

What Works to Improve Learning at Scale?

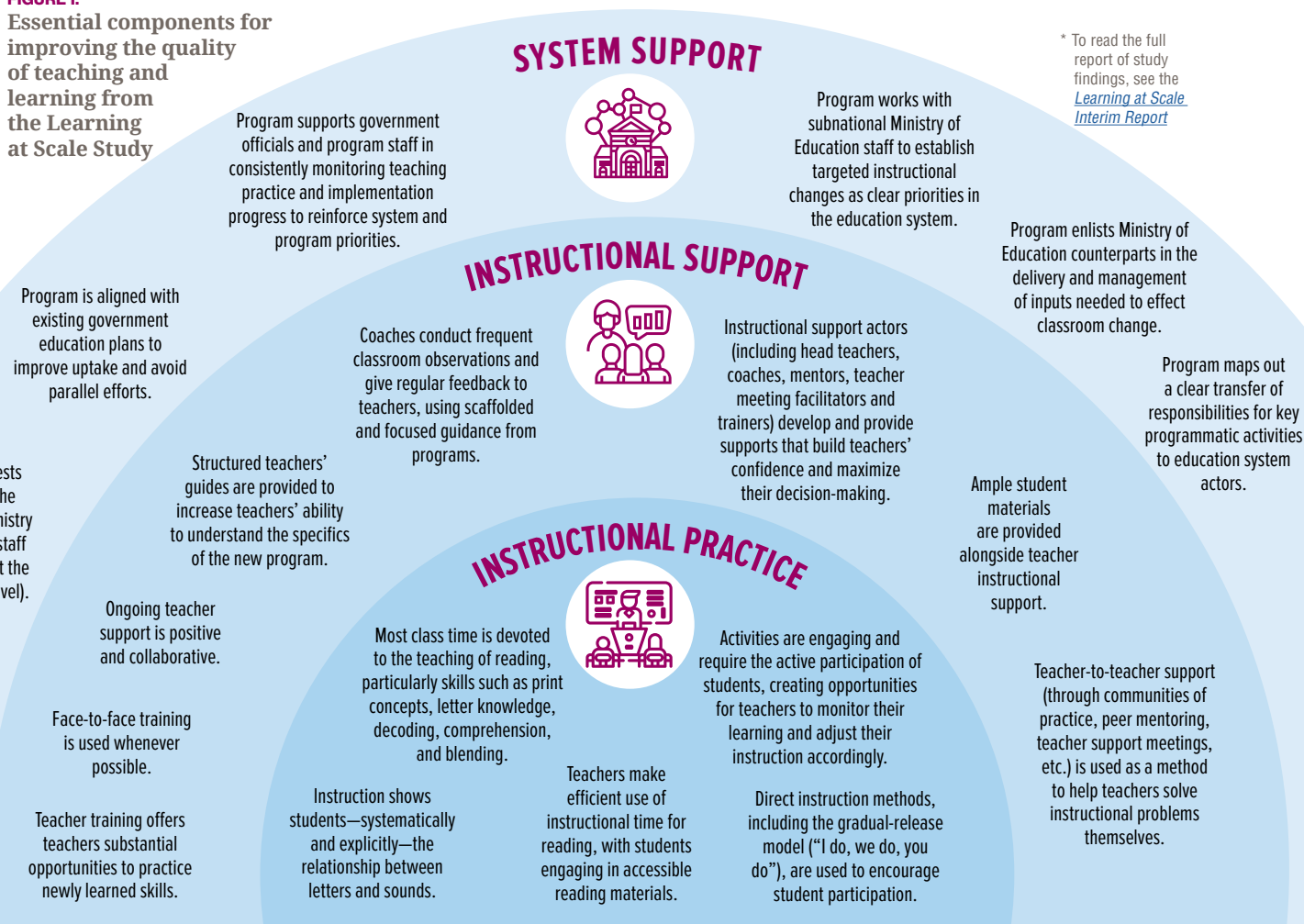


KEY FINDINGS FROM **LEARNING AT SCALE** AND THE **KENYA TUSOME EARLY GRADE READING ACTIVITY***

This brief presents findings on what worked to improve learning outcomes at scale under 8 successful early grade literacy programs, with a focus on findings from the Tusome program in Kenya.¹ These findings were generated as part of the *Learning at Scale* study, conducted by RTI International with the Center for Global Development and funded by the Bill and Melinda Gates Foundation.

The findings from *Learning at Scale* are organized into three categories: instructional practice, instructional support, and system support. The eight programs evaluated in this study shared commonalities in how they approached implementation to maximize program success. We identified five essential components for improving instructional practice, eight essential components for improving instructional support, and six essential components for system support (as shown in **FIGURE 1**). Many of these elements were core to the success of Tusome. Now—as education systems across the globe look for ways to recover from COVID-19 disruptions to schooling—leveraging and investing in these elements is more important than ever.




FIGURE 1.
Essential components for improving the quality of teaching and learning from the Learning at Scale Study



* To read the full report of study findings, see the [Learning at Scale Interim Report](#)

Learning at Scale Study at a Glance

This research study examined eight of the most effective large-scale education programs in low- and middle-income countries, including the Tusome program in Kenya. We asked three overarching questions:

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 What **instructional practices** lead to learning in programs that are effective at scale?
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 What **methods of instructional support** lead to teachers adopting effective classroom practices?
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 What **system support** is required to deliver effective training and support to teachers and to promote effective classroom practices?

Findings from Tusome

The findings presented in the remainder of this brief are based on data collected in March 2020, as outlined in **TABLE 1**.

TABLE 1.
Data collection tools and respondent counts (Kenya)

PROGRAM ELEMENT	RESPONDENT COUNT, BY TOOLS
Instructional practice	59 grade 2 teacher interviews
	58 grade 2 Kiswahili lessons observations
	59 grade 2 English lessons observations
	60 head teacher interviews
	952 student reading assessments
Instructional support	46 coach interviews
	26 coaching observations
	46 trainer interviews
	42 teacher meeting facilitator interviews
System support	8 interviews with central Ministry of Education officials
	13 interviews with county-level Ministry of Education officials

Criteria for programs to be considered for inclusion in the *Learning at Scale* study

Effectiveness: Evidence of causal impact at scale or at pilot with evidence of effective scale-up

Scale: Operating in most or all schools in at least two administrative subdivisions

Subject: Includes a literacy component

Geography: Located in a low- or middle-income country


Type of program: Program aims to improve classroom teachers' effectiveness


Data available for analysis: Impact evaluation data and raw data on cost


Time frame: Active through 2019

Sector: Public sector, civil society, or private sector

Tusome at a Glance

 6-year program + 1 year extension (2015–2022)

 Funded by USAID and DFID

 Implemented by RTI International

GOAL: To improve learning outcomes for over

7 million students

in grades 1, 2, and 3 throughout Kenya

REACH:

22,000 public schools

5,000 private schools

1,500 alternative basic education institutions in urban informal settlements






Instructional Practice: What classroom ingredients (e.g., teaching practices, classroom environment) led to increased learning at scale in Kenya?²

The eight programs evaluated in the Learning at Scale study shared commonalities in how they approached instructional practice to maximize their success. Drawing on findings from program document reviews, discussions with program leadership, and school-level interviews and observations, we identified five elements essential to such success. **TABLE 2** outlines the extent to which each of these components was found in Tusome.

Components with a green dot were found to be a robust part of program design and implementation and should continue to be supported. Components with a yellow dot were found to be a key part of the program’s design but may have been implemented or taken up by stakeholders with less fidelity; an examination of what changes in design, capacity, and resources are needed to support these components could be considered for future programming. Components with a red dot were not found to be a key part of either program design or implementation and may be considered as an area for increased focus in future teacher professional development activities.

TABLE 2.
Essential components of instruction: Tusome’s findings profile

ESSENTIAL COMPONENT	EVIDENCE OF ELEMENT IN TUSOME
<p>Instruction shows students—systematically and explicitly—the relationship between letters and sounds. [>40% of class time on sounds/letters/word parts and >20% of teachers noting a positive impact on learning]</p>	<p> Tusome teachers dedicated most of their lesson time (70%) to words, sentences, and story reading and just 27% of time to word parts, letters, and sounds. However, 50% of teachers reported that the specific focus on phonics (e.g., letters, sounds, blending) had the biggest impact on student learning.</p>
<p>Most class time is devoted to the teaching of reading, particularly skills such as print concepts, letter knowledge, decoding, comprehension, and blending. [>40% of class time focused on reading instruction]</p>	<p> Tusome teachers spent, on average, 57% of their lesson time teaching reading.</p>
<p>Teachers make efficient use of instructional time for reading, with students engaging in accessible reading materials. [Students spend >40% of class time actively reading]</p>	<p> Although Tusome teachers used some type of book (e.g., a teacher’s guide or student textbook) for 50% of their lesson time, students spent only 28% of lesson time actually reading and spent much more time (55%) listening and providing oral responses.</p>

LEGEND:  Substantial evidence  Some evidence  Little evidence

In their own words: Tusome participant quotes

“Positive impact. Teaching the children on reading, I know that the child is supposed to know the sounds of the letters first so the child can blend the sounds of the word. In ‘look and say,’ they used to just say ‘cup,’ but now the child knows the sounds.” TEACHER, TUSOME

“In the past, the teacher only had ‘I do’ and there was no ‘we do’ or ‘you do.’ Now it is helping students to learn better. It was not very child centered but now the child is fully involved. It is better.” TEACHER, TUSOME

“Before, it was mostly teacher centered. But now we find that learners are involved and there was a lot of self-efficacy as when they are able to go to the blackboard and you feel ‘wow.’” TEACHER, TUSOME

TABLE 2. (continued)

<p>Direct instruction methods, including the gradual-release model (“I do, we do, you do”), are used to encourage student participation. <i>[>20% of teachers noting a positive impact on learning]</i></p>	<p>75% of Tusome teachers said that they were using a new methodology or instructional approach (“I do, we do, you do”) in the classroom. When asked which of their instructional practices had the single greatest impact on student learning, 27% of teachers pointed to the new methodology they were using.</p>
<p>Activities are engaging and require the active participation of students, creating opportunities for teachers to monitor their learning and adjust their instruction accordingly. <i>[Most students engaged for >90% of class time. Students practice skills on their own in >50% of lessons]</i></p>	<p>Most or all students in Tusome classrooms were found to be “on task” (i.e., engaged in the current activity) 96% of the time, and 39% of teachers said that students were more engaged because of the program. In 78% of lessons, students practiced skills without the teacher.</p>

WE ASKED TEACHERS, “WHAT HAD THE BIGGEST IMPACT ON STUDENT LEARNING?”

FIGURE 2. “What part of your instruction has had the biggest impact on student learning?”

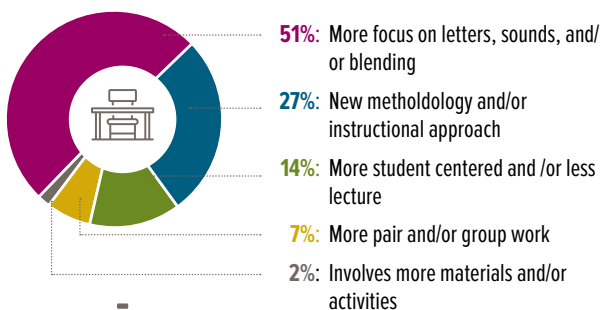
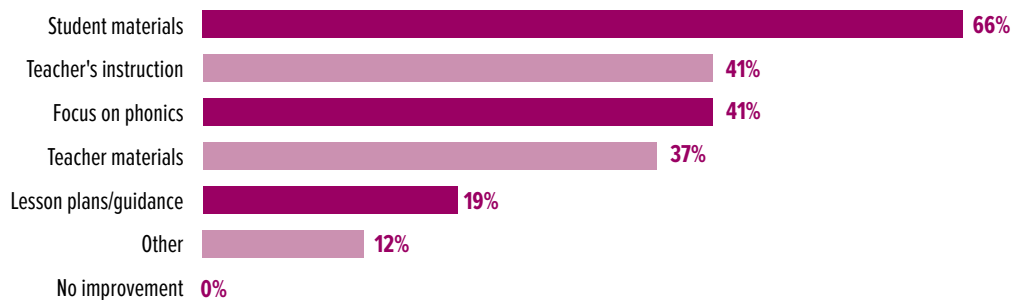


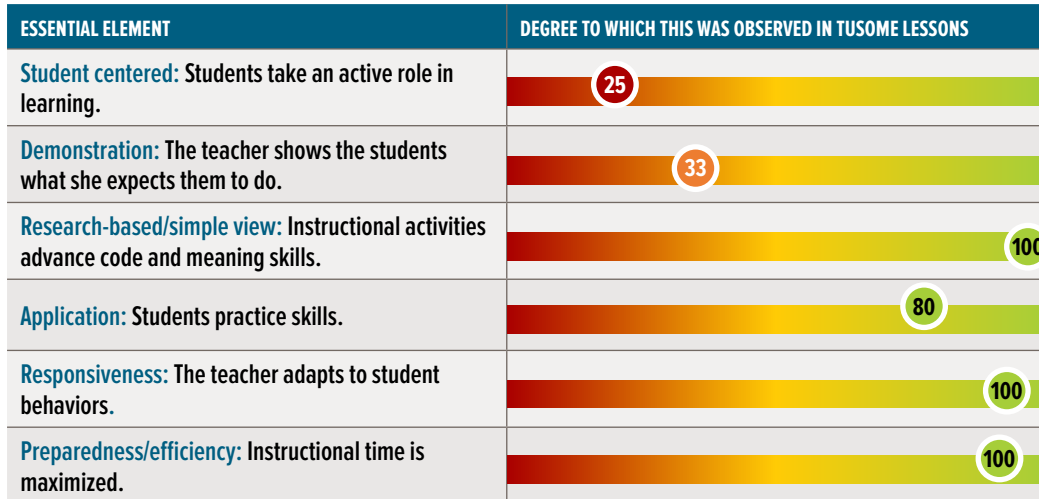
FIGURE 3. “Has Tusome helped improve student learning? If yes, what factors had an impact on student learning? (Mark all that apply)”



DIMENSIONS OF EFFECTIVE INSTRUCTION: FINDINGS FROM CLASSROOM OBSERVATION

Drawing from a review of existing instructional best practices, the *Learning at Scale* team developed a score to indicate the prevalence of six evidence-based dimensions of teaching: student centered, demonstration, research-based/simple view of literacy instruction, application, responsiveness, and preparedness/efficiency. **FIGURE 4** presents a brief description of each of these dimensions and the degree to which they were observed in Tusome classrooms.

FIGURE 4. Observation findings from Tusome classrooms: prevalence of activities related to dimensions of effective instruction (Prevalance score, 0–100)



Instructional Support: What methods of training and support used in Tusome led to teachers adopting effective classroom practices?³

The eight programs evaluated in the *Learning at Scale* study also shared commonalities in how they approached instructional support. Drawing on findings from program document reviews, discussions with program leadership, and school-level interviews and observations, we identified eight components essential to successful support to teachers. **TABLE 3** outlines the extent to which each of these components was found in Tusome.

TABLE 3. Essential elements of instruction: Tusome’s findings profile

ESSENTIAL ELEMENT	EVIDENCE OF ELEMENT IN TUSOME
Teacher training offers teachers substantial opportunities to practice newly learned skills. <i>[>50% of teachers say trainings have more practice than previous programs]</i>	82% of teachers said that Tusome trainings included more small-group practice than previous programs or trainings, which provided them with a setting conducive to practicing with their peers
Face-to-face training is used whenever possible. <i>[>40% of teachers say trainings were the most useful support]</i>	At the time of the study, all trainings were face-to-face. 46% of teachers said that these trainings were the most useful program support.



In their own words: Tusome participant quotes

“Yes [the Tusome training was] different. [In previous trainings] the facilitator was just in front giving instructions, no micro teaching. Tusome can ask questions [like] what about when a learner does this ... you do this way. I liked it.”

COACH, TUSOME

TABLE 3. (continued)

ESSENTIAL ELEMENT	EVIDENCE OF ELEMENT IN TUSOME
<p>Ongoing teacher support is positive and collaborative. <i>[>50% of teachers say coaches/mentors are friendlier or more supportive]</i></p>	<p>● 72% of teachers said that under Tusome, coaches were more supportive, and 67% said that coaches were friendlier. A large majority of Tusome coaches (65%) reported that the purpose of their coaching was to improve teaching, while fewer than 5% reported that their role was for school inspection.</p>
<p>Structured teachers' guides are provided to increase teachers' ability to understand the specifics of the new program. <i>[>50% of teachers say teachers' guides are better organized and easier to follow than previous programs]</i></p>	<p>● 75% of teachers said the Tusome teachers' guides were better organized and easier to follow than previous materials they'd used. Specifically, another 60% said that the step-by-step instructions were better than in previous materials.</p>
<p>Coaches conduct frequent classroom observations and give regular feedback to teachers, using scaffolded and focused guidance from programs. <i>[>50% of teachers receive coaching observation "a few times a year" or more]</i></p>	<p>● 87% of teachers reported receiving coaching visits a few times a year or more (though only 27% received visits once per month or more). When asked what coaching factors impacted their teaching, 76% of Tusome teachers said "receiving guidance from coach on how to teach," and 50% said "regular feedback from coach." It is worth noting that when asked to identify the single most helpful program support, only 3% of teachers cited coaching.</p>
<p>Instructional support actors (including head teachers, coaches, mentors, teacher meeting facilitators, and trainers) develop and provide supports that build teachers' confidence and maximize their decision-making. <i>[>40% of teachers say trainings were the most useful support]</i></p>	<p>● For some teachers, the most important part of training was having trainers model instructional methods and having multiple opportunities to practice the methods, as this built their confidence. In 65% of post-observation meetings with coaches, teachers had an opportunity to lead reflection discussions on what went well and what didn't in the lesson, and in 92% of meetings, the teacher and coach discussed skills and practices to focus on moving forward.</p>
<p>Ample student materials are provided alongside teacher instructional support. <i>[>90% of students have their own book]</i></p>	<p>● 94% of grade 2 students had their own Tusome textbooks (1:1 ratio) during lesson observations, and these books were aligned with teacher' guides and training. 100% of Tusome teachers responded that they found student textbooks to be the most useful material provided by the program.</p>
<p>Teacher-to-teacher support (through communities of practice, peer mentoring, teacher support meetings, etc.) is used as a method to help teachers solve instructional problems themselves. <i>[>50% of teachers meet with peers to discuss instruction once a month or more, and 50% of teachers say they have useful discussions]</i></p>	<p>● While 71% of Tusome teachers participated in teacher meetings only "a few times a year," 61% of teachers said that they found these meetings useful because they created the opportunity for discussions with other teachers, and 44% said that receiving feedback from other teachers and from facilitators on how to improve and handle challenges was useful to them.</p>

"You feel confident modeling and do it practically and you don't feel shy—you can teach like any other teacher. It made me feel confident. I used to teach upper [primary] before, but this training encouraged me to come back to lower [primary] and teach."

TEACHER, TUSOME

LEGEND: ● Substantial evidence ● Some evidence ● Little evidence

We asked teachers, coaches, and meeting facilitators, “What program supports were most useful?” Nearly one-half of teachers (46%) said that trainings were the most useful support they received from Tusome, while 36% cited teacher and student materials as being the most helpful. Teacher meetings were the third most referenced support, seen as most useful by 9% of teachers.

TRAINING

We asked teachers open-ended questions on what they believed the most important overall differences were between Tusome training sessions and other teacher training sessions they had attended. Their responses (TABLE 4) point to a combination of design, planning, and organizational factors. From a design standpoint, teachers most often cited Tusome’s focus on specific reading skills, ample time for practice and discussion, and relevant and helpful materials. Equally important to teachers, however, was the fact that Tusome trainers were better organized and prepared.

TABLE 4. “Overall, what do you see as the most important differences between Tusome training sessions and other training sessions?”

TEACHER AND STUDENT MATERIALS

ANSWER	% TEACHERS	ANSWER	% TEACHERS
Training is better organized	44%	Training sessions are more frequent	20%
Materials are more relevant or helpful	32%	Less lecture	13%
More focus on specific reading skills	32%	Expectations are clear	13%
More time for discussion	30%	Better allowances (transportation, per diem, etc.)	7%
Trainers are better prepared or more knowledgeable	28%	Program training sessions are worse	4%
More time to practice (individual, pair, group)	24%	Workload was manageable	2%
		Nothing	2%

Generally, teachers reported that Tusome materials—compared to other program materials— were easier to follow, better organized, and more appropriate and enjoyable for students (see FIGURE 5 for sample page). They also noted that the step-by-step instructions in Tusome teacher materials were new for many teachers (FIGURE 6).

FIGURE 6. “How do Tusome teacher materials differ from what you were using before the program?”

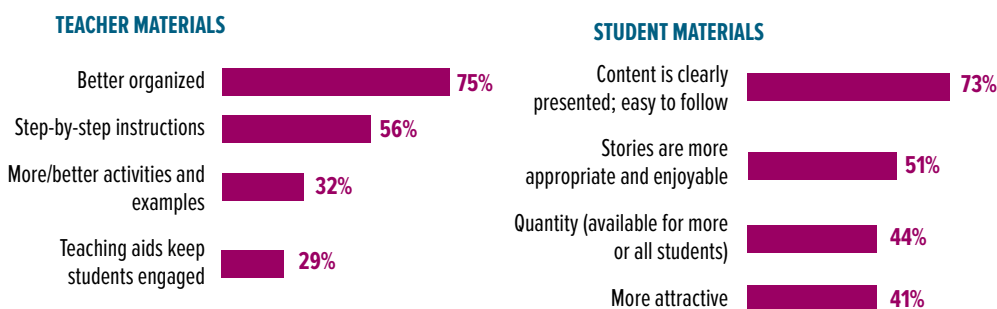


FIGURE 5. A page from the Tusome grade 1 student textbook



Source: <https://shared.rti.org/content/tusome-grade-1-pupils-book#>

TEACHER MEETINGS

When asked about which aspects of teacher meetings they felt were useful for teachers, 83% of meeting facilitators said “feedback and learning from other teachers,” while another 67% said “being able to provide feedback and correct issues for a group of teachers.” These findings underscore the importance of collaboration and interaction in teacher support. Teachers’ satisfaction with these meetings may have been higher due to the involvement of Tusome staff. However, this also required teacher meetings to be held at one selected school within a cluster. Perhaps because of this, teachers most often noted distance and cost of transportation as barriers to their attendance.

System Support: What system supports did Tusome draw on to deliver effective training and support to teachers and to promote effective classroom practices?⁴

The eight programs evaluated in the *Learning at Scale* study shared commonalities in how they utilized system-level support to maximize their success. Drawing on findings from program document reviews, discussions with program leadership, and interviews with system-level actors, we identified six components essential to such success. **TABLE 5** outlines the extent to which each of these components was noted by key informants in Kenya and incorporated into the Tusome program.

TABLE 5. Essential elements of system support: Tusome’s findings profile

ESSENTIAL ELEMENT	EVIDENCE OF ELEMENT IN TUSOME
Program invests in building the capacity of Ministry of Education staff (particularly at the subnational level).	Ministry officials played a substantive role in implementing Tusome. In interviews, many education officers at the county and subcounty levels saw Tusome activities as part of ministry activities.
Program is aligned with existing government education plans to improve uptake and avoid parallel efforts.	The Tusome program was created by USAID and DFID in response to the Ministry of Education’s desire to scale the successful PRIMR initiative, which showed significant improvements in math and reading outcomes for students in pilot schools. However, while the Ministry of Education’s recently launched competency-based curriculum borrows some elements of the Tusome approach, interviewees also noted a divergence in the methods and training, though this occurred at the end of the program.
Program works with subnational Ministry of Education staff to establish targeted instructional changes as clear priorities in the education system.	Tusome’s training and capacity building of teachers and curriculum support officers (CSOs) were seen by respondents at all levels of the system as one of the biggest contributors to its success. This capacity building included training, regular follow-ups, and the provision of necessary resources and tools to do their work.
Program supports government officials and program staff in consistently monitoring teaching practice and implementation progress in order to reinforce system and program priorities.	Tusome gave CSOs tablets preloaded with apps to use for classroom observation. CSOs visited classrooms, observed teachers, and inputted information into the tablet using the apps. The information was then uploaded to a server and made available to any education official with an internet connection.

TABLE 5. (continued)

ESSENTIAL ELEMENT	EVIDENCE OF ELEMENT IN TUSOME
<p>Program enlists Ministry of Education counterparts in the delivery and management of inputs needed to effect classroom change.</p>	<p>Government officials said that they were involved in every aspect of Tusome and that planning was done in collaboration with two high-level decision-making bodies: (1) a national steering committee, which was chaired by the minister of education; and (2) a technical committee, which was chaired by the principal secretary of education and included representatives of various education agencies, including the Teachers' Service Commission, the Kenya Institute of Curriculum Development, and the Kenya Institute of Education.</p>
<p>Program maps out a clear transfer of responsibilities for key programmatic activities to education system actors.</p>	<p>Subnational education officials noted that when Tusome-supported transport reimbursement payments ended, the support provided to teachers decreased. However, education stakeholders at the national level also mentioned that the government took up Tusome's approach to book procurement and distribution and began using its own budget to procure Tusome books, suggesting that long-term planning did take place and that some sustainability measurements have already been implemented.</p>

We asked system education stakeholders, "What was your experience with the Tusome program in terms of communication, capacity building, and monitoring?"

PRIORITIZATION AND CLEAR COMMUNICATION BY GOVERNMENT



We did a lot of sensitization together with RTI. We used media, emails, and worked alongside RTI. We were communicating that there is this program coming up and this is the role. Saying that this is a government program but we are working with RTI. People are sensitive sometimes and don't want to see this as coming from outside, from 'muzungus' [foreigners]. So, we also align it with the Constitution, with [the] Basic Education Act, and with the county's own plans. We had to do a lot of alignment. Sensitization was also based on [a] pilot, based on evidence."

KENYA NATIONAL COORDINATOR OF TUSOME

When Tusome was starting, we had a week-long design project with USAID and DFID to come up with a project design document. We came up with design document jointly with them and described what Tusome meant. We came up with a structure; steering committee chaired by minister, technical committee of mid-level staff headed by national coordinator, and also county-level structure. This formed a very good structure where the minister of education chairs a meeting every three months to get to know how it's being implemented and seek help for struggles. Government appointed a technical coordinating committee, derived from many departments of education. This was a joint work plan in every activity."

DISTRICT EDUCATION MANAGER, KENYA

As mentioned in **TABLE 5**, the Ministry of Education was convinced by the PRIMR initiative's success and wanted to scale it nationally, which eventually led to the design of Tusome. National and county education officials also mentioned that Tusome's launch by the president of Kenya was an indication to government officials nationwide that the program was to be taken seriously. Interview findings also showed that the program's communication followed the hierarchical flow of information in the government—from the central ministry to the county and subcounty levels, then down to schools—and drew on other communication strategies (e.g., WhatsApp groups) that allowed for direct communication with ministry staff at the county and subcounty levels.

CAPACITY BUILDING



We are moving to embed Tusome approaches into the pre-service curriculum ... approaches have been infused into the teacher training program so as teachers graduate, they are already conversant with the Tusome approach ... We will continue to align the competency-based curriculum with Tusome approaches from grades 1–4. [We] have developed materials, which also take [the] same format as Tusome books. We have a learner’s book and teacher’s guide.”

HIGH-LEVEL MINISTRY OF EDUCATION OFFICER, KENYA

Tusome is our program ... no way to differentiate between Tusome and government. Its activities are part of our core mandate ... [We] monitor the teachers, support the teachers in induction and training, [and] oversee the distribution of [teaching and learning materials] to ensure that every child has a textbook.”

COUNTY EDUCATION OFFICER, ELGEYO-MARAKWET COUNTY, KENYA

Kenyan officials acknowledged that Tusome developed the capacity of actors within the education system in several areas, such as the development of teaching and learning materials; the conducting of evaluations and assessments; the principles of reading pedagogy and coaching; and the utilization of communication technology (e.g., how to use tablets for coaching and how to use the dashboard). The main recipients of training were teachers and CSOs, which led to some groups of officials, such as quality assurance and standards officers, to feel neglected. The training and capacity building of teachers and CSOs were seen by many as one of the biggest contributors to the program’s success.

MONITORING AND DATA USE



There is a monitoring exercise going on right now, and many staff are in the field. Yes, they are going all around observing those children who are going into grade 4. They will compile a report on what they see, including challenges, and they will share it when they come back. I took part in a number of them and saw children in grade 3 reading in Swahili and English. In my 40 years as a professional, I had not seen anything like it.”

MINISTRY OF EDUCATION OFFICIAL, KENYA

Many respondents stated that access to implementation data through an online dashboard was one way that Tusome differentiated itself from other programs and maximized its success (see **FIGURE 7**). It was also a way to hold CSOs accountable for doing their job: supervisors can check the dashboard to see whether CSOs have been conducting their observations, and embedded GPS codes allow the supervisors to also tell if the CSOs were actually at a school when the observation was uploaded.

FIGURE 7. CSOs’ teacher support dashboard



Photo credit: Kenya Tusome

Lessons Learned from Tusome

Funding and job descriptions for sustainability. School visits (from CSOs and Tusome staff) were found to be an essential component of support for schools and teachers. However, CSOs have a variety of job responsibilities and it became more challenging to maintain the same number of school visits as the Tusome program prepared to close. This points to a need to focus on revising job descriptions and ensuring that funding is made available for any program components that are expected to continue beyond the life of the program.

Addressing inconsistencies to improve alignment. Tusome worked closely with the MOE at all stages of program implementation. However, as the MOE rolled out its new competency-based curriculum (CBC) to all schools, questions were raised about the role of Tusome materials within the new curriculum. In response, the MOE distributed a circular that explained how the Tusome books were to be used within the new curriculum. Tusome also included sessions about the CBC in program trainings and worked with CSOs and teachers during classroom visits to provide additional guidance about alignment.

What factors most contributed to the success of Tusome, according to program stakeholders?

Many of the essential elements found across the eight programs in the study were core to the success of Tusome. Particular aspects of Tusome that stood out in study findings include:

- Teachers adopted research-based reading instructional methods, including more focus on phonics and the “I do, we do, you do” approach. Student-centered approaches gave students the chance to apply what they learned and led to increased engagement.
- Trainings had more modeling, discussion, and practice, and were better organized, while teachers’ guides had clear, step-by-step instructions and student books were plentiful, engaging, and attractive. Coaches saw their goal as helping teachers improve instruction—not as inspection.
- Government played a key role in decision making and communicated expectations through all levels of the system, while capacity was bolstered at the sub-national level to ensure materials development, training, coaching and other key instructional activities were conducted by system actors. System and program actors consistently monitored program implementation in schools and communicated this data to the necessary education offices through an online dashboard.

Now—as education systems across the globe look for ways to recover from COVID-19 disruptions to schooling—using programs such as Tusome as a model for leveraging and investing in these elements is more important than ever.

This brief was authored by **Rachel Jordan**.

- 1 The eight programs examined are: Education Quality Improvement Program in Tanzania (Cambridge Education), Ghana Partnership for Education: Learning (FHI360), Senegal Lecture Pour Tous (Chemonics), Nigerian Education Initiative Plus (Creative Associates), Pakistan Reading Program (IRC), Read India (Pratham), India Scaling-up Early Reading Intervention, (Room to Read), and the Kenya Tusome Early Grade Reading Activity (RTI International).
- 2 For more findings on instructional practice, see the brief: [Instructional Practices for Effective Large-Scale Reading Interventions](#)
- 3 For more findings on instructional support, see the brief: [Instructional Support for Effective Large-Scale Reading Interventions](#)
- 4 For more findings on systems support, see the brief: [System Supports for Effective Large-Scale Reading Interventions](#)



Photo credit: Kenya Tusome