogies that enhance learning and help prepare students to be

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*“If some of the things we are covering in our training were covered in the university, there would not necessarily be a need for what we are doing.”*

– Sazani Associates

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critical thinkers—such as inquiry-based, problem-based, and hands-on teaching strategies. Educate!’s approach, encouraging the use of hands-on activities during one lesson per week, is a good example. Trainings such as this one could be leveraged to improve pre-service training.

A few PSIPSE grantees are linking their in-service trainings to pre-service teacher education, although these efforts are not a focal point of their interventions. That is, influencing pre-service training is not a main goal of the intervention supported by structured activities. For example, AKA brought in staff from teacher training colleges to observe their intervention at work with the hopes of influencing them to adopt these methods. In some cases, influence on teacher training colleges is a positive externality of the training delivery approach. CRECCOM has recruited instructors from three teacher training colleges to facilitate its in-service teacher trainings, and some of these individuals report taking what they have learned back to their institutions and starting to shift the focus and delivery of their pre-service training. More purposeful, systematic, and intensive engagement of teacher training colleges in in-service training could help bring about reforms that help enhance preparation of future generations of teachers.



## Training design

The design process for in-service teacher training interventions should integrate a careful review of the literature, an in-depth context scan, and a review of government priorities.

By and large, grantees developed their intervention design somewhat organically, relying on past experience with an intervention approach, or informal observations of need. For example, Sazani's staff had previously used the "lesson study" approach to teacher training and thought it would be a good fit for its PSIPSE project, because it ensured teachers were "an integral part of the training, and that the training was not something being done to them." Supply Education Group developed its service learning curriculum when staff conducted informal visits to schools in urban slums in Kenya and recognized that these institutions were not developing the core competencies students needed to "make a difference in their communities and society." The design of the curriculum was informed by staff members' prior experience with service learning initiatives.

A few grantees conducted literature reviews and informal assessments of the context and government priorities. More systematically integrating these steps into the intervention design process could ensure that programs (1) learn from what has and has not worked in the past, (2) introduce context-relevant intervention approaches, and (3) are positioned for scale (Figure 4.1 details these steps).

### Figure 4.1. BEST PRACTICES FOR DESIGNING TEACHER TRAINING PROGRAMS

- **Literature review:** Examining existing evidence is a critical step that some of the grantees interviewed had omitted. By mining the evidence base, grantees can obtain a snapshot of promising—and less promising—approaches, and adapt successful intervention models for new contexts. Reviewing the literature can also help generate true innovation—it provides a strong understanding of what has been tried in the past and thereby facilitates the development of truly novel approaches. Such a review was central to STIR Education's intervention approach. All this said, reviewing the literature may not provide a silver bullet solution to longstanding educational challenges. Educate! reports that it tested multiple approaches that were found to be effective in the literature, but these approaches had limited success in practice. For example, it tested a role-embedded learning approach that involved program participants reflecting on their profession and their role and purpose as teachers. However, Educate! indicated that this shift in mindset did not lead to any tangible changes in classroom practice.
- **Context scan:** Most grantees included in the study had extensive experience in their target region, and so did not engage in in-depth assessments of local needs. However, grantees newer to their intervention areas could benefit from engaging in such assessments prior to designing and executing their projects. One such grantee, Supply Education Group, conducted a study to learn more about the intervention area and understand which schools would be suitable for program rollout. However, the study did not assess which skills needed to be strengthened among youth to inform its focus on youth civic engagement. Context scans are often underutilized yet powerful tools for project design.
- **Assessment of emerging government priorities:** Another key element of intervention design is an assessment of the government's immediate plans for the education sector. By ensuring their interventions respond to emerging government priorities, grantees are on firmer footing when seeking to obtain government approval and buy-in. This also positions interventions for eventual scale-up through government. For example, AKA staff point to the importance of a meeting with a senior official, at which they learned about how the government was approaching the sciences, which target populations it was prioritizing, and more. Following this meeting, they made a successful case for their program: "We have something that can address one of your priority areas." They emphasized the importance of "fitting into the government's needs and responding to [its] strategic plan."

**Bringing teachers into the intervention design process can ensure that the training model is useful, feasible, and relevant to the context.**

AKA helped foster take-up and use of interactive methods by relying on teachers to develop materials. For example, it had teachers develop lesson plans and teacher guides that “enriched” the science curriculum and linked it closely to local community needs. It then had experts review these materials and refine them as needed. The Supply Education Group also underlines the importance of bringing teachers into the design process. It asked for teachers’ feedback during the training sessions on its service learning curriculum and indicated that it has used that input to shape key elements of its program.

## **B. BUILDING TEACHER MOTIVATION**

**Grantees using financial incentives to motivate teachers are shifting away from this practice—either because its scope for effecting change is narrow, or because it has had negative side effects.**

Two grantees used financial awards to motivate teachers and/or schools. In its first phase, GESCI assessed teacher participation in the program’s online chats and forums, and reviewed teacher portfolios, to identify and award top performers. The schools with high-performing teachers also received awards—typically a few laptops, free broadband Internet, and other such rewards pledged by corporate social responsibility departments of various organizations (which GESCI had reached out to midway through the grant when they recognized a need for incentives to drive participation and build motivation).<sup>2</sup> GESCI staff had an initial positive view of the awards: “It was an additional incentive for individual teachers but also for whole schools to work toward excellence.” However, GESCI shifted away from offering awards to relying on its four-stage digital school of distinction award process to drive school commitment to ICT integration. In this process, schools work toward achieving indicators tied to each phase, submit a request for validation from the Ministry of Education when they think they have completed a phase, and ideally, move through all four phases (initial, e-enabled, e-confident, and e-mature). They adopted this approach, rather than providing the less effective short-term awards, because it presented a clear pathway that could build long-term ownership of ICT integration across the school and contribute to school status-building and a sense of achievement. The other grantee using incentives concluded that providing teachers with monetary rewards can sometimes be counterproductive. The Supply Education Group noted that the financial incentives it offered became the focal point of the program for some teachers, shifting attention away from its service learning curriculum and the opportunities the curriculum offered to inspire and empower students.

**Certificates of participation and, in particular, training accreditation, emerge as strong motivators for teachers.**

Certificates for completing trainings, particularly trainings accredited by a recognized body such as a government ministry or university, can incentivize participation, because they formally recognize the

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<sup>2</sup> Such rewards were additional to the set ICT packages provided to all participating schools.

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*“...A certificate... can mean more money in your pocket, it means higher recognition, it means you have many more opportunities open for you.”*

– GESCI

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capabilities teachers may have acquired and may facilitate career advancement. Therefore, STIR offers its program participants government-signed certificates. Other grantees are working toward accreditation for their programs from local universities. For example, GESCI is liaising with local universities to have its

course count toward the postgraduate credits that teachers in Kenya need to renew their license every five years.

In low-resource environments where in-service training is uncommon, training itself can be a strong motivator for teachers. CRECCOM noted that its offsite teacher training in Malawi is a source of esteem for teachers. Most had had little to no continuous professional development opportunities in the past. They felt that by being invited to a training outside of town, and treated like professionals with skills to offer, they gained additional respect in the community.

**Offering teachers the opportunity to showcase their work—to their peers, the government, and others—can boost motivation.**

Two grantees identified and leveraged mechanisms such as peer exchange and conference participation to increase teachers’ interest in the intervention as well as their overall motivation. For example, GESCI invited the top-performing teacher and top-performing school to a yearly conference, showcased their work and successes, and had them share their best practices. GESCI staff report that teachers and schools were particularly motivated by the awards offered at the end of the conference for best teacher and best-performing school. Aga Khan Academy also sought to integrate strategies into its intervention to give teachers the opportunity to shine outside of the classroom. For example, they tasked strong teachers with visiting other schools and modeling successful practices, a strategy they found very helpful in building teacher enthusiasm and motivation.

**Building student demand for more active methods can increase teachers’ willingness and motivation to try these methods in the classroom.**

Educate! found that the teachers participating in its program were often willing to consider adopting their new pedagogical approach but were held back by concerns around student reactions. For example, in Uganda, Educate! notes that students have complained to their school administration about changes to the pedagogical approach—voicing a preference for receiving content they can memorize over engaging with this content through group work and other activities.

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*“We also go directly to the students to influence the teachers. If we can change student expectations of their teachers, they can put pressure on the teachers.”*

– Educate!

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Teachers and schools listen to these complaints; students in Uganda pay school fees, which gives them some voice in their education, and increases school accountability to their needs and preferences. Educate! has leveraged students’ agency to increase teacher motivation. Specifically, it has sought to shape student expectations

(through its student-focused leadership and entrepreneurship activities) and make the case for an alternative approach to learning.

**Teacher networks can strengthen intrinsic motivation and lead to improved classroom practice, but may require varied strategies for teachers with different base levels of commitment to their profession.**

Although other grantees build extrinsic motivators into their interventions, STIR focuses on catalyzing intrinsic motivation, given the mixed evidence regarding the efficacy of extrinsic motivators and growing evidence about the comparative effectiveness of approaches that build internal drive and commitment (STIR Education 2016). STIR aims to improve intrinsic motivation along four dimensions: (1) autonomy, (2) mastery, (3) purpose, and (4) relatedness. Specifically, it seeks to “expose teachers to key classroom **mastery** principles but give them the **autonomy** to adapt these principles to their own classroom contexts, **collaborating** (relatedness) with their peers in the process, all to improve student learning (**purpose**).” (STIR Education 2017). STIR hopes to kick a feedback loop into gear—as teachers gain mastery, improve classroom practice, and see their students learn, they are motivated to work harder, which then translates to further improvements in teaching. To make this happen, STIR has established a large number of teacher networks, which facilitate experience-sharing, collaborative innovation, and joint reflection. During regular meetings, network participants identify challenges they are facing in the classroom, develop and adapt solutions, and reflect on their impact on students. STIR has commissioned external evaluations of its model and states that preliminary findings that are not yet publicly available suggest that the model may lead to increased teacher effort and improvements in reading among students in primary school.

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*“Some groups of teachers are motivated to do their job and do it well. Others have become teachers because there was not something else for them to do, [it pays] well... compared to other jobs in Zanzibar, and [they] want the security of the job. Sometimes a house comes with the job. Or money that goes into lodging. Money is often what the teachers want most, and we battle with this.”*

*– Sazani Associates*

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As models focused on building intrinsic motivation are taken to scale, they may benefit from reviewing a key assumption on which they rely: that all teachers have an intrinsic commitment to teaching that needs only to be reignited. Indeed, some grantees note that a number of teachers select the profession because of its available jobs, pay and job security, not because it is a calling. Programs that focus on strengthening motivation may need to consider the implications of

this finding for their models and their scalability. For example, in contexts where full scale is the goal, they may want to integrate strategies to build motivation among teachers that lack high levels of initial motivation. In contexts where they plan to scale more narrowly, they may want to consider using selection mechanisms to identify motivated teachers that are best suited to benefit from their approach.

**It is challenging to motivate teachers whose time is monetized to use new or alternative pedagogical approaches.**

Educate! reports that many of its schools in Uganda employ part-time teachers who work across as many as five schools and are paid by lesson. These teachers are often stretched too thin to learn new or

alternative methods—especially in the face of examination pressure—and may also not be as invested as full-time, regular classroom teachers.

**Selecting only a handful of teachers from each school can adversely affect teacher motivation.**

CRECCOM found that teachers in Malawi excluded from its trainings felt left out and undermotivated. This finding has implications for teacher recruitment and selection strategies. In cases where professional development opportunities are few and demand is likely high, it may be advisable to adopt (1) a “whole school” approach, whereby all teachers in a school are recruited for a training, or (2) a “delayed participation” approach, whereby teachers are incorporated into the program in stages.

### C. MEASURING EFFECTIVENESS

**Classroom observations are a critical tool for overseeing and supporting teachers, and seeding government interest in teacher training programs.**

Regular classroom observations conducted by stakeholders closely involved in the project can act as both a means of tracking teacher progress on implementing new methods and providing ongoing support. For example, CRECCOM has school principals who participate in its training along with teachers, (1) observe teachers in the classroom, (2) assess the extent to which they are using what they learned in training, (3) provide feedback, and (4) report on teachers’ progress during the next training session. GESCI relies on school-based coordinators for this role. These individuals, who are usually STEM teachers selected by school principals, have a contract with GESCI. They receive a small allowance from the organization for observing, mentoring, and supporting teachers engaged in ICT integration.

Classroom observations can also be a powerful tool for illustrating to influential stakeholders how teacher training programs can shift classroom practice for the better. For example, GESCI project coordinators visit each participating school once every three months, taking along representatives from government bodies and teacher education institutions who are members of GESCI’s Expert Working Group. GESCI found that this process was effective in helping these stakeholders understand what ICT integration looked like in practice and grasp its potential to improve teaching practice.

**Rigorous or quasi-experimental evaluations should be a critical part of projects that have advanced past the pilot stage and are considering scale-up.**

Two grantees have taken steps to generate rigorous evidence of the effectiveness of their program models. Both STIR and Educate! have commissioned external partners to conduct experimental or quasi-experimental evaluations of different iterations of their model.<sup>3</sup> Other grantees are more likely to collect

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<sup>3</sup> Note that STIR Education’s evaluation results are highlighted in the previous section on teacher motivation. Educate! has conducted an RCT of its leadership, entrepreneurship, and workforce readiness intervention, which entails weekly lessons on entrepreneurship from a youth mentor and business club activities. Results from a quasi-experimental evaluation of the comprehensive program, inclusive of teacher training, are expected soon.

baseline and follow-up data from participating schools to compare outcomes pre- and post-intervention.<sup>4</sup> These studies can be helpful in tracking teacher and student outcomes over time but do not enable attribution of any changes in key outcomes to the intervention. As a result, they do not produce the standard of evidence that would help persuade stakeholders to adopt the intervention if they did not already believe in it.

A rigorous impact evaluation is not always a must; indeed, when program models are new and still being tweaked on the basis of on-the-ground testing, a “softer” implementation learning approach may be more suitable. This could include (1) regular collection of quantitative data on critical outputs and outcomes, (2) targeted qualitative interviews with key stakeholders at different levels or stages of the intervention, (3) synthesis of critical data into an easy-to-review dashboard, and (4) establishment of meetings or other platforms to ensure these data are used for program improvement. In addition, implementers may seek to answer research or learning questions that are unrelated to program impacts and require other non-experimental methodologies. Once programs are beyond the pilot stage, however, and considering further scale-up, generating rigorous evidence of impact becomes more important.

**A strong communications strategy is needed to share evidence on program implementation and effectiveness and make the case for scale-up to government and other stakeholders.**

Once grantees or their partners conduct evaluations of their programs and generate strong evidence, the next step is to engage in multicomponent and tailored dissemination of this evidence, which can showcase project successes and potentially enable replication or scale-up of promising practices. AKA notes the importance of “packaging” the evidence gathered on the project: “It needs to be crafted in such a way that it speaks to policymakers, technocrats, technical experts, and others.” They plan to develop policy briefs based on what they learned from their project and share them with the Education Policy Working Group in Kenya.

#### D. ENGAGING GOVERNMENT AND SCALING UP

Engaging  
government

**Implementing a teacher training intervention requires continuous, carefully sequenced, multilevel engagement with government.**

We identified a range of ways in which government was involved in PSIPSE teacher training programs: as an “approver” of program rollout, as a “participant” in intervention design or key aspects of implementation, and as a “leader” that takes ownership of programs and facilitates their scale-up (Figure 4.2).

One role was nearly universal, with government acting as approver on almost all projects, and one role was common, with government participating in key project stages such as design and implementation.

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<sup>4</sup> The authors provide a more in-depth assessment of grantee-led monitoring, evaluation, and learning activities in a prior report (Cosentino et al. 2016).

The latter role is particularly important; grantees note that engaging government stakeholders in the design process, and having them participate in trainings and classroom observations, can increase their interest and confidence in new pedagogical approaches. This can, in turn, set the stage for eventual program scale-up or broader shifts in policy thinking about teaching and learning.

#### FIGURE 4.2. THE GOVERNMENT'S ROLE IN PSIPSE TEACHER TRAINING PROJECTS

- **Approver**

Grantees generally have to obtain approval from the government to roll out the intervention. The extent of review the government conducts prior to approval varies by project—in some cases, this review is relatively light touch; in others, government officials will go as far as to review lesson plans.

- **Participant**

— ***In intervention design:*** Grantees may involve national institutions in charge of educational curricula and other government technical stakeholders in designing the teacher training effort.

— ***In intervention rollout:*** Grantees invite government resource persons to participate in their teacher trainings. They do this with the intention of building a strong relationship with government and hopefully setting the stage for ongoing/future partnerships.

- **Leader**

Grantees mentioned partnering with the government to scale their project. Some develop and test a program model and promote its take-up by the government (a “grantee-led approach,” Figure 4.4). Others support the government in implementing a policy (potentially by helping train government staff on technical aspects of the program being rolled out at scale in a “grantee-assisted approach”). Either way, the government plays a strong leadership role.

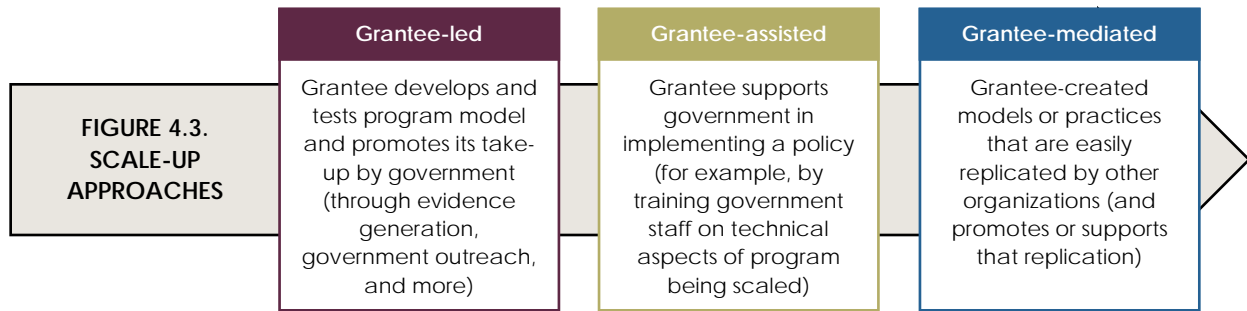
Some grantees hope to transition their program to the government and support its rollout through the educational system. We determined this approach to be “grantee-led” in our portfolio analysis for the PSIPSE (Figure 4.3), exemplified by GESCI. GESCI has developed and begun expanding implementation of a strong intervention in Kenya, Tanzania, and Cote d’Ivoire, and is conducting “institutionalization” activities, such as national-level engagement with expert institutions on design and joint school-level visits with policymakers, to build broad support for ICT integration and pave the way for intervention scale-up in the three target countries.

Others identify and address gaps or needs in the implementation of ongoing policy efforts—either by providing technical assistance, or by integrating elements of their programming into policy rollout. For example, Educate!’s pedagogical approach was integrated into nationwide trainings for Rwandan teachers on how to implement the country’s new entrepreneurship curriculum (see more below). We determined this to be a “grantee-assisted” approach in our portfolio analysis (Figure 4.3).

Regardless of the scope of their engagement with government, grantees note the importance of reaching out to government officials at different levels and in the right sequence. AKA noted that it was vital to get approval and buy-in first at the national level—from the Ministry of Education, Kenyan Institute of Curriculum Development (KICD), Center for Mathematics, Science, and Technology Education in Africa (CEMASTE<sup>5</sup>), and Teachers Service Commission. Only after it had received buy-in from these institutions, and signed memoranda of understanding (MOUs), was it able to approach county-level officials, including the directors of education, subject directors, and quality assurance units in its two target counties.

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<sup>5</sup> CEMESTE<sup>A</sup> provides and oversees in-service training for mathematics and science teachers.



Engaging government

**Field visits can be a powerful vehicle for drawing attention to existing challenges and gaining buy-in for potential solutions among government officials.**

Several grantees believe that bringing government officials to the classroom to see teachers in action is the most promising way to make a case for scale-up to policymakers and obtain the buy-in of midlevel officials rolling out the program at scale. For example, Educate! noted that a key barrier it faced in scaling its pedagogical approach in Rwanda, as part of the national rollout of a new entrepreneurship curriculum, was resistance among national trainers to this approach. To tackle this challenge, Educate! staff members took these stakeholders to the field to observe one of the lesson plans from Rwanda’s old curriculum being used in the classroom. They observed that the lesson plan, which was long and complex, was difficult to implement in the classroom. In this way, Educate! sought to show government actors what was effective and not effective in practice and thereby make the case for new approaches more closely aligned with realities in the field. Beyond enabling scale-up, grantees feel that such field visits are needed to reduce the disconnect between policy and practice and stem the tide of programming being pushed out that does not reflect on-the-ground needs and constraints.

Scaling through government

**Key requirements for scale-up through government are (1) alignment of the program with existing policy priorities, and (2) strong relationships with government stakeholders.**

A couple of grantees are engaging with the government on scale-up. Both STIR and Educate! indicate that their programs helped address prevailing policy goals, and that this was a pre-condition for program scale-up. For example, Educate! interacted with key members of the Rwandan government as their new secondary education curriculum was being finalized and identified (1) strong synergies between its work and the government’s focus areas and (2) gaps it could help the government address. Specifically, in reviewing the new curriculum, Educate! became aware of the close parallels between the content for the entrepreneurship subject and the topics covered by its own leadership, entrepreneurship, and workforce readiness program in Uganda. It also noted that the Rwandan government did not yet have a specific pedagogical approach for implementing its entrepreneurship curriculum, and made the case for the adoption of its build–practice–present pedagogical model. This approach has now been folded into the cascaded national rollout of the entrepreneurship curriculum; all entrepreneurship teachers in Rwanda are being trained on the approach.



In STIR’s case in India, the push for scale-up came from Indian government stakeholders, who had been informally assessing educational interventions in the years that STIR had been working in India and had asked its partners which interventions they saw as having the most impact on improving key educational outcomes. STIR reported that its name was consistently mentioned in these conversations, and as a result, the government eventually asked STIR to scale its program through the public education system as STIR’s approach aligned with government priorities. Today, STIR is helping three state governments—Delhi, Uttar Pradesh, and Karnataka—to scale its network model. This process entails STIR basing its own staff at the district level (the administrative level below the state). These individuals each support three local government staff who form and run teacher networks. In the next phase, STIR’s district-level role will also be assumed by a government official. This journey of working with government on scale-up has not been without hurdles. However, STIR notes that it was open about its mistakes with the government, an approach it said ultimately won it more trust from policymakers. Transparent communication with government, and joint development of program strategies, can build true partnerships and ultimately enable more effective delivery of programs at scale.



**Not all projects are suitable for scale-up through government.**

A few grantees believe that teacher training is most credible when provided by government. They note that teachers may be more likely to attend the training and implement new concepts when they perceive that it is a priority for their employer and a key element of their official duties. STIR also notes that government provision of teacher training/capacity-building facilitates easier access; with its greater resources, reach, and infrastructure, the government can provide trainings in locations closer to teachers’ homes, and thereby drive greater participation. That said, not all training models are suitable for scale-up through government. Some models may be too complex, and require intensive support from expert practitioners, which is difficult for a thinly stretched education sector to provide. Others may be too new, innovative, and high-risk for government. In these cases, organizations may want to consider a less centralized, community-level scale-up or “replication” through other NGOs (what our portfolio analysis called a “grantee-mediated” approach, Figure 4.3). This approach would allow for these creative models to be adapted to different contexts, road tested by expert practitioners, and evaluated rigorously, before potentially being considered for broader scale-up through government. Indeed, STIR pushed back its scale-up through government to the extent possible, so it could benefit from as much on-the-ground testing and iteration as possible.

Also important to consider is that not all government institutions have capacity for scale-up. A determination of whether and how to involve government should reflect an assessment of bandwidth of government officials, experience with rolling out large or similar programs, level of corruption, and other such institutional and contextual considerations. Finally, the grantee needs to have capacity to engage with government on scale-up. A small NGO with a finite number of staff, or an international NGO with limited in-country presence, may not be a good fit for a large-scale government partnership to scale a program. Indeed, grantee organizations such as The Supply Education Group state upfront that they are small players in the local education landscape and are not positioned as well as larger and more

established organizations to support scale-up through government. An organization with a substantial local presence, deep contextual and technical expertise, and a nimble and flexible approach to implementation/operations is the ideal partner to work with government on scale-up.

Designing for  
scale

**Simple, straightforward program models are also more easily scaled.**

Complex, multicomponent program models may require a level of technical expertise that not all government officials being trained to roll out these models will have. They also often require intensive on-the-ground oversight and refinement, which is difficult for busy government staff to undertake. By contrast, simple and streamlined models are more easily understood by government officials tasked with cascading programs and ultimately more easily adopted by teachers.

For example, Educate! has designed a pedagogical approach that is easy for teachers to remember—build–practice–present. It reports that this approach is easily acquired during training (without requiring the perusal of lengthy manuals). It is also easily implemented in the classroom. Many teachers told Educate! that they had learned to develop lesson plans at their pre-service institutions, but that “no one really used lesson plans in real life.” Educate notes that the build–practice–present approach allows for easy and effective improvisation even without a lesson plan in hand.

Designing for  
scale

**A cascade training model is a cost-effective way of achieving scale, but entails several inherent challenges that require preemptive strategies.**

- *Teachers rarely receive training on how to train other teachers.* Several PSIPSE grantees trained cascade teachers on their core pedagogical approach or subject matter, and then trusted that those individuals would be able to help others acquire the same capabilities.
- *A common challenge is that training gets diluted as it is cascaded.* Educate! notes the importance of keeping the model simple, so that the cascaded trainings can at the very least ensure understanding of the model, with real changes in practice being effected through classroom visits and regular feedback provided by government trainers and peers conducting observations (as they are doing in Rwanda). An alternate approach to this challenge is to “flatten” or reduce the number of steps in the cascade. For example, CRECCOM and its partner Miske Witt & Associates had trained instructors from teacher training colleges travel in pairs to Community Day Secondary Schools, at each of which they trained English teachers from multiple schools in the area.
- *Teachers may consider in-service training provided by other teachers less credible than their pre-service training.* VSO noted that cascade teachers did not have much credibility in their own schools, where other teachers were more inclined to rely on their pre-service training than on the new concepts their colleagues were relaying. To address this issue, VSO plans to have cascade teachers conduct trainings at nearby schools where they do not teach.

Designing for  
scale

**Selecting strong, motivated teachers for training may be a successful approach at the pilot stage, but strategies to integrate less motivated teachers are needed for further scale-up.**

Several grantees seek to show a strong proof of concept at the pilot stage by delivering training to confident teachers who are committed to their work. For example, AKA sought out teachers who were trying new approaches in the classroom, who had shown that they were “going beyond normal teaching,” to identify suitable recruits for their training on how to infuse science teaching with activity-based instruction. VSO asked teachers to apply for the training to ensure its recruits were enthusiastic about participating and committed to improving their work. Such strategies may be helpful in ensuring high take-up of training. However, Sazani notes, “many go into teaching because of the good and guaranteed wage,” suggesting that not all teachers have a vocation for teaching. This underscores the importance of considering the scalability of interventions that are anchored on inherent teacher commitment or motivation and tested with a select subset of teachers meeting these conditions; as these selective in-service interventions are scaled and include a broader swathe of teachers, they may need to adopt new strategies for less motivated teachers, or be designed to nurture passion or motivation as a starting point.

Designing for  
scale

**Scalability is highly linked to cost-effectiveness, which should be an early consideration in intervention design.**

For innovations to permeate the educational system, they must be affordable and aligned with the resources of the given government. STIR, which has been particularly vigilant about cost, has built a reasonably priced model that the government can adopt. For example, it took the Indian government’s per-pupil spend of \$200 as a yardstick and designed an intervention that costs about 1 percent of that amount (\$2). Additionally, STIR has measured cost effectiveness to make a strong business case for its model to government. It found, for example, that “each \$1 invested in improving teacher motivation saves Uttar Pradesh’s education system \$7 in enhanced teacher effort” (STIR Education 2017).



## 5. CONCLUSIONS AND NEXT STEPS

The purpose of this study was to draw lessons from the experience of PSIPSE grantees as they implemented teacher training programs. This chapter summarizes the key lessons and presents some reflections about how to move forward.

### CONCLUSIONS

- 1. PSIPSE interventions, which are intended to improve teacher quality, focus on influencing the classroom practices of *existing* teachers.**

PSIPSE projects are focusing on four of the eight policy areas of the SABER framework: supporting teachers to improve instruction, motivating them to perform, monitoring teaching and learning, and working with principals or head teachers to create a supportive environment for teaching and learning. These projects are seeking to expose teachers to active learning pedagogies or to form teacher networks/collaborations to improve classroom practices. At present, PSIPSE projects are not focusing on other areas of education policy and intervention that affect teacher quality, such as how individuals are recruited into the profession, initially trained, and placed in schools. This fact may—or may not—suggest possible directions for future efforts supported by the PSIPSE (discussed in the Next Steps section below).

- 2. Developing a robust intervention design that considers key enablers and inhibitors of change in the implementation context is critical to success.**

Project experiences thus far underscore the importance of the following design features: head teachers who create an environment that promotes teaching and learning, teachers who help to adapt initiatives that foster take-up; contextual factors—such as school size—that ensure that the intervention approach is appropriate for a given school setting; and government as a critical partner (not just an approver) in both piloting and scaling up the intervention. Strong project design also requires a review of the evidence base, a thorough assessment of local needs, and an understanding of government priorities if scale-up is the goal. Some of the projects included in this study omitted one or more of these features.

- 3. The content (what is taught) and the structure (how it is taught) of the trainings can be used to promote the use of new pedagogies.**

The examples showcased in this report reveal that some grantees develop specific content to train teachers in the use of active pedagogies (Educate's Skills Lab), and others also structure the delivery of their content in phases to facilitate the gradual acquisition of the knowledge and skills that teachers need to use new teaching methods effectively (GESCI's ICT training). The former approach may be well-suited to encouraging the use of active learning pedagogies that can be easily adapted to different subjects and that do not require specific knowledge or skills (say, problem-solving or peer-to-peer learning strategies). The latter may be particularly helpful for pedagogical approaches in which knowledge of the content knowledge or technical skills are prerequisites.

- 4. It may be easier to scale simple, in-service teacher training models than it is to scale complex models that have multiple components, particularly if the models include cascading trainings.**

The grantees' experience suggests that, compared with complex models, simple models are more easily scaled and sustained with fidelity. These models are more easily adopted by teachers and understood by government officials and others overseeing the implementation process. This is particularly true of cascading training models in which teachers are trained to become trainers at their schools or in neighboring schools.

- 5. In-service teacher training could be leveraged to strengthen pre-service training efforts, facilitate the certification of trainings to motivate participation, and catalyze broader improvements in the teaching force.**

Some grantees have recruited faculty from teacher training colleges as trainers for their projects, and others are seeking certification or accreditation for their existing trainings from colleges as a way to encourage teachers to participate in the training. Developing strong relationships with leaders at these institutions and engaging them as partners in the interventions may foster deeper ties that benefit both in-service and pre-service training efforts. Implementing organizations may benefit from the expertise of faculty at teacher training institutions and may find it easier to secure recognition for their programs. And in turn, teacher training institutions may benefit from the exposure to innovations tested in the field, which may in turn catalyze reforms of pre-service teacher training programs.

- 6. A combination of intrinsic and extrinsic motivators is likely needed to improve teaching quality at scale.**

Current efforts to improve teacher quality by leveraging intrinsic and extrinsic motivation reveal the value and limitations of both approaches. One grantee found a small positive impact of its effort to use teacher networks to build intrinsic motivation, as measured by an increase in time on task in classroom instruction. Other grantees noted, however, that some teachers selected the profession because of the availability of jobs in their community, not because of a particular vocation or desire to become an educator. Accordingly, these grantees relied on extrinsic incentives, mainly recognition of teachers' accomplishments, to motivate teachers. Recognition can be informal or formal. For instance, some grantees tacitly offer professional recognition either by virtue of providing training opportunities that are uncommon in low-resource environments or by asking teachers to present or to model practices for others (strategies that can also be used to nurture intrinsic motivation). Other grantees offer more formal recognition, such as certificates of completion or other credentials that are valuable for career advancement. Formal recognition also includes bonuses or financial incentives for teachers or their schools, but these were thought to be less effective in sustaining teachers' commitment to change over time and in motivating part-time teachers. Ultimately, given the heterogeneity of the teaching force, a mix of intrinsic and extrinsic incentives may be the most effective way to improve teacher quality.

## NEXT STEPS

This study has generated a variety of lessons on how to design, implement, and scale efforts to train, motivate, and support teachers. It has also illuminated PSIPSE's focus, which is to support practicing teachers as opposed to preparing individuals to become teachers. What might these findings mean for the future? Should PSIPSE and similar education stakeholders focus on policy areas mostly excluded from the portfolio (such as pre-service teacher training), or should they dig deeper into the existing policy areas, taking stock of the evidence, government priorities, and possibilities for scale?

The SABER framework may be useful in answering this question because it:

- Provides a **roadmap for assessing educational systems**. The framework identifies *evidence-based areas of focus* in assessing country policies that affect the teaching force, illustrates the application of the framework through country studies, and recognizes some of its own limitations (these may be addressed in more targeted country studies).
- Is particularly valuable in (1) helping to **diagnose the extent to which existing policies are “coherent”**—that is, the extent to which policies are aligned in ways that are conducive to learning—and (2) identifying promising areas of intervention given the particular combination of policies in each country of focus. For instance, countries in which it is relatively easy to enter the teaching force (that is, the education system is not highly selective at the recruitment stage) may need more robust in-service teacher training at scale in order to nurture teachers through ongoing professional development. In contrast, countries in which educational systems do not or cannot provide such training may need to focus on strengthening pre-service teacher training.

One finding stands out from the research that undergirds SABER: broadly speaking, no model for developing and sustaining an effective teaching force is more effective than another model. It is the combination and alignment of policies that affect teacher recruitment, training, monitoring, and support that matter most. The authors of SABER sum it up: “An analysis of how successful education systems combine the teacher policy goals to achieve outstanding education results suggests that there is no unique combination of teacher policies that would be valid for all education systems. Some high performing education systems place greater emphasis on providing extremely well qualified teachers with ample autonomy, while others decide to control more closely all aspects of teachers’ work” (SABER 2013). What all high-performing education systems do have in common is “the fact that there is internal coherence” in the way policies that affect the teaching force are combined.

Mapping these policies in each country or jurisdiction of focus will enable PSIPSE and similar education stakeholders to find and support efforts that bring about innovations, promote the widespread adoption of successful practices, and even foster reforms that can *strategically deepen the internal coherence of teacher-focused policies in the target educational systems*.

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