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# Assistance to Basic Education: All Children Reading (ABE-ACR)

## ABE-ACR Tanzania National EGRA Supervisor and Assessor Training Workshop



*Standard 3 students in Dar es Salaam show their exercise books during a practice Classroom Inventory.  
Photo credit: RTI staff*

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## List of Abbreviations

3Rs	Reading, Writing, and Arithmetic
AAM	Assessor Accuracy Measure
ABE-ACR	Assistance to Basic Education:
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
IRR	inter-rater reliability
SSME	Snapshot of School Management Effectiveness



A Master Trainer Training Workshop and a set of five simultaneous Regional Assessor Training Workshops were conducted as part of the Tanzania National Early Grade Reading Assessment (EGRA). This report summarizes these two workshop structures. Section 1 focuses on the Master Trainer Training Workshop, providing an introduction, objectives, and overview of the workshop. Section 2 focuses on the Regional Assessor Training Workshops, providing an introduction, objectives, and overview of the workshop.

# 1 Section 1. Master Trainer Training Workshop

## 1.1 Introduction

RTI International facilitated the five-day Master Trainer Training Workshop, which was held at the Sea Cliff Hotel in Dar es Salaam, Tanzania, from January 11–15, 2016. The majority of the participants were former assessors (government employees) and supervisors (DataVision contractors) from the *2013 National Baseline Assessment for the 3Rs (Reading, Writing, and Arithmetic) Using the EGRA, the Early Grade Mathematics Assessment (EGMA), and the Snapshot of School Management Effectiveness (SSME) in Tanzania*. We used this strategy so that the Master Trainers trained at the workshop could draw from their existing knowledge of administering the EGRA, EGMA, and SSME instruments and further build their capacity and skills. Training individuals without EGRA, EGMA, and SSME administration experience would have taken more time to build the foundation that existed with these former assessors and supervisors. We also recruited additional, new assessors and took additional measures (e.g., pairing a veteran assessor and new assessors together during practice) to ensure that the new assessors were as well-prepared as the veterans.

The Master Trainer Training Workshop prepared a cohort of Master Trainers who were trained centrally. Following the training and selection process, the Master Trainers then delivered the technical training content at one of the five concurrent Regional Assessor Training Workshops. The 18 Master Trainers were trained in a specialized role as one of the following: an EGRA/EGMA Master Trainer, an SSME Master Trainer, or a Tangerine<sup>®</sup> Master Trainer. The Master Trainers participated in a selection process that involved quizzes and other methods to determine their level of understanding. This information was used to select the top-qualified Master Trainers who could then serve as Master Trainers for the assessors and supervisors. The 15 selected Master Trainers were then divided into five regional teams, each of which consisted of one EGRA/EGMA Master Trainer, one SSME Master Trainer, and one Tangerine Master Trainer.

RTI staff developed and delivered the technical content of the Master Trainer Training Workshop. The following staff and consultants were involved with delivering the workshop:

- Ms. Keely Alexander (Project Coordinator)
- Ms. Katherine (Kate) Batchelder (facilitator for SSME material and Project Technical Manager)
- Dr. Margaret (Peggy) Dubeck (facilitator for EGRA material)
- Mr. Scott Kipp (facilitator for Tangerine and tablet material)
- Ms. Anna Mshana-Toroka (local EGRA and Kiswahili language consultant)

- Ms. Lilly Piper (facilitator consultant for adult learning and EGMA material).

The local subcontractor, DataVision, organized the logistics for the workshop that included making arrangements for the conference venue, as well as obtaining permissions and handling transportation arrangements for a school visit for practical experience on the last day of the workshop. DataVision staff also coordinated and managed the payment of per diem and any travel reimbursements, as necessary, to workshop participants.

The following development partners and Government of Tanzania representatives visited the Master Trainer Training Workshop to observe the activities:

- Dr. Wilberforce E. Meena, Tanzania Institute of Education
- Dr. Fika Mwakabungu, Tanzania Institute of Education
- Mr. David Bruns, USAID/Tanzania
- Mr. Abbas Nsanzungwanko, USAID/Tanzania
- Ms. Alice Birnbaum, Global Affairs Canada, High Commission of Canada for Tanzania.

## 1.2 Objectives

There were three main objectives of the Master Trainer Training Workshop. These objectives are briefly listed as follows and are further described in the following paragraphs:

1. Train Master Trainers regarding proper tablet administration of the EGRA and EGMA instruments, SSME instruments, and the Tangerine software and tablet functionalities; prepare the Master Trainers to train the assessors regarding how to properly administer the EGRA, EGMA, and SSME instruments via tablets
2. Recruit the most accurate and adept assessors by conducting certification quizzes and assessor accuracy measure (AAM)<sup>1</sup> tests
3. Provide assessors with the opportunity to gain real experience with administering the assessment instruments via tablets, using Tangerine, understanding the overall tablet functionality, and increasing confidence in presenting training material about the assessment instruments and tablets.

### 1.2.1 **Objective 1: Train Master Trainers regarding proper tablet administration of the EGRA and EGMA instruments, SSME instruments, and the Tangerine software and tablet functionalities; prepare them to train the assessors regarding how to properly administer the EGRA, EGMA, and SSME instruments via tablets**

To ensure that the Master Trainers are ready to train the assessors and supervisors regarding proper administration of the EGRA, EGMA, and SSME instruments, the Master Trainers first must be proficient in administering the EGRA, EGMA, and SSME assessments. A solid foundational knowledge of the practical aspects of instrument administration leads to Master Trainers who are competent and prepared to teach and answer questions about instrument

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<sup>1</sup> The term “assessor accuracy measure (AAM)” is replacing the term “inter-rater reliability (IRR)” based on recent discussions within the international education research community. IRR is the term that is used to refer to the process of checking for consistency between assessors, and AAM is used to refer to accuracy of assessors against a pre-determined Gold Standard. This is the way in which RTI will be using these terms going forward.

administration from the assessors and supervisors. These elements are important factors for gathering high-quality, reliable data.

The Master Trainer Training Workshop started in a plenary session during which an overview of the project and objectives for the week were presented. Opening remarks were kept to a minimum to focus time and effort on the task of training the Master Trainers. The first day of the workshop focused on the best practices for adult learning and sharing the workshop facilitation techniques that the trainees would use as trainers during the Regional Assessor Training Workshops. Learning these techniques, and providing time to review and practice with the instruments, helped to increase familiarity and understanding of both the instruments and of proven effective training approaches.

After the first day, the Master Trainers were divided into groups according to their assigned specialized roles and responsibilities, as previously mentioned. The remaining training sessions for the EGRA/EGMA Master Trainers, SSME Master Trainers, and the Tangerine Master Trainers occurred concurrently.

The training for all three groups of Master Trainer trainees followed a similar model. The participants were trained predominately on Google Nexus 7 tablets. However, the instruments were introduced first on paper for two reasons. First, the paper versions are used as the back-up method for administration during the actual data collection in the field. Knowing how to administer the assessments on paper ensures that the assessors can collect data even if unforeseen circumstances should occur that prevent data collection on the tablet. Second, this approach isolates the participant's attention to the mechanics and protocol of the instrument before introducing the functionality of the tablet. Through this approach, trainees solidify their abilities with the instruments and subtasks within instruments before advancing to working on the tablet. The Master Trainers use this same approach to teach the assessors at the Regional Assessor Training Workshops.

The training was designed to build on the participants' knowledge over the course of the workshop. The progression of instruments and EGRA/EGMA subtasks with similar administration protocols were introduced in groups so that once the trainees knew how to administer one of the subtasks with a specific administration protocol, they then knew how to administer all subtasks with this same protocol. A similar approach for the SSME Master Trainer trainees was followed. This was an efficient and effective way to build the skills of the participants in a short amount of time.

All participants were given ample time to practice administering the assessment instruments for which they were responsible. A variety of training approaches known to work well in adult learning—and specifically in assessor and trainer training workshops—were used. The RTI facilitators first modeled the administration of the instrument while the trainees observed. Participants then practiced in pairs by role-playing, with one trainee acting as the student and the other trainee serving as the assessor. Participants were also asked to model in front of the class. When the trainees were comfortable with administering the assessment instruments, the trainers introduced pre-recorded videos for the trainees to watch and allowed time to practice using the instruments. For example, for the SSME trainees, pre-recorded videos from Kiswahili and mathematics lessons were shown while the assessors marked the classroom observation instrument according to what was captured in the video.

Implementing this variety of training approaches served a dual purpose. First, this approach helped to solidify the knowledge gained regarding how to properly administer the instruments for the Master Trainer trainees. Second, this approach exposed the trainees to different training approaches that they could implement as Master Trainers during the Regional Assessor Training Workshops. Both approaches were important aspects of the learning process because this helped to ensure that the Master Trainers were prepared to train the assessors.

### **1.2.2 Objective 2: Recruit the most accurate and adept assessors by conducting certification quizzes and AAM tests**

The EGRA/EGMA and SSME Master Trainer trainees were held to a selective certification process in order to become one of the 15 Master Trainers charged with leading one portion of a Regional Assessor Training Workshop. Over the course of the five-day workshop, the EGRA/EGMA Master Trainer trainees were administered two quizzes about proper EGRA/EGMA administration and protocols, as well as an AAM test to ensure that they could accurately and properly score EGRA and EGMA on the tablet and achieve high agreement with a pre-determined “Gold Standard” set of responses. Similarly, the SSME Master Trainer trainees were administered two quizzes about proper instrument administration and protocols, as well as an AAM test on the Teacher Questionnaire. The purposes of the quizzes and AAM test were to ensure that they were all in agreement with a pre-determined “Gold Standard,” that they could correctly record the responses on the tablet during the simulated questionnaire, and that they were properly prepared regarding the administration, mechanics, and protocols. The Tangerine Master Trainer trainees were selected because of their demonstrated practical knowledge of the Tangerine application and their understanding of tablet troubleshooting and functionality.

In addition to the results of the certification quizzes and AAM tests, the selection process also involved the RTI facilitators observing the Master Trainer trainees giving mock presentations to introduce and demonstrate the EGRA/EGMA and SSME instruments and subtasks as if they were actually teaching a group of assessors. The purpose of this activity was to simulate the tasks for which they would be responsible during the Regional Assessor Training Workshops. Observing the trainees while modeling an introduction or demonstration of the instruments and subtasks ensured that the trainees were properly prepared and confident to teach the assessors about the instruments and subtasks.

The Master Trainer trainee evaluation experience also relates back to Objective 1 because it exposed the trainees to the selection process that would also be used during the Regional Assessor Training Workshops. Additionally, although any of the Master Trainer trainees who had previously been an assessor had participated in an AAM test, this activity refreshed their knowledge of and experience with the purpose and process of the AAM test. Lastly, this activity also underscored the notion that the assessor trainees would be subjected to a rigorous selection process, thus encouraging all participants to be attentive and active during training.

### **1.2.3 Objective 3: Provide assessors with the opportunity to gain real experience with administering the assessment instruments, using Tangerine, understanding the overall tablet functionality, and increasing confidence in presenting training material about the assessment instruments and tablets**

The design of the workshop provided participants with practical experiences to use and strengthen the information they gained during the training sessions. The agenda (see **Annex 1**) was structured to start with time for introducing the technical content of each instrument or subtask, but offered flexibility to accommodate as much practice and hands-on experience as possible and as needed for the participants to gain confidence in applying the content they had just learned.

There were many training methods of practical experience implemented by all Master Trainers during the workshop. For example, the Master Trainers

- Prepared the introduction of an instrument or subtask to present in front of the group
- Presented the introduction and technical material about an instrument or subtask material to the group of trainees and facilitators
- Modeled correct instrument, subtask, and tablet administration
- Participated in role playing of
  - Administration practices: One trainee played the part of the assessor, and another trainee acted as the student or teacher
  - Training practices: One trainee played the part of the Master Trainer, and the others acted as the assessors being trained on the instrument or subtask
- Provided feedback and constructive corrections to fellow trainees to simulate providing feedback to assessors during the training workshop.

On the final day of the workshop, the group of Master Trainer trainees visited a nearby school for a half-day session of school-based practice. This practice provided the trainees with an opportunity to practice the instruments in the same context as the full data collection. This practice also provided the trainees with an opportunity to note possible administration challenges that the assessors might encounter during data collection and provided the RTI facilitators with an opportunity to make final observations and provide feedback to the Master Trainer trainees about their practice. This practical knowledge would better prepare and better equip the trainees as Master Trainers during the Regional Assessor Training Workshops, which, in turn, would better prepare the assessors for data collection.

## **2 Section 2. Regional Assessor Training Workshops**

### **2.1 Introduction**

Five simultaneous Regional Assessor Training Workshops occurred during the week of January 18, 2016. RTI staff oversaw and led the facilitation of the six-day workshop in each of the five regional locations: Arusha, Mbeya, Morogoro, Mtwara, and Mwanza. RTI staff developed the technical content, which was presented by the selected Master Trainers. Each Regional Assessor Training Workshop was led by an RTI facilitator, an EGRA/EGMA

Master Trainer, an SSME Master Trainer, and a Tangerine Master Trainer and was supported by a small team from DataVision that oversaw the logistics and arrangements. Each regional workshop was attended by approximately 10 supervisor trainees (DataVision consultants), 20 EGRA/EGMA assessor trainees (ministry employees), and 10 SSME assessor trainees (ministry employees). These numbers varied slightly from location to location based on the recruitment of former assessors and availability of new participants. To the extent possible, former EGRA/EGMA and SSME assessors and former supervisors were recruited to participate in this round of training and data collection to build on their existing knowledge and further increase their capacity and skills. Of the approximately 200 trained assessors and supervisors, 176 of which were selected to advance to the data collection activities.

The following RTI staff oversaw each regional location:

- Arusha: Ms. Alexander and Ms. Batchelder
- Mbeya: Ms. Ana Robledo and Ms. Mshana-Toroka (consultant)
- Morogoro: Ms. Maria Dzula
- Mtwara: Mr. Kipp
- Mwanza: Mr. Christopher (Chris) Cummiskey.

Similar to the Master Training Workshop, DataVision staff organized the logistical preparations for the five Regional Assessor Training Workshops. The DataVision staff in each location coordinated the conference and catering details and served as the liaison with the local District Education Office and local education officials from the ministry to confirm permissions for two school visits. The DataVision staff also arranged transportation for the workshop participants to attend the school visits and coordinated and disbursed per diem payments and travel reimbursements (as necessary) to participants.

The number of trainees in each location of the Regional Assessor Training Workshops is presented in **Table 1**.

**Table 1. Assessor and Supervisor Trainees by Location**

Region	Location	Number of EGRA/EGMA Trainees	Number of SSME Trainees	Number of Supervisor Trainees
Arusha	SG Resort Hotel	20	10	10
Mbeya	Paradise Hotel	15	14	10
Morogoro	Nashera Hotel	20	10	10
Mtwara	Naf Beach Hotel	17	10	10
Mwanza	Gold Crest Hotel	27	10	10
<b>Total</b>		<b>99</b>	<b>54</b>	<b>50</b>

## 2.2 Objectives

Similar to the objectives of the Master Trainer Workshop, there were five major objectives of the Regional Assessor Training Workshops. These objectives are briefly listed as follows and are discussed in more detail in the subsequent paragraphs:

1. Train assessors regarding how to properly use the tablet to administer the EGRA, EGMA, and SSME instruments
2. Train assessors regarding how to determine whether responses to items on EGRA, EGMA, and SSME instruments are correct or incorrect
3. Train supervisors regarding team roles and responsibilities during data collection
4. Recruit the most accurate and competent assessors through AAM tests
5. Expose assessors to real experiences so they can practice administering the assessment instruments on the tablet.

### 2.2.1 *Objective 1. Train assessors regarding how to properly use the tablet to administer the EGRA, EGMA, and SSME instruments*

Assessors play an important role in a successful data collection effort. Therefore, it is vital that assessors understand how to conduct the assessments and surveys and that they are trained on how to correctly and properly administer the assessment instruments. Having this knowledge base and training completed beforehand will ensure that good data are collected and can help avoid unnecessary problems during the field work. At the completion of the training, the assessors must be able to demonstrate that they can collect the data accurately and reliably because this will help ensure that high-quality and reliable data are gathered.

The workshop followed a very similar course in each of the five regional locations. The training began with an overview of the project and a brief introduction to the instruments. Over the six-day workshop, participants attended both plenary and, more frequently, subject-specific sessions. Because of the large number of instruments to be administered during data collection, the trainees were assigned subject specializations so that some assessors focused on EGRA, EGMA, and student questionnaires; some focused on SSME surveys and observations; and others were trained to be supervisors. The supervisor trainees learned the responsibilities required to successfully fulfill that role and learned the administration practices of all instruments so they could administer instruments as needed in the field.

By the end of the training workshop, the assessors were grouped into four-person Data Collection Teams. Because of the large number of students to be sampled at each school, the number of assessments to be conducted, and the time required of each instrument, the data collection responsibilities were divided as presented in **Table 2**.

**Table 2. Assessment Responsibilities During Data Collection**

EGRA/EGMA Assessor 1	EGRA/EMGA Assessor 2	SSME Assessor	Supervisor
EGRA/EGMA and student questionnaires x 5 students	EGRA/EGMA and student questionnaires x 5 students	Teacher Questionnaire	EGRA/EGMA and student questionnaires x 2 students
		Classroom Inventory	Head Teacher Questionnaire
		Classroom Observation Kiswahili	Additional supervisor duties
		Classroom Observation Mathematics	—

Similar to the approach used for the Master Trainer trainees, the assessors were introduced to the instruments first on paper, and then were trained on how to properly use the instruments by using Google Nexus 7 tablets loaded with the Tangerine software application. As previously mentioned, paper-based data collection is used as a back-up method in case anything unexpected occurs that prevents the assessors from using the tablets in the field. Very rarely do teams have to resort to paper-based data collection, but this method is important as a back-up measure because it can prevent delays in data collection. Starting first on paper-based instruments also focuses the assessors on the mechanics and protocols of the subtasks and instruments before adding the next layer of tablet functionality and administration.

The content of the training was presented in a logical and step-wise manner to build on the progression of skills that the trainees learned over the course of the workshop. To start, the assessors were introduced to each of the subtasks with different administration mechanics. The rationale for using this approach was that if an assessor mastered that one subtask with that particular set of administration mechanics, then he or she already knew how to administer any other subtasks with the same administration rules. This approach was an effective and efficient way to discuss a large amount of content in a limited amount of time.

### **2.2.2 Objective 2. Train assessors regarding how to determine whether responses to items on EGRA, EGMA, and SSME instruments are correct or incorrect**

Assessors must be able to properly administer the assessment instruments on a tablet, but it is also crucial that they can accurately evaluate whether responses to assessment items are correct or incorrect. Across the EGRA and EGMA instruments, the subtasks are scored along different criteria specific to the subtask. Similarly, the SSME instruments record responses in a certain way according to specific criteria. For most of the subtasks in the instruments, the scoring is clear and obvious. For example, when asking a student which number is larger of two numbers as part of the EGMA, there is only one clear response that can be marked as correct. In EGRA, however, there is more nuance in determining whether a student's response to a comprehension question is correct or whether the student has correctly pronounced a particular syllable. Similarly, although marking syllables as correct or incorrect sounds like a straightforward task, it does require a nuanced understanding and familiarity with the scoring criteria.

Natural regional differences exist regarding the pronunciation of syllables or how non-words (or invented words) might be pronounced. To address these issues in a systematic way, the training workshop agenda (see **Annex 2**) included a large amount of time dedicated to addressing these questions and practicing by listening to recordings and watching videos of actual students responding to assessment items. The Master Trainers were trained heavily on the possible correct responses and on the correct pronunciation of items during their training workshops. The RTI facilitator provided assistance if any disputes arose. The trainers used pre-recorded videos of the Kiswahili language consultant, Ms. Mshana-Toroka, demonstrating the acceptable pronunciation(s) of all 100 syllables and 50 non-words. The assessors also participated in “sound drilling” activities, during which the correct syllable and non-word sounds were practiced in various ways to ensure that all assessors were certain of the correct, acceptable pronunciation for all syllables and non-word items included in the EGRA.

Videos were a large component of the EGRA/EGMA and the SSME training. Watching pre-recorded video segments of students performing the EGRA and EGMA subtasks or a video recording of classroom lessons gave the assessors a realistic sense of what they might encounter during the school visits for practice and during the actual data collection effort. These video sessions exposed the assessors to different students and classroom scenarios. Video also offered the unique advantage of allowing the assessors to watch a segment of the video and mark the items accordingly. After the video, the Master Trainer or RTI facilitator would moderate a discussion about any discrepancies in the responses that the assessors had marked, specifically focusing on what was observed, what was marked, and why the decision was made to mark in that way. The video and subsequent discussion were valuable training tools for the trainers and a valuable learning process for the assessors.

### **2.2.3 Objective 3. Train supervisors regarding team roles and responsibilities during data collection**

The supervisors (a subset of the total number of assessors) carry additional responsibilities for the Data Collection Teams during the field work. The supervisors are the direct line of communication from the Data Collection Teams to the subcontractor, DataVision, during the data collection activities. To facilitate this communication, DataVision recruits and hires supervisors as consultants for the activities. The supervisors must be knowledgeable of all assessment instrument protocols and all data collection procedures during the school visit in case any questions arise from the other Data Collection Team members.

The supervisors are responsible for a portion of the instruments completed at each school during data collection. In addition, the supervisors are responsible for ensuring that the team follows the assigned route and sequence of school visits during the three weeks of data collection and maintaining records of all data collection activities and counts of instruments completed at each school. The supervisors are also responsible for ensuring that tablets are fully charged at the end of the day and that all data from the day are properly uploaded to the cloud-based server. Also importantly, the supervisors oversee the overall quality of the data collection, including providing feedback to assessors on a regular basis during data collection.

Supervisors attended specialized training regarding their roles and responsibilities so that they would be fully prepared and ready to lead their team of assessors during the data

collection field work activities. The training discussed how to perform in-depth troubleshooting for tablet issues, how to upload data from the field, how to communicate field report details to DataVision staff, and the protocols that must be followed when conducting the school visits. The supervisors had the opportunity to practice these skills during the Regional Assessor Training Workshops while under the guidance of the Master Trainers, RTI facilitators, and DataVision staff at each regional location. The supervisors also took the lead during the pilot study activities, which closely mirrored what they would encounter during the full data collection effort. (For more information about the pilot study effort, see the Pilot Study Report.)

#### **2.2.4 Objective 4. Recruit the most accurate and competent assessors through AAM tests**

An important part of preparing a cohort of assessors is evaluating their performance so that the top-performing assessors are selected to conduct the data collection effort because this will help to ensure high-quality and reliable data. A major part of this process is the two AAM tests that assessors completed during the Regional Assessor Training Workshops. The AAM tests evaluated each assessor's score for agreement with a Gold Standard. Scores were tracked across the tests to measure progress and improvement. Using this approach helped to ensure that the most accurate and competent assessors were selected for the actual data collection exercise.

Even though only the top-performing assessors were selected to participate in the full data collection exercise, the trainers and facilitators strived for all assessors to meet and exceed the benchmark of 90% agreement with the Gold Standard. Any assessors who were not selected among the highest performing assessors would be placed on a reserve team and would be called upon if any of the selected assessors were unavailable during the data collection effort because of unforeseen circumstances. For this reason, great effort was made to ensure that all assessors achieved high marks on the AAM tests.

The SSME assessors were given one AAM test for the Teacher Questionnaire. During the second AAM test session, the assessors were tested on their agreement on responses to the Classroom Observations for Kiswahili and for Mathematics.

The AAM process during the Regional Assessor Training Workshops was a success as can be seen in **Annex 3**. The vast majority of assessors reached and well exceeded the benchmark of 90% agreement with the Gold Standard during the AAM tests. Many more assessors reached the target benchmark than were needed to meet the minimum number of assessors to be recruited for the data collection activities.

#### **2.2.5 Objective 5. Expose assessors to real experiences so they can practice administering the assessment instruments on the tablet**

Practical experience during the training workshop is designed to give context regarding what has been learned and to expose trainees to a more realistic set of encounters than can be provided just within the conference hall. With this in mind, several opportunities for practical experience were built into the design of the workshop. There were a variety of exercises during the training sessions that were implemented in each of the five regional locations. There were also two school-based practice sessions during the week at each of the five regional locations.

During the workshop, assessors had many opportunities to practice instrument administration in pairs and small groups. In pairs, one assessor would play the role of the “student,” and the other marked the responses of the “student” according to the instrument protocol. When practicing in three-person groups, one was the assessor, one was the student, and one was an observer who provided comments and feedback to the assessor about how he or she marked the responses and whether he or she evaluated the responses accurately as either correct or incorrect.

Two school visits were scheduled during the six-day workshop. The first visit occurred on Day 3, and the second visit was on Day 5. In each regional location, the assessors were split across two schools on each of the school visit days. The most important selection criteria of the schools was that the schools were large enough to allow each assessor to administer between three and five student assessments during the first school visit, and a minimum of five student assessments during the second school visit. The instrument on the tablet for the first school visit contained abbreviated forms of the EGRA and SSME instruments, which covered only those subtasks and questionnaires that had been covered during training up to that point. By the second school visit, the assessors were practicing with the full EGRA, EGMA, and SSME instruments.

By the end of the six-day workshop, a well-prepared group of approximately 200 EGRA/EGMA assessors, SSME assessors, and supervisors were trained across five regional locations. This effort was a large undertaking that resulted in the positive outcome of nearly all assessors reaching or exceeding the AAM performance benchmark required for selection. An overall average of 92.6% was reached for the EGRA/EGMA assessors, and an average of 94.6% was reached for the SSME assessors.

## Annex 1. Master Trainer Training Program

	Day 1	Day 2	Day 3	Day 4	Day 5
8:30 a.m.– 10:30 a.m.	Opening Session (Plenary)	Instrument Basics (split into EGRA/EGMA, SSME, and Tangerine groups)	Instrument Practice and Facilitation (split into EGRA/EGMA, SSME, and Tangerine groups)	Instrument Practice and Facilitation with Tangerine (split into EGRA/EGMA and SSME groups with Tangerine team overseeing)	School Visit
10:30 a.m.– 11:00 a.m.	Tea	Tea	Tea	Tea	Tea
11:00 a.m.– 13:00 p.m.	Adult Learning Techniques (Plenary)	Instrument Basics (continued) (split into EGRA/EGMA, SSME, and Tangerine groups)	Instrument Practice and Facilitation (continued) (split into EGRA/EGMA, SSME, and Tangerine groups)	Preparation for the IRR (split into EGRA/EGMA and SSME groups with Tangerine team overseeing)	School Visit (continued)
13:00 p.m.–14:00 p.m.	Lunch	Lunch	Lunch	Lunch	Lunch
14:00 p.m.– 15:30 p.m.	Training Facilitation Tips (Plenary)	Practice Session (split into EGRA/EGMA, SSME, and Tangerine groups)	Introducing Tangerine (split into EGRA/EGMA and SSME groups with Tangerine group overseeing)	IRR (split into EGRA/EGMA and SSME groups with Tangerine team overseeing)	School Visit Debrief (Plenary)
15:30 p.m.–16:00 p.m.	Tea	Tea	Tea	Tea	Tea
16:00 p.m.– 17:00 p.m.	Roles and Responsibilities (Plenary)	Practice Session (continued) (split into EGRA/EGMA, SSME, and Tangerine groups)	Instrument Practice and Facilitation with Tangerine (split into EGRA/EGMA and SSME groups with Tangerine group overseeing)	Preparation for the School Visit (Plenary)	Final Comments and Planning for Regional Training Workshops (Plenary)

# Annex 2. Regional Assessor Training Program

	Day 1			Day 2			Day 3			Day 4			Day 5			Day 6		
	EGRA/EGMA (Room 1)	SSME (Room 2)	Tangerine staff (Room 3)	EGRA/EGMA (Room 1)	SSME (Room 2)	Tangerine staff	EGRA/EGMA (Room 1)	SSME (Room 2)	Tangerine	EGRA/EGMA (Room 1)	SSME (Room 2)	Tangerine	EGRA/EGMA (Room 1)	SSME (Room 2)	Tangerine	EGRA/EGMA (Room 1)	EGRA/EGMA (Room 2)	SSME (Room 3)
8:30 a.m.–9:00 a.m.	<ul style="list-style-type: none"> <li>Welcome and introduction</li> <li>Overview of the week</li> </ul>			Introduction to Tangerine			School-based practice with incorporating Tangerine (EGRA administered to at between 3 and 5 children per assessor and each assessor observed at least once)	School-based practice with incorporating Tangerine (observe mathematics and reading classrooms [Classroom Inventory])	Fix any tablet issues; ensure that data are being uploaded; and provide assistance	EGMA (Number Discrimination)	Classroom Observation practice with videos	Provide assistance with videos for classroom observations, with the randomization of subtasks, and with which instrument to use	School-based practice with incorporating Tangerine for EGRA/EGMA (between 2 and 3 children per assessor)	School-based practice with incorporating Tangerine (observe mathematics and reading classrooms [Classroom Inventory])	Fix any tablet issues; ensure that data are being uploaded, and provide assistance	Review IRR Session 2		
9:00 a.m.–9:30 a.m.	<ul style="list-style-type: none"> <li>Overview of EGRA/EGMA and the Pupil and Teacher Questionnaires, Classroom Inventory, and Classroom Observation</li> </ul>			Practice EGRA subtasks with Tangerine	Teacher Questionnaire (in Tangerine)	Circulate between 2 rooms and provide assistance when there are issues				EGMA (Missing Number and Addition [L1 and L2])						EGRA (Practice with Syllables and Non-words, including a video)	Practice and review	Provide assistance when needed
9:30 a.m.–10:00 a.m.	EGRA (Syllables and Non-words)	SSME (introduction and consent)	Ensure that all tablets are ready and functioning															
10:00 a.m.–10:30 a.m.																		
10:30 a.m.–11:00 a.m.	Tea			Tea			Tea			Tea			Tea			Tea		
11:00 a.m.–11:30 a.m.	EGRA (Oral Reading and Reading Comprehension)	SSME (Teacher Questionnaire)	Work on uploading most recent APK	Practice EGRA subtasks with Tangerine	Teacher Questionnaire (in Tangerine [c] cont'd)	Circulate between 2 rooms and provide assistance when there are issues	School-based practice (continued)	Practice with the Teacher Questionnaire and the Supervisors and Head Teacher Questionnaire; practice entering data into tablets	Continue to provide assistance	EGMA (Subtraction [L1 and L2] and Word Problems)	Classroom Observation practice with videos		School-based practice with incorporating Tangerine for EGRA/EGMA (between 5 and 6 children per assessor)	Practice with the Teacher Questionnaire and the supervisors and Head Teacher Questionnaire; practice entering data into tablets	Continue to provide assistance	EGRA (Oral Reading and Reading Comprehension)	Practice and review	Provide assistance when needed
11:30 a.m.–12:00 p.m.																		
12:00 p.m.–12:30 p.m.	EGRA (Dictation)	SSME (Classroom Inventory)		Practice EGRA subtasks with Tangerine	Classroom Inventory (in Tangerine)	Circulate between 2 rooms and provide assistance when there are issues				Practice in pairs with using Tangerine	Classroom Observation practice with videos					EGRA (Dictation)	Practice and review	Provide assistance when needed
12:30 p.m.–13:00 p.m.												Provide assistance						
13:00 p.m.–13:30 p.m.	Lunch			Lunch			Lunch			Lunch			Lunch			Lunch		
13:30 p.m.–14:00 p.m.	Lunch			Lunch			Lunch			Lunch			Lunch			Lunch		
14:00 p.m.–14:30 p.m.	EGRA (Syllables and Non-words)	SSME (Classroom Observation Mathematics)	DV tasks for Day 2 preparation; confirm the logistics for school visits, and assemble student stimulus booklets	Sound drilling: –Syllables –Non-words –Review IRR 1	Classroom observation practice with videos (entering data into Tangerine)	Circulate between 2 rooms and provide assistance when there are issues	Review of school-based experience as large group			Sound drilling: – syllables – Non-words – Review IRR 1	Practice the Classroom Observation with videos; review IRR 1	Offer opportunity to upload new APK on supervisor tablets (only for Life Skills); ensure that tablets are charged	Review school-based experiences as a large group			Describe the selection of assessors (an internal discussion) and plans for notifying them		
14:30 p.m.–15:00 p.m.							Review school-based experience; handle specific EGRA administration issues; and upload data	Review school-based experience; handle specific SSME administration issues; and upload data	Review school-based experience; handle specific tablet issues; and provide assistance with uploading data	Pupil Questionnaire			Review school-based experience; handle specific EGRA administration issues; and upload data	Review school-based experience; handle specific SSME administration issues; and upload data	Review school-based experience; handle specific tablet issues; and provide assistance with uploading data	Review and discuss the logistics for the pilot effort, such as organizing the assessors into teams (supervisors and teams make arrangements, in particular for meetings and travel), their responsibilities regarding materials, and planning for the next day		
15:00 p.m.–15:30 p.m.	EGRA (Oral Reading and Reading Comprehension)	SSME (Classroom Observation Reading)		Introduction to IRR														
15:30 p.m.–16:00 p.m.	Tea			Tea			Tea			Tea			Tea			Tea		
16:00 p.m.–16:30 p.m.	EGRA (Dictation)	SSME (Classroom Observation, continued)	Continue to help where needed	Discuss the school visit: –No sampling for first school visit –Logistics –Schedule for day			IRR 1	IRR 1	Provide assistance to ensure that the IRR process is working correctly on the tablets	Conduct a quick check of the process and purpose; provide an explanation of training IRR process and purpose						IRR 2	IRR 2	Provide assistance to ensure that the IRR process is working correctly on the tablets
16:30 p.m.–17:00 p.m.										Make arrangements for the school visit						Closing remarks		

## Annex 3. AAM Scores

### A-1. AAM 1 EGRA/EGMA Agreement with Gold Standard

Arusha	Mbeya	Morogoro	Mtwara	Mwanza
98.8%	90.9%	98.7%	99.6%	91.0%
98.4%	90.1%	97.6%	99.4%	90.6%
98.0%	89.9%	96.9%	99.0%	90.1%
97.8%	89.2%	96.7%	98.9%	89.9%
97.5%	89.0%	96.6%	98.2%	89.6%
97.3%	88.7%	96.5%	98.1%	89.0%
97.0%	86.6%	96.4%	97.9%	88.9%
96.9%	86.5%	96.3%	97.8%	88.9%
96.3%	86.5%	96.3%	97.6%	88.8%
96.2%	85.2%	96.0%	97.6%	88.8%
96.0%	84.7%	95.9%	97.0%	88.7%
95.9%	84.5%	95.8%	96.9%	88.6%
95.9%	83.9%	95.3%	96.5%	88.5%
95.6%	83.9%	95.2%	96.5%	88.5%
95.5%	83.5%	94.8%	96.2%	87.7%
95.4%	83.0%	94.6%	96.1%	87.0%
95.2%	82.8%	94.5%	95.5%	86.6%
95.1%	82.7%	94.2%	95.2%	86.5%
94.9%	82.7%	94.1%	95.2%	86.5%
94.4%	82.7%	93.8%	95.0%	85.9%
94.3%	81.7%	93.7%	94.8%	85.9%
93.2%	81.2%	93.4%	94.5%	85.3%
93.2%	81.0%	93.4%	94.3%	85.2%
87.7%	80.1%	93.3%	94.1%	85.2%
87.7%	80.0%	93.1%	92.4%	85.0%
—	—	93.0%	87.7%	83.9%
—	—	91.5%	86.2%	83.9%
—	—	91.0%	55.0%	83.6%
—	—	85.6%	53.0%	80.1%
—	—	84.0%	51.0%	75.1%
—	—	70.5%	40.3%	—

## A-2. AAM 1 SSME Agreement with Gold Standard

Arusha	Mbeya	Morogoro	Mtwara	Mwanza
97.7%	96.9%	97.7%	95.3%	96.1%
97.7%	96.9%	97.7%	95.3%	96.1%
97.7%	96.9%	96.1%	94.6%	95.3%
97.7%	96.9%	96.1%	94.6%	95.3%
96.9%	96.9%	95.3%	93.8%	95.3%
96.9%	96.9%	94.6%	93.8%	94.6%
96.9%	96.9%	94.6%	91.5%	94.6%
96.1%	96.1%	94.6%	89.1%	94.6%
95.3%	95.3%	93.8%	79.1%	93.0%
90.7%	93.8%	92.2%	—	93.0%
—	93.0%	—	—	—
—	91.5%	—	—	—
—	88.4%	—	—	—
—	86.0%	—	—	—

### A-3. AAM 2 EGRA/EGMA Agreement with Gold Standard

Arusha	Mbeya	Morogoro	Mtwara	Mwanza
99.4%	98.7%	99.1%	98.6%	98.1%
99.2%	98.7%	99.0%	98.2%	97.3%
99.1%	98.3%	98.7%	98.1%	97.2%
98.9%	97.6%	98.2%	98.0%	97.0%
98.2%	97.5%	98.1%	97.6%	96.9%
98.2%	97.0%	98.0%	97.6%	96.9%
97.6%	96.9%	97.8%	97.6%	96.9%
97.6%	96.7%	97.6%	97.4%	96.8%
97.4%	96.6%	97.5%	97.1%	96.8%
97.4%	96.5%	97.4%	97.1%	96.4%
96.7%	96.5%	97.2%	96.8%	96.2%
96.7%	96.2%	96.9%	96.8%	96.2%
96.4%	96.2%	96.8%	96.6%	95.9%
95.6%	95.7%	96.4%	96.1%	95.8%
95.4%	94.8%	96.1%	96.0%	95.8%
95.2%	94.7%	96.0%	95.9%	95.7%
95.1%	94.3%	95.6%	95.8%	95.7%
94.2%	94.0%	95.2%	95.7%	95.5%
94.0%	94.0%	95.1%	95.5%	95.4%
93.3%	93.8%	94.9%	95.3%	95.0%
92.8%	93.8%	94.5%	95.2%	95.0%
92.2%	93.5%	94.2%	94.2%	94.5%
90.5%	92.8%	94.0%	93.2%	94.3%
85.7%	92.0%	93.6%	92.9%	94.2%
68.1%	91.5%	93.2%	91.7%	94.1%
—	89.4%	92.7%	91.6%	93.5%
—	—	91.4%	71.9%	93.4%
—	—	91.4%	—	91.7%
—	—	91.2%	—	90.0%
—	—	—	—	88.6%
—	—	—	—	88.4%