USAID
FROM THE AMERICAN PEOPLE

EdData II

National Baseline Assessment for the 3Rs (Reading, Writing, and Arithmetic) Using EGRA, EGMA, and SSME in Tanzania

Study Report

EdData II Technical and Managerial Assistance, Task Number 24
Contract Number BPA No. EHC-E-00-04-0004
Task Order Number AID-621-BC-13-00001
Date: March 2014

This publication was produced for review by the United States Agency for International Development. It was prepared RTI International.

National Baseline Assessment for the 3Rs (Reading, Writing, and Arithmetic) Using EGRA, EGMA, and SSME in Tanzania

Study Report

Prepared for
Education Division
Office of Sustainable Development
USAID/Tanzania

Prepared by Aarnout Brombacher, Lee Nordstrum, Marcia Davidson,
Kate Batchelder, Chris Cummiskey, and Simon King
RTI International
3040 Cornwallis Road
P.O. Box 12194
Research Triangle Park, NC 27709-2194

Table of Contents

List of Tables

List of Figures

Abbreviations

3Rs	Reading, Writing, and Arithmetic
BRN	Big Results Now
EdData II	Education Data for Decision Making
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
ESDP	Education Sector Development Plan
GDP	gross domestic product
MMS	Matokeo Makubwa Sasa
MoEVT	Ministry of Education and Vocational Training
ORF	oral reading fluency
PEDP II	Second Primary Education Development Plan
PEDP III	Third Primary Education Development Plan
PEDP	Primary Education Development Plan
PMORALG	Prime Minister's Office—Regional Authorities and Local Government
PSLE	Primary School Leaving Examination
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
SSME	Snapshot of School Management Effectiveness
TIMSS	Trends in International Mathematics and Science Study
USAID	U.S. Agency for International Development

Acknowledgements

The authors want to acknowledge the important contributions of many people who made this study and report possible, in particular:

- The Ministry of Education and Vocational Training (MoEVT) and, in particular Mr. Clarence Mwinuka (Reading, Writing, and Arithmetic [3Rs] Coordinator) our most direct point of contact, for their continuous support and ongoing cooperation. Without their involvement and commitment, this study would not have been possible. From the conception of the project, through the instrument adaptation, assessor training, conduct of the survey, and the presentation of the results, the MoEVT has "owned" this study, and the results are all the more authentic and worthwhile for that.
- Abbas Nsanzugwanko, Laura Kikuli, and David Bruns (U.S. Agency for International Development [USAID], Tanzania) and Catherine Powell Miles (USAID, Washington), who not only made the study possible, but have also shown interest in and commitment to the process throughout the study.
- William Kihula, MacMillan George, Cletus Mkai, Gloria Frank, Stella Elia, and the team at DataVision, who managed the local logistics of the project, from organizing the various workshops to managing the critical data collection process of the study.
- Anna Toroka and Fred Sichizya, the Tanzanian Kiswahili and mathematics consultants, who contributed much to the adaptation of the instruments, the training of the assessors, and the presentation of the results.
- Chris Cummiskey, Jennifer Pressley, Simon King, Peter Fretchel, Karol Krotki, Tracy Kline, and Randy Bender all from RTI for the sampling, data cleaning, data processing, analysis, and psychometrics needed to create and manage the vast data set associated with this study.
- Wendy Gorton of RTI for creating the assessment tools on Tangerine® and assistance in training the assessors in the effective use of the tablets and Tangerine.
- Marcia Davidson, Lilly Piper, and Lee Nordstrom, consultants to RTI, for their contributions to the assessor training, report writing, and the presentation of the results.
- Amy Mulcahy-Dunn, Anna Dick, Kate Batchelder, and Michael Fast, all from RTI, for the general guidance, oversight, and management of the study.
- Vera John and Amina Awadh in the RTI Dar es Salaam office for their local attention and support.
- Heather Farr and Gail Hayes, of RTI, for the editing and layout of this report.
- Finally, this work could not have succeeded without the cooperation and contributions of the Head Teachers, teachers, students, and communities included in the study who, for obvious reasons, must remain anonymous.

Executive Summary

Policy Background

Since 2012, 93 percent of school-aged Tanzanian children were enrolled in primary school (World Bank, 2012b); however, primary school completion remains a challenge.

In 2013, the Government of Tanzania unveiled the Big Results Now (BRN) initiative as a way to fast-track the path from a low- to middle-income country. As one of the six focal areas, the education sector has received much attention, particularly in the early primary grades. Education was deemed as one of the priority sectors in the BRN initiative, particularly to address the disparity between improved school access, yet declining school quality.

Although Tanzanian performance scores such as the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) scores, which provide regional comparisons, are high compared to other southern and eastern African countries (Tanzanian students had the highest reading scores and ranked third out of all 15 participating nations (SACMEQ, 2010), Tanzanian school quality remains a topic of national and international attention. For example, the results of the Primary School Leaving Examinations have dropped over recent years, stirring concern over the quality of education.

In July 2013, the *National Baseline Assessment for 3Rs (Reading, Writing, and Arithmetic) Using Early Grade Reading Assessment (EGRA), Early Grade Mathematics Assessment (EGMA), and Snapshot of School Management Effectiveness (SSME)* was initiated. The purpose of this assessment was to monitor the achievement levels of students in the early grades with regard to foundational skills in reading, writing, and arithmetic.

The National Baseline Assessment for the 3Rs uses the EGRA (Kiswahili and English), EGMA, and SSME instruments to provide data that can be translated into an evidence base to inform policy decisions and interventions with respect to the early grades.

Purpose and Design of the Assessment

Assessments of student learning in the primary grades, such as EGRA and EGMA, offer an opportunity to determine whether children are developing the foundational skills upon which all other literacy and mathematical skills build, and, if not, where efforts might be best directed. This is vital information for countries that are working to improve the quality of education in their schools. Indeed, further evidence of growing international concern for learning outcomes, as opposed to attendance or completion rates, is the fact that EGRA and EGMA have been adapted and used around the world, including EGRA implementations in more than 45 countries.

When measuring the quality or effectiveness of an education system, we can pose some basic questions such as the following: Are children learning to read? Are they learning basic mathematics skills? Are they acquiring those skills early enough in primary school to secure the foundation for further learning? In addition to measuring student performance, it is essential to understand why some schools are better able to perform than others do.

The SSME provides a multifaceted view of school conditions and practices that are historically linked to student performance. Through the SSME, we are able to answer important questions such as the following: Do students and teachers have the materials they need? Do students and teachers spend enough time engaged in activities that support learning? What instructional practices are teachers using?

To answer these questions about learning and the factors influencing it in Tanzania, the *National Baseline Assessment for the 3Rs Campaign Using EGRA, EGMA, and SSME* was initiated in July 2013. The baseline assessment provides data that can be translated into an evidence base to inform policy decisions and interventions. The baseline assessment also provides rich performance and contextual data that can be used for comparison with midline and endline studies after the introduction of new reforms or interventions under the 3Rs campaign or the larger BRN initiative. The student assessment and school survey protocols were tailored to the Tanzanian context during an adaptation workshop held in late August and early September 2013, and piloted in schools in early October 2013, before being finalized for the study that was conducted in October 2013.

The EGRA (Kiswahili and English) and EGMA assessments were administered to a total of 2,266 Standard 2 students randomly selected from within 200 schools. The 200 participating schools were randomly selected to create a sample that would both be representative of national student performance and that would allow for measurements to be made at the national, rural and urban, gender, and school performance band levels. In addition to the student assessments, Head Teachers, teachers, and students were interviewed; classroom and school inventories were conducted; and observed Kiswahili and mathematics lessons were observed. Trained data collection teams conducted the field work in October 2013 (at the end of the school year).

How Well Are Students Learning to Read and Write in Kiswahili?

The EGRA that was administered orally in Kiswahili, consisted of seven subtasks: Syllable Sounds, Familiar and Invented (Non) Word Reading Fluency, Connected Text Oral Reading Fluency, Reading Comprehension, Listening Comprehension, and Dictation. Knowledge of syllable sounds and the ability to read unfamiliar words are the foundational skills needed for fluent reading and comprehension. All subtasks except for Reading Comprehension, Listening Comprehension, and Dictation were timed to assess whether students had achieved accuracy and a desired level of fluency and automaticity in these skill areas.

For the Oral Reading Fluency subtask, students were asked to read a short narrative story for 1 minute. Although 40 percent of the students were unable to read a single word correctly, the mean accuracy score was 62 percent, with a fluency of approximately 18 correct words per minute. This represents a good start. However, both accuracy and fluency need to improve if students are to be able to read with comprehension. The ability to read with comprehension—the goal of reading instruction—was assessed by means of the Reading Comprehension subtask. However, 40 percent of the students were unable to answer a single question correctly, quite simply because they are not yet reading with sufficient accuracy and fluency to engage with the meaning of the text that they are reading. It is generally accepted that students are reading with comprehension when they are able to answer 80 percent or more of

the questions related to the text correctly. In the 3Rs baseline assessment, 8 percent of Standard 2 students achieve this level of comprehension.

Research has consistently demonstrated a strong linkage between reading fluency and reading comprehension. International research has shown that a reading speed of between 45 and 60 words per minute is considered to be the minimum required to ensure reading comprehension (Hasbrouck and Tindal, 2006).[1] Although this varies by language, the observed comprehension scores in Tanzania substantiate this finding. Mean oral reading fluency scores among students able to answer 80 percent or more of the comprehension questions correctly varied between 47 and 68 correct words per minute. Conversely, mean oral reading fluency scores among students who were only able to answer one of the five comprehension questions correctly was approximately 18 correct words per minute.

Improving the ability of students to read with comprehension will require focused attention to the more foundational skills such as letter sound production and word decoding—components of an evidence-based teaching approach for early grade reading instruction.

Another assessment of students' Kiswahili language skills was the Listening Comprehension subtask, in which the assessor read a short narrative story to the students, followed by a series of questions about that story. This was purely a listening task because the students were not given a copy of the story as a reference when answering the questions. The Listening Comprehension subtask assessed a range of language and cognitive skills, such as attention, vocabulary knowledge, comprehension of text, and generation of appropriate replies. Most of the students (96 percent) answered one or more of the questions correctly with a mean score of 60 percent correct. It appears that students' oral language skills were strong enough to comprehend grade-level text.

Students' writing in Kiswahili was assessed by means of two tasks under the Dictation Subtask (word and sentence writing). Students performed better in the writing of words (average score of 60 percent across the two word-writing components of the subtask) than they did on the punctuation component (average score of 25 percent). It is likely that students either did not know how to punctuate the sentences they were asked to write, or they did not understand the task of having to write a "complete sentence." Either way, the performance on this subtask suggests that students are writing at an age appropriate level.

How Well Are Students Learning to Read in English?

The EGRA that was administered orally in English, consisted of five subtasks: Letter Sounds, Familiar Word Reading Fluency, Connected Text Oral Reading Fluency, Reading Comprehension, and Phonemic Awareness. Performance on the pre-reading skills (i.e., Letter Sounds, Phonemic Awareness, and Familiar Words) was generally weak, with a very high percentage of zero scores on each of these subtasks. As such, it was no surprise that oral reading was poor in terms of both accuracy (28 percent) and fluency (9 correct words per minute). Comprehension—a skill that depends on reading fluency—suffered, with more than 94 percent of students unable to answer a single question correctly.

[1] Recent neuro-cognitive research has demonstrated that children must read at a speed greater than one word or sound per second to ensure automaticity of reading. Automatic processing of text frees up short-term memory and allows the brain to comprehend what is being read.

Because much as students are learning English as a subject for the first time in Standard 2 and learning it as a subject, it is possibly not surprising that after only one year of instruction they are still struggling to read it. That said, English is a much more difficult language to learn than Kiswahili and very specific teaching approaches are required in the early years.

How Well Are Students Learning to Perform Basic Mathematics?

Students' understanding of foundational math skills was orally evaluated using EGMA, which consisted of five subtasks: Addition and Subtraction (Level 1), Quantity Comparison, Missing Number (Number Patterns), Addition and Subtraction (Level 2), and Word Problems. The Addition and Subtraction (Level 1) subtask was timed to assess whether students had achieved accuracy and a desired level of fluency and automaticity in these skill areas.

The EGMA showed that by the end of Standard 2, students were performing reasonably well on the more procedural items (i.e., Addition and Subtraction Level 1 subtasks), with students scoring, on average, nearly 60 percent or better on these subtasks. That said, the students performed better on Addition Level 1 than on Subtraction Level 1, and nearly 22 percent of the students were unable to correctly answer a single Subtraction Level 1 item, the easiest of these items being 4–1= ☐. When it came to the more conceptual items, the students still performed reasonably well on the Quantity Discrimination subtask. However, regarding the Missing Number, Addition Level 2, and Subtraction Level 2 subtasks, there was a sharp drop in performance. Nearly 58 percent of the students were unable to correctly answer a single Subtraction Level 2 item, the easiest of these being 18–4= ☐. This stark difference in performance between the procedural and conceptual subtasks suggests a lot about how students in Tanzania are likely to experience school mathematics. It is likely that the students experience mathematics as a subject in which they have to know the answer to a problem rather than having a strategy for solving it. The students may view mathematics as the memorization of facts, rules, and procedures.

How Well Are Tanzanian Schools Being Managed?

What range of factors could help to explain the performance of students on the EGRA (Kiswahili and English) and EGMA assessments? The SSME study provides a rich and fascinating insight into the lives of students, teachers, and schools across Tanzania. In particular, the study identifies a wide range of factors that contribute to the underperformance by students previously described.

This study, and research in general, clearly shows that learning to read takes practice; in particular, students must have time, opportunity, and access to appropriately leveled reading materials. However, on average less than 22.5 percent or 7 minutes of every 30-minute Kiswahili lesson was spent on reading. On the day of the assessment, 92 percent of students did not have a Kiswahili reader, and 97 percent of the students did not have an English reader. In addition, 90 percent of the schools did not have a library that students could use. Regarding learning materials, the study found that 89 percent of Head Teachers reported that their schools did not begin the year with the correct number of textbooks. Also, 75 percent of the schools that did not start the year with the correct number of textbooks had to wait more

than three months before they received them. In addition, 33 percent of classrooms in the study did not have English readers or textbooks, 25 percent did not have Kiswahili readers or textbooks, and 20 percent of classrooms did not have mathematics textbooks.

Specific teacher training on how to teach reading and mathematics in the early grades was associated with better performing students. However, only approximately one-fourth of the teachers interviewed had received any specific pre- and/or in-service training on how to teach early grade reading, writing, and arithmetic.

Across the study, it was observed that greater relative wealth of students was associated with stronger performance: students in the highest wealth quartile were 15 times more likely to be strong performing students. Conversely, students in the lower wealth quartile were three times more likely to be low performers. However when analyzed more closely, there are factors associated with student performance in the relative wealth quartiles that are not directly related to wealth. Head Teachers whose students were in the lower wealth quartile were more likely to have lower expectations about students' performance. When Head Teachers were asked when they believed that students should be able to write in Kiswahili, the most common answer given from the Head Teachers and teachers at the schools with students in the lower wealth quartile was Standard 3. By contrast, for Head Teachers and teachers at the schools with students in the highest wealth quartile, the most common answer was Standard 2. Reading aloud at home and being read to at home were also strong predictors of success on both EGRA and EGMA. According to the study, 45 percent of students from the lowest wealth quartile reported that they did not read aloud at home and that no one read to them at home. By contrast, only 9 percent of students in the highest wealth quartile reported that they never read aloud at home, and only 17 percent reported that no one in their home reads to them.

The SSME provides a rich source of factors that contribute to our understanding of why some students perform better than others. A deeper evaluation of the detailed findings is necessary to fully appreciate all the factors, apart from teachers and teaching approaches, that contribute to student success on the 3Rs.

Conclusions and Recommendations

The National Baseline Assessment for the 3Rs has shown quite clearly that although the early grade education program in Tanzania is doing a good job with laying a foundation for learning, there is much work to do.

The generally low levels of zero scores on the reading and writing subtasks of the EGRA (Kiswahili) assessment are encouraging. That said, only 8 percent of the Standard 2 students are reading with comprehension—the goal of reading instruction.

The EGRA (English) assessment demonstrates quite clearly that instruction in English as a subject in Standard 2 is not doing enough to enable students to read in English.

The trend on the EGMA assessment is also very clear. Although students perform reasonably well on the more procedural tasks (basic addition and subtraction facts), they struggle to apply this procedural knowledge to solve tasks that are more conceptual in nature.

Although the results of the EGRA and EGMA assessments are clear—children are not performing at the level that we would like them to—the explanation lies more in *how* they are taught rather than in *what* they are taught. The nature of the results of these studies creates the strong impression that students are memorizing what they learn, rather than engaging with understanding. Teachers need to be supported in adopting pedagogically more effective approaches for teaching reading, writing, and arithmetic in the early grades.

The SSME study, in addition to providing a clear picture of schools and teaching and learning opportunities in Tanzania, also identifies a wide range of factors that contribute to the underperformance by students previously described. In particular, students do not have sufficient access to appropriate learning materials, they are not practicing the foundational skills sufficiently, they are learning through memorization and not through developing deeper conceptual understanding, and not enough of the teachers are specifically trained in evidence based pedagogies appropriate to early grade reading, writing, and arithmetic.

The MoEVT convened a policy dialogue workshop to review the findings of the National Baseline Assessment for the 3Rs in Tanzania, examine the implications arising from those findings, make recommendations, and set benchmarks and targets for reading, writing, and arithmetic in Tanzania. Participants in the workshops represented a wide range of ministries, regions, and districts, as well the donor community and nongovernmental organizations working in the field of early grade education. Recommendations were made with respect to the training of teachers to teach early grade reading, writing, and arithmetic; creating more effective opportunities to learn, in particular, with regards to creating time to learn and providing appropriate resources; and making better use of parents and communities as resources in the 3Rs campaign.

1 Background

1.1 Country Context

An East African republic of an estimated 47.78 million people in 2012 (World Bank 2013), the United Republic of Tanzania is a diverse nation with a steadily growing economy. The country is known to the world for its celebrated natural beauty, including Mount Kilimanjaro, the Ngorogoro Crater, and Lake Tanganyika. The country is also known for its rich cultural landscape and for its agricultural products such as cocoa, coffee, and tea. A contributor to the East African regional economy, the nation is also all too familiar with the challenges faced by a low income country. Over the past couple of decades, Tanzania has seen an improved Human Development Index (currently ranked 152 of 182 countries [World Bank, 2013]), but the country has made erratic progress on the international Millennium Development Goals. Despite overall economic growth, poverty is prevalent and stagnant, resting at approximately 40 percent of the population since 2001 (World Bank, 2013). In addition, according to the most recent data available from 2009, HIV/AIDS afflicts approximately 5.6 percent of the population (CIA, 2014).

The current gross domestic product (GDP) of $28.24 billion (in U.S. dollars) places Tanzania in 15th place out of 52 African economies, according to the 2012 International Monetary Fund World Economic Outlook Database (IMF, 2011). Tanzania's economy has experienced recent steady growth. The significant advancement and progress are reflected with GDP gains of approximately 6.9 percent between 2009 and 2013 (World Bank, 2012a). This is the same approximate average GDP growth rate in Tanzania over the recent decades. Agriculture comprises more than 25 percent of the Tanzanian economy. Although this is a large segment of the economy, international donors and the national government are working toward increasing agricultural production in part to help alleviate the elusive problem of poverty. Three-fourths of the Tanzanian population live in rural areas, and most of this rural population relies on subsistence agriculture for their livelihoods. Another contributing factor for the steady and positive economic increase in spite of the global economic crisis comes from the growing communications market. The communications contribution to the overall economy has doubled in the past five years, with sharp increases in business and banking transactions that take place with the use of mobile devices (World Bank, 2013).

The population of Tanzania has been steadily increasing at 2.8 percent on average annually (CIA, 2014), and this has also added to and sparked economic demand and growth. The population structure of Tanzania is pyramid shaped. At the base of the pyramid and comprising 44 percent of the population are those aged younger than 15 years. At the peak of the age structure pyramid and comprising 2.9 percent of the population are those aged 65 years and older. The average life expectancy of people in Tanzania is 60.8 years. This large base of children and youth translates into potentially large school enrollment numbers at the primary and secondary levels. The school life expectancy of this segment of the population is nine years, equally for boys and girls. On average, the population is 67.8 percent literate with boys and men (75.5 percent) more literate than girls and women (60.8 percent).

As a former British protectorate from 1918 to 1960, Tanzania gained its independence in 1961. Since then, four democratically elected presidents have led the nation from the

country's largest city and political capital, Dar es Salaam, located in the eastern region of the mainland. In 1964, the former Tanganyika joined with the island of Zanzibar, a semi-autonomous region, to form what is known today as the United Republic of Tanzania. The Tanzanian government structure has emerged since British rule as a multi-party system. The current president, Jakaya Kikwete, took office in 2005 as the fourth president since independence. Recently, he has centered much of his attention on the Big Results Now (BRN) initiative, which focuses on six key development sectors: energy and natural gas, agriculture, water, education, transportation, and mobilization of resources. The BRN initiative, based on the Malaysian development example, began implementation in 2013 and is energizing sector leaders and attracting international donor attention. The initiative and its implications for this study are discussed further in Section 2, Evaluation Approach, of this national baseline assessment report.

The official language of Tanzania is Kiswahili, which is used nationally for communications, but the former British presence is evident because English is the second official language. There are more than 120 tribes of Tanzania, and each one has its own language, which means that many Tanzanians speak their tribal language at home, use Kiswahili for major communications, and also speak English for commerce and in upper levels of schooling. Kiswahili is the language of instruction for primary school, and English is taught as a subject. In secondary school, the language of instruction transitions from Kiswahili to English and continues into tertiary education.

1.2 Education Context

Great attention has been given to universal primary school enrollment in Tanzania. According to World Bank statistics from 2012, 93 percent of school-aged children were enrolled in primary school in Tanzania (World Bank, 2012b). However, primary school completion remains a challenge. As mentioned in the previous section, school life expectancy is nine years for boys and girls. Completion rates are now hovering at approximately 64 percent, but it is believed that this is an exaggerated figure, with a more realistic rate being approximately 55 percent. Although access to education is no longer a significant challenge as shown by the high enrollment rates, retention is a challenge. One contributing factor may be the opportunity cost of sending children to school rather than encouraging child and youth employment to contribute to families' incomes. In Tanzania, nearly 21 percent of children aged 5 to 14 years are earning money (CIA, 2014). This relatively high child labor rate may lead to the low school completion rates.

In Tanzania, the amount of spending on education is on the higher end of the spectrum when compared to its regional neighbors. The most recent data available from 2010 indicate that government spending on education in Tanzania was 6.2 percent of the GDP, with 21.2 percent of total government expenditures going toward education. In 2010, other countries in the region had varying expenditures on education, with Kenya at 6.7 percent of the GDP, Malawi at 4.4 percent of the GDP, and Uganda at 2.6 percent of the GDP (World Bank, 2012a). Of the government resources spent on education in Tanzania, approximately 45 percent were distributed to primary schools, 5 percent to pre-primary, 19 percent to secondary, and 31 percent to tertiary (UNESCO, 2011). This distribution of funding makes sense when considering the majority of students who begin schooling in Tanzania do not continue far into secondary school. However, since primary education is the foundation upon

which all other education and schooling are based, improved and increased funding dedicated to primary education remains essential. Later sections of this report will look at how schools are resourced which provides insight into how the expenditures on primary schools translate into the realities of educational inputs and allocations.

The Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) studies provide insight into regional and national student achievements and provide measurements of student performance for students in Standard 6 in 15 countries in southern and eastern Africa. The SACMEQ studies investigate student performance in reading and mathematics toward the end of the Standard 6 school year. Tanzania has participated in these studies, most recently in SACMEQ II in 2004 and in SACMEQ III in 2007. The results of SACMEQ III were published in 2010. The most recent study (SACMEQ III) included 15 nations: Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zanzibar, and Zimbabwe.

The SACMEQ studies assess student performance in reading and mathematics, while looking at health knowledge and contextual school and classroom indicators. Results from SACMEQ III showed that Tanzanian students had the highest reading scores out of all 15 nations. Results from SACMEQ III also showed that in mathematics, Tanzanian students ranked third out of all 15 nations (SACMEQ, 2010). As previously discussed, Tanzania spends a relatively high portion of its GDP on education compared with its regional neighbors, but the amount spent was not as high as in some nations such as Kenya. Yet, the SACMEQ scores of Standard 6 students are 12.8 percent higher than the regional average scores. Additionally, this is noteworthy because Tanzania does not have the largest economy, and it does not have the highest socioeconomic status among the participating SACMEQ nations. Despite a large proportion of students leaving before they have completed schooling, these students appeared to be developing a relatively sound base of skills that they need for basic reading and mathematics competencies. The SACMEQ studies monitor the output of the primary education system. In contrast, the National Baseline Assessment of 3Rs (Reading, Writing, and Arithmetic) using Early Grade Reading Assessment (EGRA), Early Grade Mathematics Assessment (EGMA), and Snapshot of School Management Effectiveness (SSME) monitors the achievement levels of students in the early grades with regard to foundational skills in reading, writing, and arithmetic. These foundational skills are predictive of future success in reading, writing, and mathematics.

Recent sector-wide initiatives and education reforms are potential factors leading to these regionally high scores. With an eye toward the Millennium Development Goals and Education for All initiatives, Tanzania created the Education Sector Development Plan (ESDP) in 1995. The ESDP called for action on sector-wide reforms. Subsequent sub-sector plans were implemented in later years to address smaller, incremental reforms in more manageable pieces. These plans included the Primary Education Development Plan (PEDP), which was launched between 2002 and 2006. The third PEDP (PEDP III) was initiated in 2012 and runs through 2016. The PEDP IIII focuses on unresolved issues from the PEDP and the second PEDP (PEDP II) such as enrollment rates, completion rates, and, of particular relevance to this study, will also introduce a revitalized interest in the 3Rs (Reading, Writing,

and Arithmetic) in early primary school grades. Section 2, *Evaluation Approach*, of this national baseline assessment report presents more information about the 3Rs campaign.

2 Evaluation Approach

2.1 Research Questions and Assessment Design

In 2013, the government of Tanzania unveiled the BRN initiative as a way to fast track the path from a low- to middle-income country. As one of the six focal areas, the education sector has received much attention, particularly in the early primary grades. Education was deemed as one of the priority sectors in the BRN initiative, particularly to address the disparity between improved school access, yet declining school quality. As previously discussed, the enrollment rates in Tanzanian schools are relatively high, and although performance scores such as the SACMEQ scores, which provide regional comparisons, are high compared to other southern and eastern African countries, school quality remains a topic of national and international attention. For example, the results of the Primary School Leaving Examinations (PSLEs) have dropped over recent years, stirring concern over the quality of education. Among activities under its umbrella, the BRN initiative has produced a classification of schools across Tanzania that is based on the 2012 PSLE scores for Standard 7 students. The exercise established three performance bands for schools across the country: high, average, and low performing. These bands were then used to develop the sample used in this national baseline study.

In July 2013, discussions were held between the Ministry of Education and Vocational Training (MoEVT), the U.S. Agency for International Development (USAID), and RTI International, under the Education Data for Decision Making (EdData II) mechanism. The purpose of these discussions was to develop a plan and design for the National Baseline Assessment for the 3Rs campaign Using EGRA, EGMA, and SSME. The MoEVT and others were interested in devising a baseline study to provide data that could be used to investigate the questions of student performance in reading, writing, and arithmetic, as well as contextual questions of school management. As a result of the baseline study, data on Standard 2 student performance were collected and analyzed across the three performance bands established under the BRN initiative. These data were also disaggregated by student performance in urban versus rural locations and student performance by gender.

As an additional layer of evaluation and analysis, the Standard 2 students are assessed in both Kiswahili and English. Kiswahili is both the national language and the language of instruction in Standard 2; therefore, all instruments were designed and administered in Kiswahili. English is taught as a subject in Standard 2 so, to provide information on how well students are learning to read in English, a second EGRA instrument was developed to assess performance in English. The second instrument will provide information on what challenges might exist and how these challenges could be addressed and pre-empted as students transition from Kiswahili as the language of instruction and English as a taught subject in primary school, to English as the language of instruction in secondary school and beyond.

The National Baseline Assessment for the 3Rs uses the EGRA (Kiswahili and English), EGMA, and SSME instruments to provide data that can be translated into an evidence base to inform policy decisions and interventions in subsequent years. This baseline assessment will

provide rich performance and contextual data that can be used for comparison with midline and endline studies after the introduction of new reforms or interventions under the 3Rs campaign or the larger BRN initiative.

2.2 Overview of SSME

The SSME consists of a range of instruments that yields a quick, but rigorous and multifaceted picture of school management and pedagogical practice in a country or region. The SSME was designed to capture indicators of effective schools that past research has shown to affect student learning. The resulting data are designed to enable school, district, provincial, or national administrators and donors to learn what is currently occurring in their schools and classrooms and to assess how to make these schools more effective.

Building off of the framework for the analysis of effective schools described by Craig and Heneveld (1996), the SSME collects a variety of information. Information collected includes student and household characteristics, basic school inputs (e.g., school infrastructure, pedagogical materials, teacher and Head Teacher characteristics), and classroom teaching and learning processes (e.g., instructional content, student teacher interaction, and assessment techniques). In addition, the EGRA and EGMA components of the national baseline study provide information on the achievement of learning outcomes in reading, writing, and arithmetic.

A four-person team administers the SSME during a single school day. Each of the SSME's components is designed to elicit information from a different perspective. The SSME's components are the Student Questionnaire, the Head Teacher Questionnaire, the Teacher Questionnaire, the School Inventory, Classroom Inventory, Classroom Observation (Kiswahili), and Classroom Observation (Mathematics). The design of the SSME aims to balance the need to include a broad mix of variables with the competing need to create a tool that is as undisruptive to the school day as possible. When combined, the components of the assessment produce a multifaceted and comprehensive picture of a school's learning environment. When the results from multiple schools in a region are compared, then it becomes possible to account for differences in school performance. The assessment tools are presented in ***Annex A***. The seven SSME components are briefly discussed as follows:

- Student Questionnaire: Administered to each student randomly selected for assessment
- Head Teacher Questionnaire: Administered to the Head Teacher in each school visited
- Teacher Questionnaire: Administered to the teachers whose students are selected for assessment
- School Inventory: Administered at each school visited
- Classroom Inventory: Administered in each of the sampled classes
- Classroom Observation (Kiswahili): Administered during Kiswahili reading and writing lessons in Standard 2 classrooms
- Classroom Observation (Mathematics): Administered during mathematics lessons in Standard 2 classrooms.

Because the purpose and activities of the EGRA and EGMA are somewhat less intuitive than for the SSME, the next two subsections (2.3 and 2.4) present additional background on the EGRA and EGMA before explaining the specific components of these two instruments.

2.3 Overview of EGRA

2.3.1 Why Test Early Grade Reading?

The ability to read and understand simple text is one of the most fundamental skills that a child can learn. Without basic literacy, there is little chance that a child can escape the intergenerational cycle of poverty. Yet in many countries, students enrolled in school for as many as six years are unable to read and understand simple text. Recent evidence indicates that learning to read both *early* and at a sufficient *rate* are essential for learning to read well. Acquiring literacy becomes more difficult as students grow older. Children who do not learn to read in the first few grades are more likely to repeat grades and eventually drop out, and the gap between early readers and non-readers increases over time.

Before early reading can be assessed, an understanding of the component skills involved in skilled reading must be obtained. A powerful and influential conceptual framework of the component processes involved in proficient reading is the Simple View of Reading (Gough and Tunmer, 1986). According to this framework, reading comprehension can be predicted by the following formula:

$$\textit{Reading Comprehension} = \textit{Decoding} \times \textit{Language Comprehension}$$

Thus, children who lack decoding skills (the ability to read words) would be classified as non-readers. This multiplicative equation is significantly different from one that reflects an additive relation. If either decoding skills or language comprehension skills are nonexistent (reflected by a 0 score), then there is no reading comprehension. If either language comprehension (oral vocabulary) or decoding skills are poor, then reading comprehension will be poor. It is the multiplicative nature of the framework that makes the Simple View of Reading unique and powerful. Hundreds of studies have supported this framework, and the implications for teaching reading are very clear. From the very first days of school, instruction must address on a daily basis both the skills of (1) decoding and (2) oral vocabulary and language skills.

Ehri (1995) proposed a seminal model that captures the growth of decoding, linguistic comprehension, and reading comprehension. Ehri's theory provides evidence that as children learn to read, they use knowledge of the alphabetic principle and map letters to sounds—even when the language is very transparent. The goal is for word reading to become automatic, so that nearly every word encountered is instantly recognized. When children are learning to read, they must learn the letters of the alphabet, learn the sounds associated with each letter, and apply this knowledge to decode (or "sound out") new words. In addition, the children must learn how to build a set of high-frequency sight words (such as "the" or "to" in English) that they must learn to recognize by the spellings. By the end of the final phase of reading children develop sufficient speed and accuracy in word recognition skills that they can read with fluency. When children read with fluency, they can read orally with the same speed and expression that they use in speech.

Children can learn to read by the end of Standard 2 and must be able to read to be successful in school. Importantly, children who do not learn to read in the early grades (Standards 1–3) are likely to fall behind in reading and other subjects, to repeat grades, and eventually to drop out.

2.3.2 Purpose of EGRA

Historically, there has been very little information about student learning in the early grades in low-income countries. EGRA was developed to provide a way to measure a child's initial reading skills. More specifically, EGRA was constructed to assess the reading and language skills identified to be critical for becoming fluent readers who comprehend what they read. By assessing students' knowledge of the alphabetic principle, decoding skills, oral reading fluency (ORF), and comprehension of written text and oral language, EGRA may inform Ministries of Education, donors, teachers, and parents about students' reading skills in the early grades. Because of EGRA's direct links with the skills critical for successful reading achievement, the assessment may assist education systems in setting standards and curricular planning to best meet children's needs in learning to read.

The EGRA developed for Tanzania included a Dictation subtask to provide a measure of students' writing skills.

EGRA, in Tanzania and elsewhere, is not intended to be a high-stakes accountability measure to determine whether a student should move up to the next grade. In addition, EGRA should not be used to evaluate individual teachers. Rather, the subtasks included in EGRA can be adapted for teacher use as formative assessments. As a formative assessment, teachers can either use EGRA in its entirety or select subtasks to monitor classroom progress as a whole, determine trends in student performance, and adapt instruction to meet the classroom's needs.

2.3.3 What EGRA Measures

The EGRA instrument consists of a variety of subtasks designed to assess foundational reading skills crucial to becoming a fluent reader. EGRA is designed to be a method-independent approach to assessment (i.e., the instrument does not reflect a particular method of reading instruction). Instead, EGRA measures the basic skills that a child must possess to eventually be able to read fluently and with comprehension—the ultimate goal of reading. EGRA subtasks are based on research regarding a comprehensive approach to reading acquisition across languages. These skills are phonological awareness, phonics/decoding, fluency, reading comprehension, and learning comprehension, which are each further described in the following paragraphs:

Phonological Awareness is considered to be essential for learning to read an alphabetic language. Phonological awareness refers to an understanding that spoken words consist of sounds of language that can map to letters, which is called the alphabetic principle. This principle refers to the recognition and understanding of how the speech sounds of a language relate to units of print (or letters, in Kiswahili). Mastering the alphabetic principle is critical for decoding, or sounding out, new and unfamiliar words.

Phonics/decoding is the most efficient way for beginning readers to learn to read words. This skill builds on the alphabetic principle, beginning with letter-sound correspondences that help children develop automatic recognition of letter–sound patterns in common words.

Eventually, phonics is instrumental in the development of instant recognition of most words that are read. This automatic or instant word recognition is manifested by fluent reading of connected text.

Fluency is often defined as the ability to read with speed, accuracy, and understanding. Oral reading fluency is a common way to assess whether an individual is a fluent reader. Fluency is considered critical for comprehension, as rapid, effortless word-identification processes enable the reader to focus on the text and its meaning rather than focus on word identification or decoding words letter by letter (National Institute of Child Health and Human Development, 2000).

Reading comprehension, considered to be the goal of reading, refers to the ability to actively engage with, and construct meaning from, the texts that are read.

Listening comprehension refers to a person's ability to make sense of oral language in the absence of print. Listening comprehension taps many skills and sources of knowledge, such as vocabulary knowledge, facility with grammar, and general background knowledge. Although students whose language of instruction differs from their home language have been found to learn to read words at the same rate as those who are learning in their home languages, non-native speakers have been found to show greater difficulties in language comprehension in the language of instruction (Geva and Yaghoub Zadeh, 2006). The Listening Comprehension subtask in EGRA also taps working memory and short-term memory; therefore, it cannot be considered as a subtask that reflects listening comprehension skills apart from other memory and language skills. This makes interpretation of this subtask more challenging than some of the other subtasks. In addition, the Listening Comprehension subtask does not correlate with other EGRA subtasks, so it is more difficult to interpret the results.

EGRA measures each of the previously mentioned abilities/components to assess the foundational reading skills. The skills are tested in individual subtasks and presented in order of increased level of difficulty. Because the first few subtasks are easier, EGRA can therefore measure a range of reading abilities for beginning readers.

2.3.4 EGRA Instrument for Tanzania

The EGRA, as adapted for Tanzania, is an individually and orally administered standardized assessment of beginning reading (reading related and writing skills in Kiswahili and in English). Administering the instrument to each student takes approximately 10 to 15 minutes in each of the two languages.

Table 1 summarizes the EGRA Kiswahili and English instruments and subtasks for Tanzania.

Table 1. EGRA Instrument Subtasks in Tanzania.

Subtask	Skill	Description The child is asked to …
Listening Comprehension (Kiswahili)	Oral language comprehension and vocabulary	… listen to a story that the assessor reads out loud, and then verbally answer five questions about the story. (*Untimed subtask*)
Letter-Name Identification (English)	Knowledge of the alphabet and the names of both uppercase and lowercase letters	… say the names of letters, while looking at a printed page of 100 letters of the alphabet in random order, upper and lower cases. (*Timed subtask*)
Phonemic Awareness (English)	Requires an awareness of the individual sounds in spoken words	… say the beginning sound of individual words. (*Untimed subtask*)
Syllable Names (Kiswahili)	Beginning decoding skills and identifying legal syllables	… legal syllables presented in random order. (*Timed subtask*)
Familiar Words Reading (Kiswahili and English)	Ability to read a randomly presented list of frequently occurring words by sight or automatically	… read a list of common words. (*Timed subtask*)
Non-Word Reading (Kiswahili)	Alphabetic principle (letter sound correspondence and fluency) automatic decoding	… read a list of 50 non-words printed on a page. Words were constructed from actual orthography, but were not real words. (*Timed subtask*)
Oral Reading (Kiswahili and English)	Fluency (automatic word reading in context)	… read out loud a grade-level appropriate short story printed on a page. (*Timed subtask*)
Reading Comprehension (Kiswahili and English)	Comprehension	… verbally respond to five questions that the assessor asks about the short story. (*Untimed subtask*)
Dictation (Words and Sentence) (Kiswahili)	Spelling, orthographic/phonological knowledge, language knowledge, and grammar skills	… write, spell, and use grammar properly through a dictation exercise. (*Untimed subtask*)

All EGRA administrations also include a "stop" rule, which requires assessors to discontinue the administration of a subtask if a student is unable to respond correctly to any of the items in the first line (in the case of Tanzania, the first 10 syllables, the first five words, or the first line of the oral reading story). This rule was established to avoid frustrating students who do not understand the subtask or lack the skills to respond. In the case of the reading comprehension questions, students were only asked the questions that correspond to the section of the text they had read within the available time.

2.4 Overview of EGMA

2.4.1 Why Test Early Grade Mathematics?

A strong foundation in mathematics during the early grades is crucial for success in mathematics in the later years. Mathematics is a skill very much in demand in today's economy, as has been demonstrated by various economists. Most competitive jobs require some level of skill in mathematics. It has also been noted that the problem-solving skills and mental agility and flexibility that children develop through mathematics transfer to other areas of life and work. Furthermore, countries' rankings on mathematics skills are becoming a matter of political currency because of international assessments such as Trends in International Mathematics and Science Study (TIMSS) and regional studies such as those conducted by SACMEQ. Most countries' mathematics curricula for the early grades now coincide in terms of the skills that children should possess. For example, skills found in many curricula in both developed and developing countries include knowing and using number

names, learning and understanding the values of numbers, knowing key symbols, and comparing and ordering sets of objects.

2.4.2 Purpose of EGMA

EGMA was designed to provide information about basic competencies—those competencies that should typically be mastered in the very early grades and without which students will struggle or potentially drop out. Subtasks selected for EGMA were drawn from extensive research on early mathematics learning and assessment and were constructed by a panel of experts on mathematics education and cognition. The conceptual framework for mathematical development is grounded in extensive research that has been conducted over the past 60 years (e.g., Baroody et al., 2006; Chard et al., 2005; Clements and Samara, 2007). To develop the EGMA protocol, developers systematically sampled early numeracy skills, particularly those underlying number sense. These abilities and skills are key in the progression toward the ability to solve more advanced problems and the acquisition of more advanced mathematics skills (Baroody et al., 2006; Clements and Samara, 2007; Foegen et al., 2007).

2.4.3 What EGMA Measures

To support the goal of providing stakeholders, from Ministries of Education to aid agencies to local education officials, with the information essential to making informed changes in teacher education and support, curriculum development, and implementation, many criteria were defined for subtasks to be included in EGMA. These criteria include the expectation that the tasks

- Represent skills that the developing country and developed country curricula have determined should be acquired in early grades
- Reflect those skills that are most predictive of future performance, according to available research and scientific advice
- Represent a progression of skills that lead toward proficiency in mathematics
- Target conceptual and computational skills
- Represent skills and tasks that can be improved through instruction.

EGMA is an individually administered oral test that allows for the targeted skills to be assessed without confounding by problems with language or writing that might otherwise impede students' performance. By administering the test orally, EGMA administrators can better ensure that students understand instructions provided in a language they know.

2.4.4 The EGMA Instrument for Tanzania

Table 2 summarizes the subtasks of the EGMA designed for Tanzania.

Table 2. EGMA Instrument Subtasks in Tanzania.

Subtask	Skill	Description The child is asked to …
Subtasks that assess more procedural (recall) type knowledge		
Addition and Subtraction Level 1 (basic facts)	This subtask requires knowledge of and confidence with basic addition and subtraction facts. It is expected that students should develop some level of automaticity and fluency with these facts because they need them throughout mathematics.	… mentally solve addition and subtraction problems, with sums and differences below 20. The problems ranged from those with only single digits to problems that involved the bridging of the 10. There were 10 items per addition and subtraction subtask. (*Timed subtask*)
Subtasks that assess more conceptual (application) type knowledge		
Quantity Discrimination (number comparison)	This subtask requires the ability to make judgments about differences by comparing quantities represented by numbers.	… identify the larger of a pair of numbers. The number pairs used ranged from a pair of single-digit numbers to five pairs of double-digit numbers and four pairs of three-digit numbers. There were 10 items. (*Untimed subtask*)
Missing Number (number patterns)	This subtask requires the ability to discern and complete number patterns.	… determine the missing number in a pattern of four numbers, one of which is missing. Patterns used included counting forward and backward by ones, fives, tens, and twos. There were 10 items. (*Untimed subtask*)
Addition and Subtraction Level 2*	This subtask requires the ability to use and apply the procedural addition and subtraction knowledge assessed in the Level 1 subtask to solve more complicated addition and subtraction problems.	… solve addition and subtraction problems that involve the knowledge and application of the basic addition and subtraction facts assessed in the Level 1 subtask. Students were allowed to use any strategy that they wanted, including the use of paper and pencil supplied by the administrator. The problems extended to the addition and subtraction of two-digit numbers involving bridging. There were five items per addition and subtraction subtask. (*Untimed subtask*).
Word Problems	This subtask requires the ability to interpret a situation (presented orally to the student), make a plan, and solve the problem.	… solve problems presented orally using any strategy that they wanted, including the use of paper and pencil and/or counters supplied by the assessor. Because the focus of this subtask was on assessing the students' ability to interpret a situation, make a plan, and solve a problem, the numerical values involved in the problem were deliberately small to allow for the targeted skills to be assessed without confounding problems with calculation skills that might otherwise impede performance. The problem situations used were designed to evoke different mathematical situations and operations. There were six items. (*Untimed subtask*).

* The Addition and Subtraction Level 2 subtasks are more conceptual than the Addition and Subtraction Level 1 subtasks because the student must understand what he or she is doing, applying the Level 1 skills. Although the Level 2 subtasks are not purely conceptual, because, with time, students will develop some automaticity with the items in these subtasks, they are more conceptual than the Level 1 subtasks, especially so for Standard 2 students.

2.5 Instrument Adaptation Process for Tanzania: EGRA, EGMA, and SSME

The RTI–developed EGRA, EGMA, and SSME instruments have been used in dozens of countries by numerous organizations. However, this does not mean the instruments are merely translated for the country in which they are to be used. Rather, the base instruments are adapted to the local context and vetted by a body of national experts from the education

community in the host country. The grade-appropriate curriculum and textbooks (in this case Tanzania Standard 2 reading, writing and mathematics) are analyzed and used to inform changes and adaptations made to the base EGRA, EGMA, and SSME instruments. These instruments are truly localized to fit the country in which they are to be used.

A five-day Adaptation Workshop was held in Dar es Salaam in late August and early September 2013 with respected members from the education community across Tanzania. Workshop participants included representatives from various branches of the MoEVT, teacher training institutions, and curriculum development units, among other stakeholder entities. Two experts, both from RTI, led the reading, writing, and mathematics portions of the workshop. The reading and writing expert led the adaptation discussions for the EGRA instruments, and the mathematics expert led the adaptation process for the EGMA instruments and for the SSME instruments. Together, the workshop participants modified the base EGRA, EGMA, and SSME tools to be used during the national baseline assessment. As the instruments were adapted, particular attention was given to the 3Rs campaign to ensure that these criteria were sufficiently covered by the subtasks comprising the instruments. For example, the EGRA Kiswahili instrument satisfied this explicit mandate by including a Dictation subtask that assesses student writing skills.

The instruments were piloted during a one-day pilot study conducted on October 10, 2013. The pilot study provided an opportunity for the research team to evaluate the instruments to ensure that these were functioning appropriately and that the desired data were being gathered. The pilot sample consisted of 285 students at schools from the three performance bands, mimicking the full study sample selection, but on a smaller scale. During the pilot study, multiple oral reading passages and listening passages were evaluated for the EGRAs in English and Kiswahili. Piloting multiple passages allowed the research team to determine which reading and listening passages were best to use during the full study.

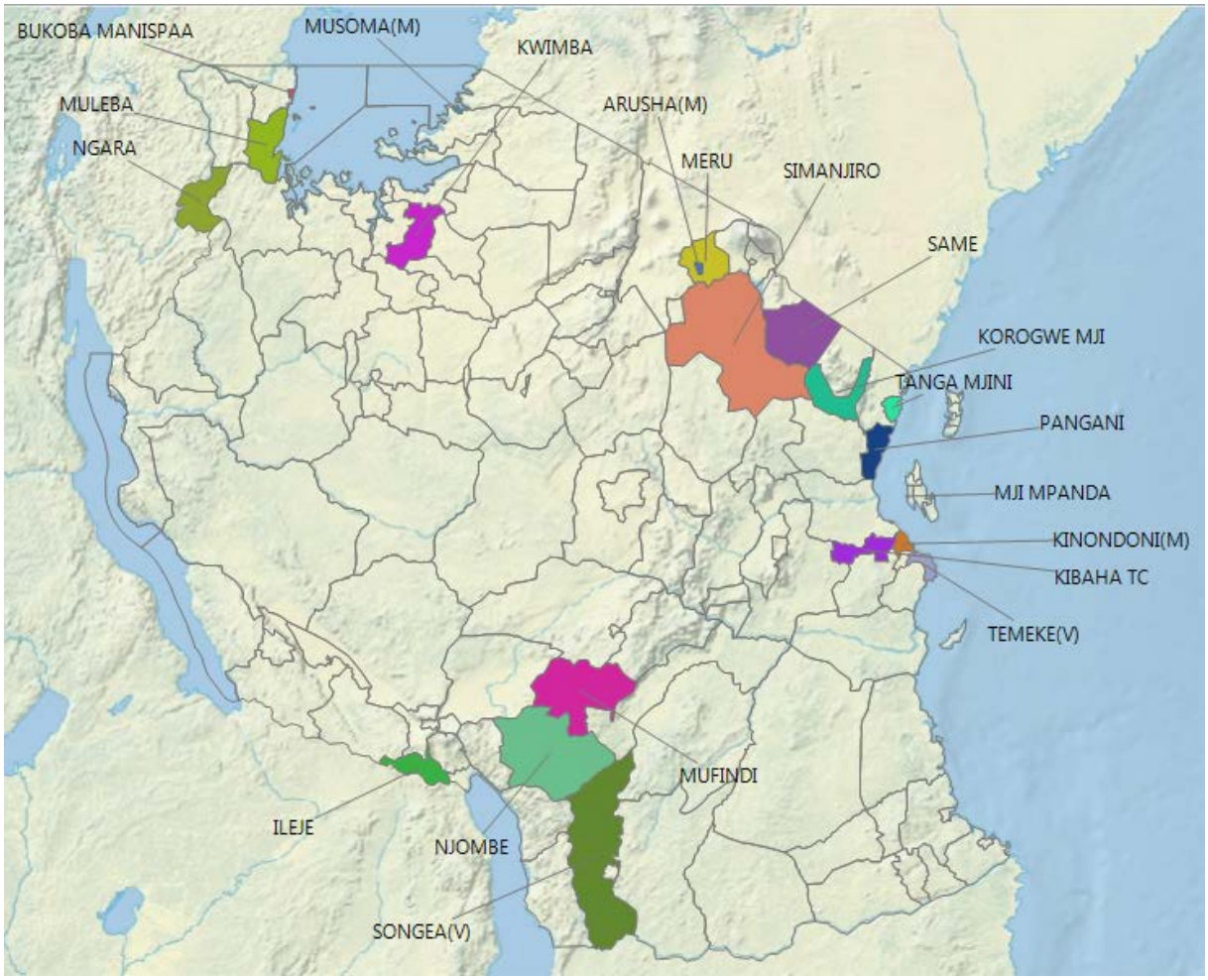
The pilot data were analyzed in part by using a psychometric Rasch analysis to provide insight into which subtasks were performing reliably and consistently to capture the desired data and which subtasks and passages could be eliminated without compromising the richness and integrity of the data. In the end, the pilot study provided justification for eliminating subtasks from both the EGRA English and EGMA instruments and for determining which oral reading and listening passages were most appropriate to include in the final instruments. The stakeholders reviewed and approved the final post-pilot instruments. The instruments were rendered into the RTI–developed Tangerine® software. The baseline assessment assessors then used tablets loaded with the Tangerine versions of the instruments to collect the national baseline data.

2.6 Sample

The sample was developed in collaboration with all stakeholders, including local partners and the MoEVT. The sample was designed so that it would be representative of national student performance and that measurements could be made at the national, rural and urban, gender, and school performance band levels.

Because of logistical constraints, it was agreed to sample 10 schools in each of 20 councils. A sample size of 200 schools ensured that the schools in the sample could be visited in a 10-day period. ***Figure 1*** shows the councils in the sample.

Figure 1. Councils in the Study Sample.



3 Methodology

3.1 Sampling Framework

The sampling frame was three-stage design. During Stage 1, 20 councils were randomly selected out of the 136 total councils in Tanzania. During Stage 2, within each council, schools were grouped based on their classification of school performance. Schools were classified as high, average, or low performing, as determined by the MoEVT based on the Standard 7 PSLE for 2012. Within each of the 20 councils, a sample of schools was selected so that where possible, schools from each performance band were selected. For the sample, 200 schools were selected. An additional 100 schools were selected as "replacements" in the event that a school in the original sample was not accessible and impossible to reach geographically.

3.2 Descriptive Statistics

Table 3 summarizes the breakdown of the sample by students. ***Table 4*** summarizes the demographics of the sampled schools.

Table 3. Sampled Students by Average School Performance Band, Urban and Rural, and Gender.

	Rural		Urban		
School Performance Band	Boys	Girls	Boys	Girls	Total
High	78	80	151	156	**465**
Average	229	239	186	186	**840**
Low	271	306	199	185	**961**
Total	**578**	**625**	**536**	**527**	**2,266**

Table 4. Sampled Schools by Student Performance Band and by Urban and Rural.

School Performance Band	Number of Rural Schools	Number of Urban Schools	Total
High	15	25	**40**
Average	42	32	**74**
Low	53	33	**86**
Total	**110**	**90**	**200**

3.3 Weighting

There were three stages of weighting so that the sample of student scores could be representative of the overall student national performance. The 20 councils in the sample were weighted to be representative of all 136 councils in Tanzania. The schools in the councils were also weighted to be representative of the schools in their respective councils. In addition, the students were weighted so that they represent all of the students in their respective schools. The final calculated weight is at the student level and is a product of the three previously mentioned weights.

4 Results/Findings

4.1 Instrument Reliability and Validity

The research team carried out psychometric analyses that were used to determine validity and reliability characteristics of the Tanzania EGRA and EGMA instrumentation. This evaluation was conducted prior to full data collection (during the pilot assessment) and detailed information was provided as a result of the psychometric analyses. This information was then used to modify the pilot instrumentation to provide the best assessment tools possible. During the psychometric evaluation the data for EGRA and EGMA were analyzed separately. Cronbach's alpha values for both indicated that the instruments showed good internal consistency on average ($\alpha = 0.79$ for EGMA, 0.94 for EGRA (English), and 0.98 for EGRA (Kiswahili). Statistics such as these can show how well a set of variables measures an underlying construct, and in the present study, they suggest that the different subtasks of the

Tanzania EGRA and EGMA all contributed to measuring early grade students' reading and mathematics knowledge. In addition, construct validity was assessed by examining the item hierarchy, or the ordering of items within a subtask from easy to difficult that results from an item-level analysis from Rasch measurement.

Analysis also revealed a high correlation between the performance on EGRA and EGMA, as follows:

- Students scoring in the top 25 percent on ORF (Kiswahili) were 10 times more likely than their lower scoring peers to also be in the top 25 percent on EGMA.
- Students scoring in the bottom 25 percent on ORF (Kiswahili) were 11 times more likely than their higher scoring peers to place in the bottom 25 percent on EGMA.

4.2 EGRA Kiswahili Results

The EGRA Kiswahili results provide evidence that Standard 2 children are beginning to learn to read in Kiswahili. The EGRA results show quite clearly that the students performed much better on the Kiswahili assessment than they did on the English assessment. The following factors are likely to have contributed to this result:

- Kiswahili is the home language of most children, whereas English is a second language introduced for the first time as a subject in the Standard 2 curriculum.
- Kiswahili is a language with a more shallow (transparent) orthography than English.

Students appeared to perform reasonably well on the Kiswahili reading skills components (i.e., Syllable Sounds, Familiar Words, and Invented [Non] Words), but even on these subtasks, many students were unable to respond correctly to a single item (percent zero scores).

In general, the average rate of ORF in Kiswahili (18 correct words per minute) was low. ***Table 5*** provides a summary of the data from the Kiswahili EGRA subtasks.

Table 5. Performance on EGRA (Kiswahili) Subtasks.

Subtask	Correct Items per Minute	% Correct Attempted	% Correct	% Zero Scores
Syllable Sounds	31.4	68.2%	—	13.2%
Familiar Words	21.9	66.1%	—	23.5%
Invented (Non) Words	12.3	55.0%	—	28.0%
Oral Reading	17.9	62.4%	—	27.7%
Reading Comprehension	—	53.2%	28.9%	40.3%
Listening Comprehension	—	—	60.4%	3.4%
Dictation (words)	—	—	57.9%	26.3%
Sentence Dictation (punctuation)	—	—	24.6%	43.8%
Sentence Dictation (words)	—	—	60.2%	17.9%
Sentence Dictation (all)	—	—	46.9%	17.7%

Scores indicate that the students are learning the syllables in Kiswahili fairly efficiently, although they should improve rate and accuracy with effective instruction. Students were able to identify familiar words more easily than the invented (non) words, probably because they had memorized the familiar words and have not yet acquired sufficient decoding skills to successfully decode invented (non) words. Identifying unfamiliar words is one of the few effective ways to learn whether students are able to independently decode words, reflecting an understanding of the structure of the language. Oral reading rate and accuracy are well below the minimum rate and accuracy threshold (typically approximately 45 correct words per minute), which allow readers to understand what was read.

Listening comprehension skills are at the high end of scores in the range of subtasks. However, it is expected that students will score very high on a listening task if they understand the language of instruction. Strong scores on this task reflect knowledge and understanding of the language of Kiswahili.

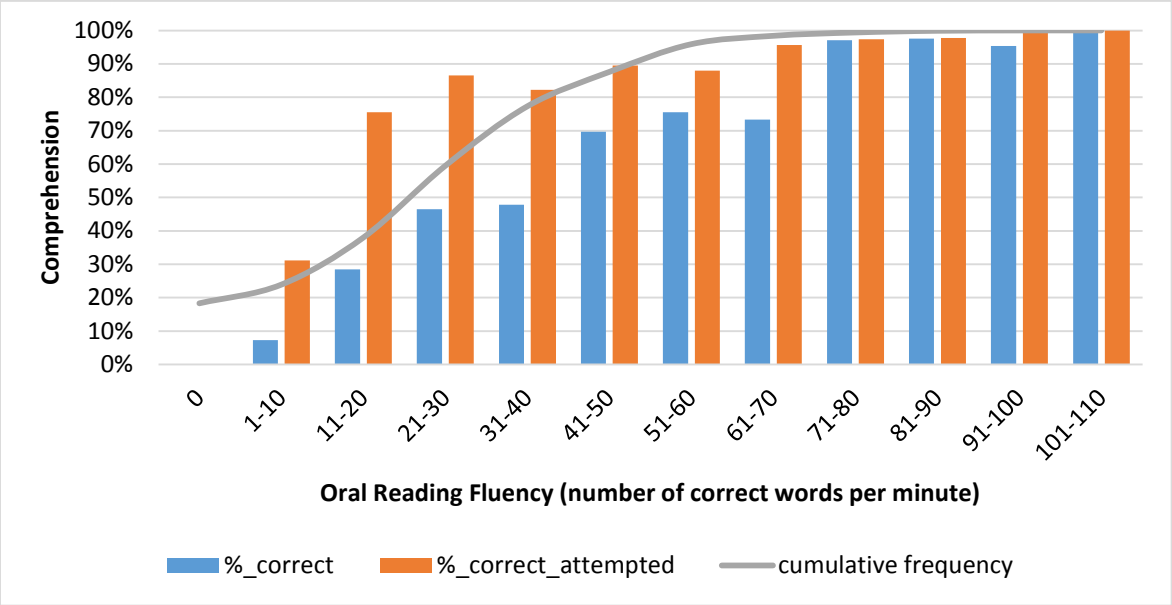
Writing skills, as measured by the Dictation subtask (consisting of four components: Dictation [words], Sentence Dictation [punctuation], Sentence Dictation [words], and Sentence Dictation [all]), suggest that students are better able to write individual words than a correctly punctuated sentence. Still, 60 percent of words correct is not an adequate benchmark for performance on either the Listening Comprehension subtask or the Dictation subtasks.

The goal of reading is to understand what has been read. The Oral Reading and Comprehension subtasks require a student to read a passage of connected text aloud, and then to answer questions about the portion of the passage that the student had read in 1 minute. However, 40 percent of the students obtained a zero score on the Reading Comprehension subtask, reflecting the fact that nearly half of the students were not able to answer even one comprehension question correctly. The accepted international benchmark for comprehension is 80 percent or more correct on the Reading Comprehension Task. Average student scores fell far below this threshold.

This finding suggests that although some students were able to respond correctly to the Reading Comprehension subtask questions, they were few in number. There is still a high percentage of students who cannot read enough words in 1 minute to develop an understanding of what they read. To obtain even the minimal score on the Reading Comprehension subtask, the students must have read at least one complete sentence on the Oral Reading subtask. Still, students appear to understand the Kiswahili language as reflected by relatively strong scores on the Listening Comprehension subtask.

Figure 2 illustrates the linkage between ORF and comprehension in Kiswahili. The more words that a student reads correctly per minute, the more successful that he or she was at responding to the Reading Comprehension subtask questions. Thus, strong decoding skills are directly related to reading comprehension and comprise the decoding component in the Simple View of Reading (Gough and Tunmer, 1986). The decoding component is one of two key components in the Simple View of Reading framework that contributes to reading comprehension. The other component is the child's level of understanding of the language and vocabulary.

Figure 2. EGRA (Kiswahili) Oral Reading Fluency Versus Comprehension.



4.2.1 EGRA Kiswahili Results by Category

Urban and Rural Performance

Table 6 summarizes the results of students in terms of urban and rural students. Students from urban areas performed better on all tasks than students from rural areas. The average score of urban students for naming Syllables, Familiar Words, and Invented (Non) Words per minute were all higher for urban students. Urban students were able to read the passage more quickly and accurately than rural students and comprehension of the passage was also higher. Urban students correctly answered, on average, two questions out of a total of five, whereas rural students correctly answered, on average, just over 1 question. Urban students also outscored rural students on the Dictation subtasks.

Table 6. Urban and Rural Performance on EGRA (Kiswahili).

Subtask	Urban	Rural
	Correct Items per Minute	
Syllable Sounds	39.1	29.1
Familiar Words	28.1	20
Invented (Non) Words	15.2	11.3
Oral Reading	23.3	16.2
	Percentage Correct	
Reading Comprehension	41.2%	25.4%
Listening Comprehension	69.3%*	58.2%
Dictation (words)	67.2%	54.7%
Dictation (sentence)	54.2%	44.3%

* $p < 0.05$

Performance by School Performance Band

Table 7 summarizes the results of students in terms of school performance bands. The difference in performance across the different performance bands was statistically significant on most subtasks. Students from the low-performing schools produced scores that were less than 50 percent of the average scores of students in the high-performing schools on the accuracy and fluency measures. These measures include ORF, the subtask that correlates most strongly with overall reading proficiency. The performance on the subtasks scored by percent correct also reflected a significant gap between low and high performing groups. The average ORF score for students in high performing schools is close to the threshold/benchmark score of 45 correct words per minute.

Table 7. EGRA (Kiswahili) by School Performance Band.

	Low	Medium	High
Subtask	**Correct Items per Minute**		
Syllable Sounds	29.1*	46^	57.6*
Familiar Words	20.0*	33.8^	47.1**
Invented Words	11.3*	18^	24.4**
Oral Reading	16.1*	28.6^	40.8**
	Percentage Correct		
Reading Comprehension	25.9%	46.3%^	63.8%
Listening Comprehension	58.9%*	70.0%^	76.1%*
Dictation (Words)	54.9%**	77.9%^	89.7%*
Dictation (Sentence)	44.3%***	62.9%^	77.4%**

^ reference; * p < 0.05, ** p < 0.01, *** p < 0.001

Performance by Gender

Table 8 summarizes the results of students in terms of gender. Girls performed only slightly better than boys on most subtasks, but the differences were not statistically significant. However, it is interesting to note that more girls drop out of school in the upper primary grades than boys, even though they are achieving at about the same levels. Thus, more work needs to be done to keep girls in school and prevent them from dropping out before they reach secondary school.

Table 8. Performance on EGRA (Kiswahili) by Gender.

	Girls	Boys
Subtask	**Correct Items per Minute**	
Syllable Sounds	34.1	28.7
Familiar Words	23.9	19.9
Invented Words	13.3	11.3
Oral Reading	16.2	19.6
	Percentage Correct	
Reading Comprehension	30.2%	27.6%
Listening Comprehension	60.8%	60.1%
Dictation (words)	61.6%	54.3%
Dictation (sentence)	49.1%	44.6%

4.2.2 EGRA Kiswahili Item Analysis

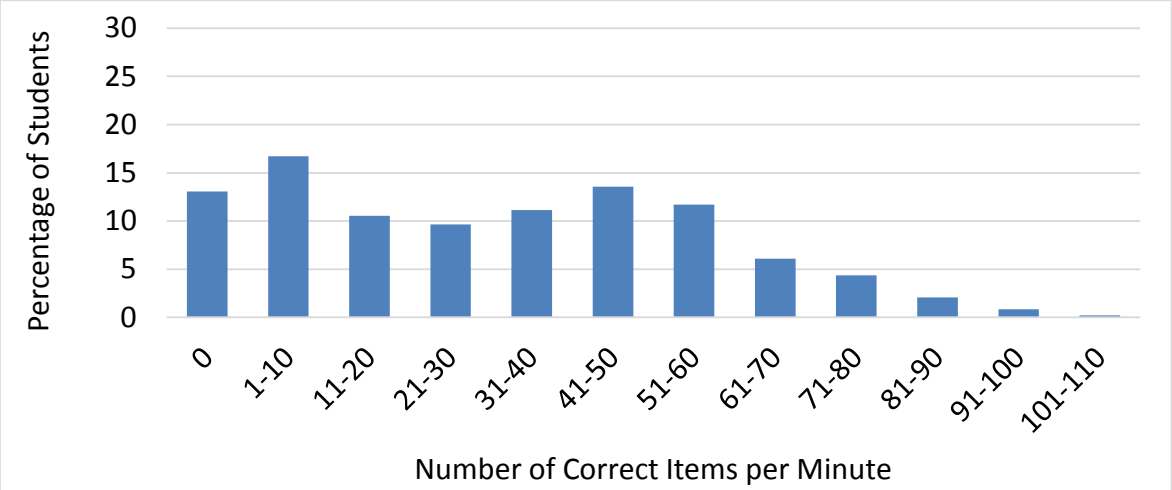
Syllable Sounds

Figure 3 summarizes the performance by students on the Syllable Sounds subtask. The scores of this subtask suggest that students are learning some syllable sounds, but they still need instruction to increase accuracy. Approximately, one-third of the students scored between zero and 10 syllables correct in 1 minute, indicating that many still struggle with identifying the sounds. Students should be able to identify common syllables easily and automatically as a step to developing reading fluency. A common threshold for fluent syllable reading is one syllable per second. Fewer than 15 percent of students were naming syllables at this rate.

Sample Kiswahili Syllable Sound Items

he	kwa	fe	ma
a	ke	bi	ru
sa	hi	mba	fo
la	bu	ro	ni
se	yu	de	mwa

Figure 3. Performance on the EGRA (Kiswahili) Syllable Sounds Subtask.



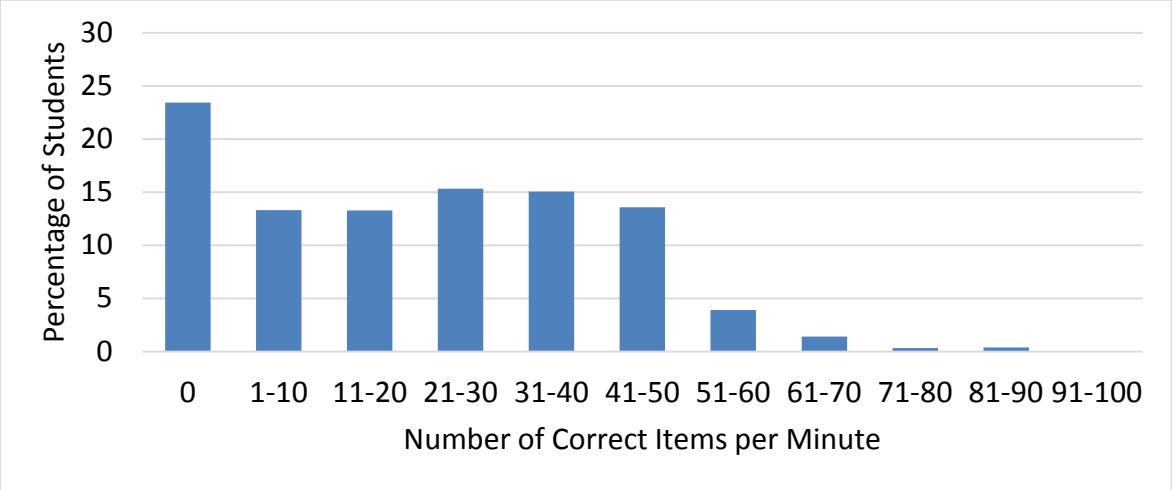
Familiar Words

Figure 4 summarizes the performance by students on the Familiar Words subtask. Approximately 36 percent of the students scored between zero and 10 words correct in 1 minute. A reasonable rate of word recognition would be approximately one word per second, or 45–60 correct words per minute. Only 29 percent of students obtained scores between 40 and 60 correct words per minute.

Sample Kiswahili Familiar Word Items

yangu	siku	lake
huu	hili	nini
wa	shati	meza
mti	na	darasa
ya	sisi	huyu

Figure 4. Performance on the EGRA (Kiswahili) Familiar Words Subtask.



Invented Words

Figure 5 summarizes the performance by students on the Invented Words subtask. This subtask is considered to be a "pure" decoding task because students cannot use memorization to read words. These invented (or non) words are words that can/must be decoded. If current reading instruction does not teach sound-letter mapping, then students are likely to struggle with this subtask for one of the following two reasons:

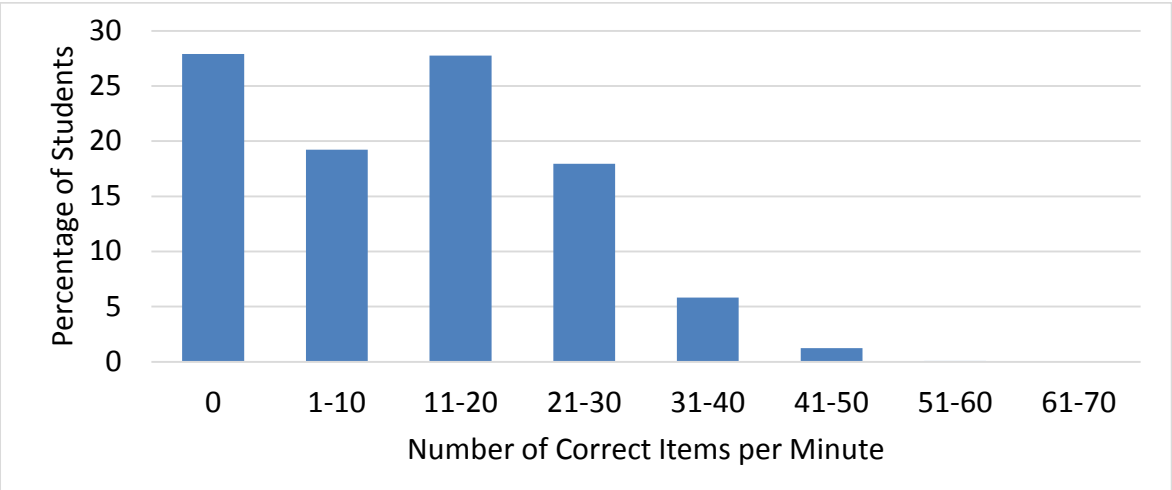
- The subtask is very unfamiliar
- Students do not know how to use letter sounds for decoding.

Sample Kiswahili Invented Word Items

zihi	buba	goge
koya	takibu	leki
naji	suki	towato
fasira	twaiana	mbeje
vinja	pifu	rinzu

Using a systematic, explicit evidence-based approach to teach decoding skills can help students learn these skills relatively quickly because Kiswahili is a transparent language and easier to learn than English.

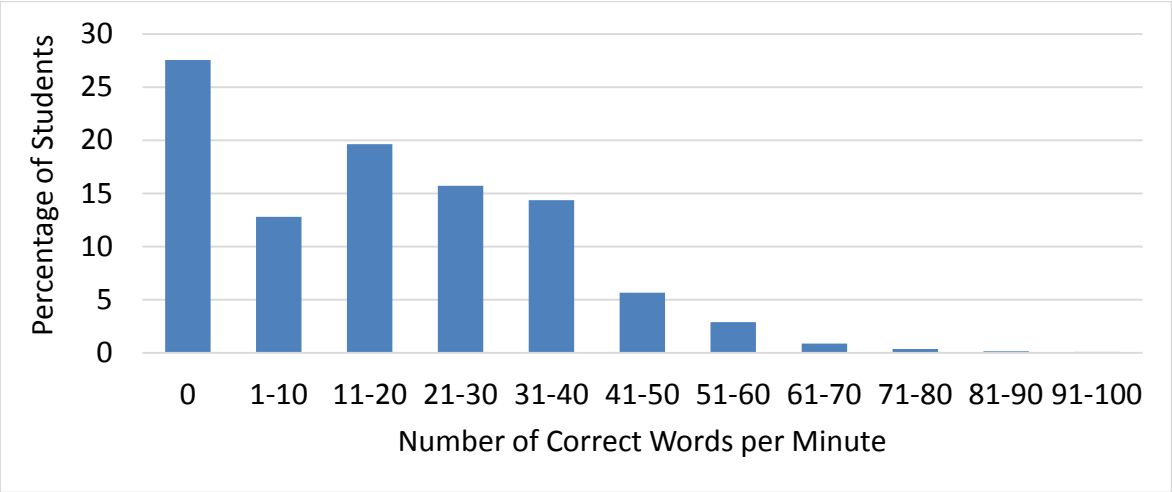
Figure 5. Performance on the EGRA (Kiswahili) Invented Words Subtask.



Oral Reading

Figure 6 summarizes the performance by students on the Oral Reading subtask, which is the task that is most strongly related to proficient reading. As previously mentioned, a Standard 2 student typically needs to read at least 45–60 correct words per minute to understand what he or she is reading. However, fewer than 10 percent of students scored at or above 45 correct words per minute. To increase fluent reading skills, instruction must address both decoding and oral language skills and provide daily reading practice in addition to instructional time. Sufficient supplemental reading materials of the appropriate level need to be available for students so that they can increase reading skills during instruction and independent reading.

Figure 6. Performance on the EGRA (Kiswahili) Oral Reading Subtask.



Reading Comprehension

Figure 7 summarizes the performance by students on the Reading Comprehension subtask. There are a total of five comprehension questions, with each correct answer scored as 20 percent correct. One can see that 40 percent of students were not able to answer any questions in Kiswahili correctly, and the average performance was 29 percent or slightly better than one correct answer out of five. The Simple View of Reading framework (Gough and Tunmer, 1986) states that reading comprehension skills are a product of decoding skills and language and listening comprehension skills. With students reading so few words correctly in 1 minute on the oral reading passage, it is not surprising that performance on the comprehension task was also fairly low. The scores listed above the bar in ***Figure 7*** are the average number of correct words read per minute (ORF) for each comprehension outcome. The better the comprehension score, the more fluently students were reading. Students who scored at 80 percent comprehension were scoring on average 47.2 correct words per minute, a fluency rate that falls within the international threshold for the rate required to understand what is read. The lower the comprehension score was, the lower the average number of words read correctly in 1 minute. Comprehension is strongly correlated with oral reading proficiency, so targeted and effective instruction in decoding skills, as well as oral vocabulary and language skills, should have a positive impact on student performance in fluent oral reading and comprehension.

Figure 7. Performance on the EGRA (Kiswahili) Reading Comprehension Subtask, Including Average ORF per Outcome.

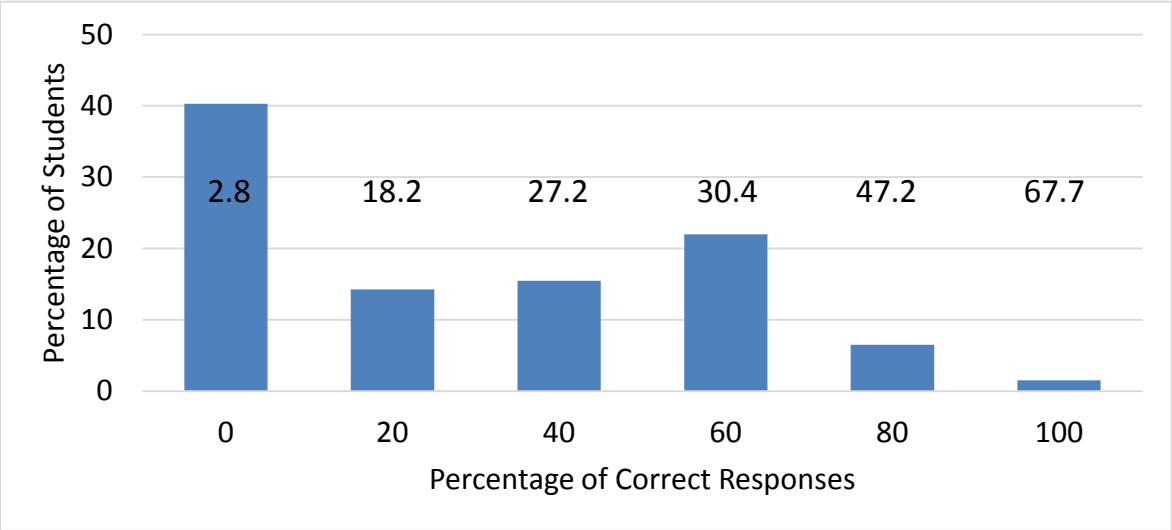
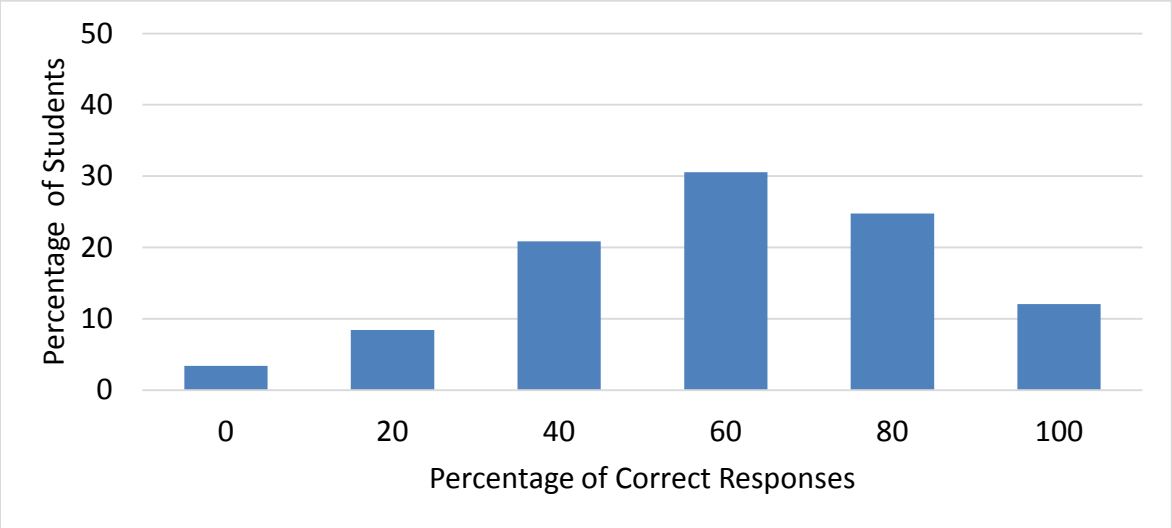


Figure 7 also provides information on the average ORF score for different categories of performance on the reading comprehension task. The two tasks are highly related, and the graph demonstrates that the better the performance on the reading comprehension task the higher the average on the ORF (reflecting rate and accuracy in reading). For students who answered all five comprehension questions correctly (100 percent), the mean ORF score was 68 correct words per minute, suggesting that the 45–60 or above correct words per minute may be a reasonable target.

Listening Comprehension

Figure 8 summarizes the performance by students on the Listening Comprehension subtask. Student performance on this subtask demonstrates that nearly 70 percent of students obtained scores of 60 percent correct or higher. This subtask reflects an individual's listening skills, but it also requires memory skills, including short-term memory and working memory. Therefore, this subtask requires more than listening and language comprehension capacity. Although the Listening Comprehension subtask does not relate strongly to other EGRA tasks, listening skills are considered to be a key element of a well-designed reading instruction program.

Figure 8. Performance on the EGRA (Kiswahili) Listening Comprehension Subtask.

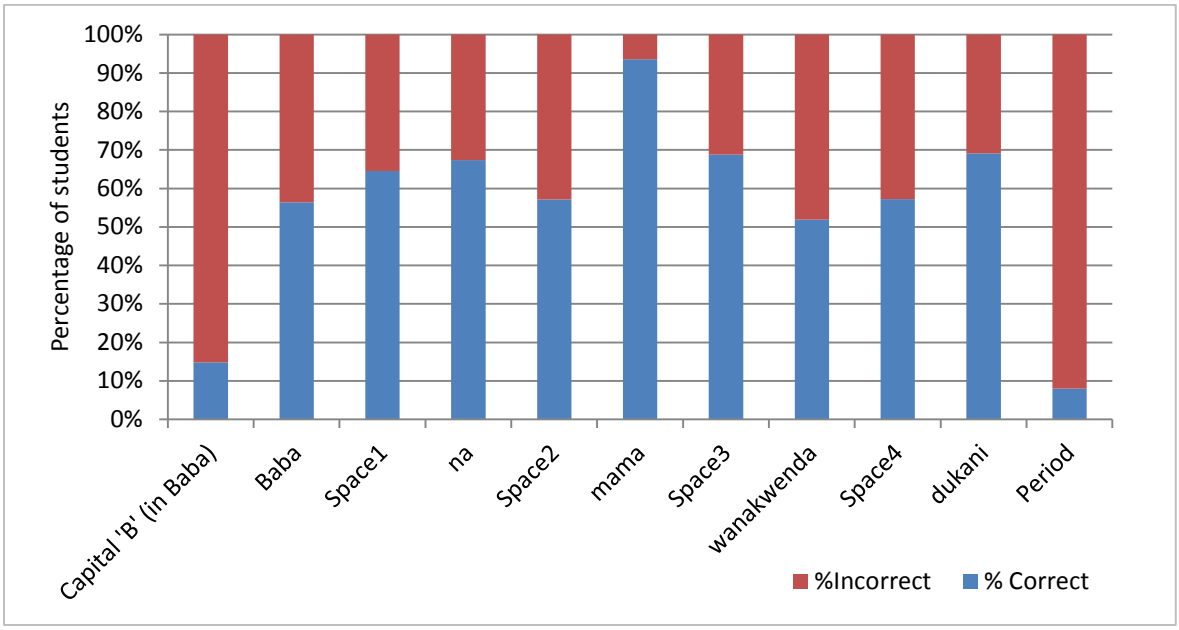


Dictation

The Dictation subtask includes two parts. The first part requires that students listen to a list of words dictated one by one, providing students time to write each word. The second part requires students to listen to a complete sentence and to write the sentence after hearing it repeated three times. ***Figure 9*** illustrates student performance on the dictated sentence. Spelling and spaces between words and punctuation were scored. The mean percent of correct scores on both Dictation subtasks was well above 50 percent, suggesting that students are learning to spell, as well as to write in Kiswahili. At the same time, however, more than 40 percent of students obtained a zero score on this subtask, and students did not perform as well on the punctuation component of the subtasks.

In summary, the Dictation task provides an important window on how students read words, and their spelling of words reflects their understanding of the sound-spelling system in the language. It is likely that students either did not know how to punctuate the sentences they were asked to write, or they did not understand the task of having to write a "complete sentence."

Figure 9. Performance on the EGRA (Kiswahili) Sentence Dictation Subtask.



4.3 EGRA English Results

The English EGRA subtasks were developed because the language of instruction in Tanzania shifts from Kiswahili to English by the time students reach secondary school. Instruction on how to speak English begins in the early primary grades. Thus, student performance on an English EGRA subtask provides important information on how well students understand the letter-sound mapping, beginning decoding skills, and reading comprehension skills in English in the early grades in preparation for English as the language of instruction in secondary school.

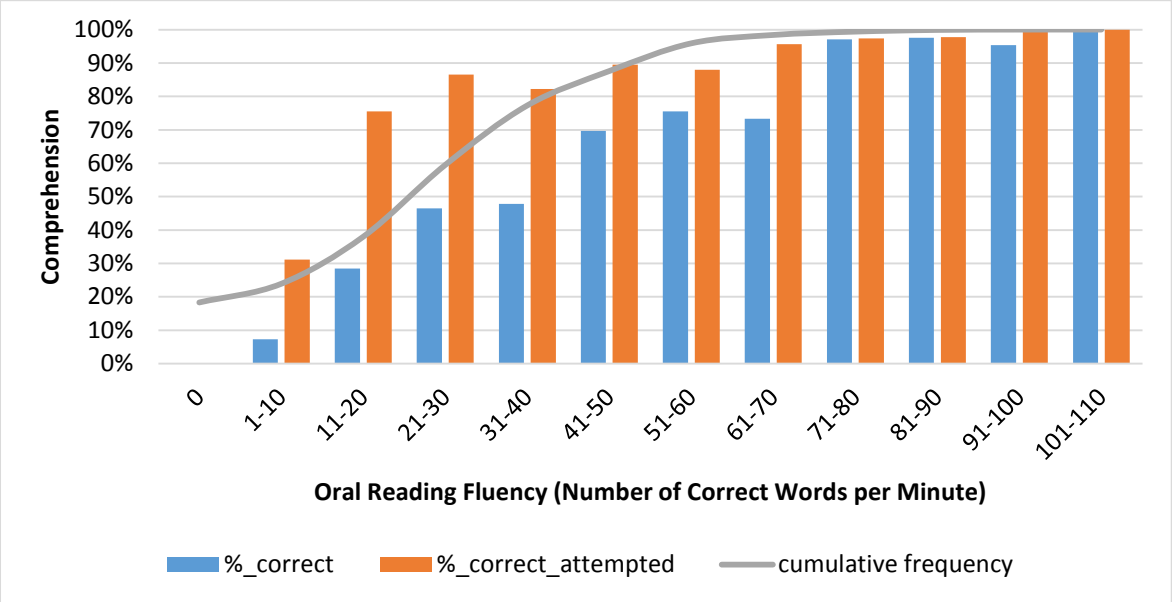
For English, performance on the pre-reading skills (i.e., Letter Sounds, Phonemic Awareness, and Familiar Words) was generally weak, with a very high percentage of zero scores on each of these subtasks (***Table 9***). As such, it was no surprise that oral reading was poor in terms of both accuracy (28 percent) and fluency (nine correct words per minute). Comprehension, a skill that depends upon reading fluency, also suffered because very few students read English with comprehension. The average score on the Reading Comprehension subtask was less than one question answered correctly. ***Figure 10*** illustrates the linkage between ORF and comprehension for English. Poor ORF is strongly related to low comprehension scores and vice versa.

Table 9. Performance on EGRA (English) Subtasks.

Subtask	Correct Items per Minute	% Correct Attempted	% Correct	% Zero Scores
Letter Sounds	8.2	24.3%	—	38.2%
Phonemic Awareness	—	—	17.0	57.0%
Familiar Words	5.6	18.1%	—	59.3%
Oral Reading	9.4	27.9%	—	37.9%
Reading Comprehension	—	3.6%	14.9	94.8%

Students are not yet learning to read in English at the same rate that they are learning to read in Kiswahili. English is a much more difficult language to learn. The students are beginning to learn the English language, but most of them are not yet reading in English with any proficiency.

Figure 10. EGRA (English) Oral Reading Fluency Versus Comprehension.



4.3.1 EGRA English Results by Category

Urban and Rural Performance

Table 10 summarizes the results of students in terms of urban and rural students. Students in urban schools are performing better on English EGRA subtasks than rural students. This finding is not surprising because it is far more likely that teachers and others in urban communities speak and/or understand English better than those in rural communities.

Table 10. Urban and Rural Performance on EGRA (English).

Subtask	Urban	Rural
	Correct Items per Minute	
Letter Sounds	15.7**	5.7
Familiar Words	10.6 *	4
Oral Reading	15.8	7.6
	Percentage Correct	
Reading Comprehension	5.9%	1.2%
Phonemic Awareness	24.1%	14.7%

* p < 0.05, ** p < 0.01

Performance by School Performance Band

Table 11 summarizes the results of students in terms of school performance bands. There were statistically significant differences between low-, medium-, and high-performing schools on almost all subtasks, with only the students in high-performing schools reading at an ORF rate that allows for comprehension. That said, even the average comprehension score for high-performing students was nearly half of the 80-percent level expected. Students in low-performing schools did not demonstrate strong English reading skills on any subtask.

Table 11. EGRA (English) by School Performance Band

Subtask	Low	Medium	High
	Correct Items per Minute		
Letter Sounds	6.4*	17.4^	48.1*
Familiar Words	3.8*	14.6^	45.2*
Oral Reading	7.3*	19.7^	52.7*
	Percentage Correct		
Reading Comprehension	0.8%	7.9%^	46.6%***
Phonemic Awareness	15.4%**	24.8%^	49.4%**

^ reference; * p < 0.05, ** p < 0.01, *** p < 0.001

Performance by Gender

Table 12 summarizes the results of students in terms of gender. Performance by gender did not yield any significant differences on the English EGRA subtasks.

Table 12. Performance on EGRA (English) by Gender.

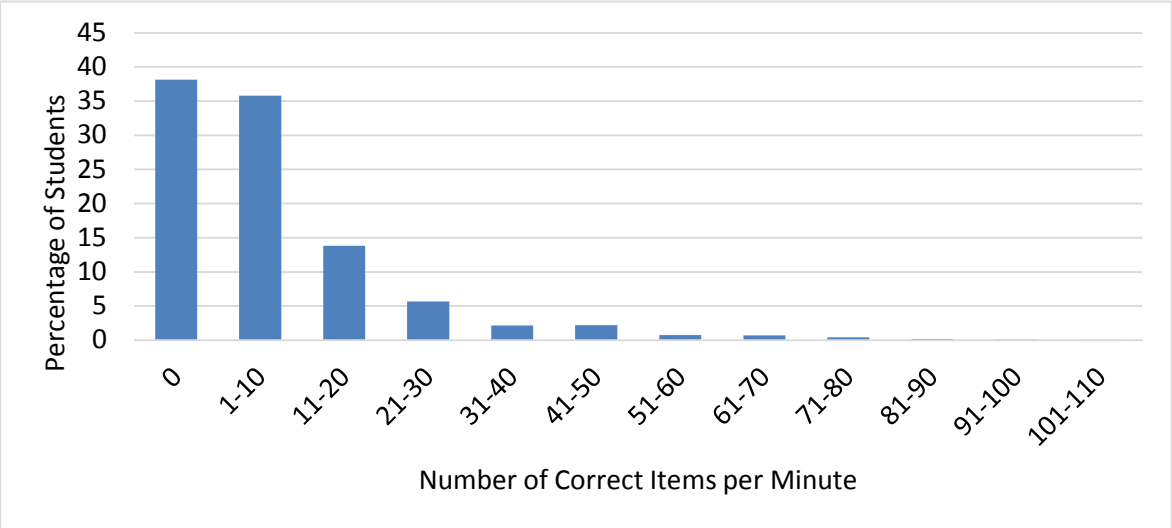
Subtask	Girls	Boys
	Correct Items per Minute	
Letter Sounds	8.4	8
Familiar Words	6	5.2
Oral Reading	9.8	8.9
	Percentage Correct	
Reading Comprehension	2.6%	2.0%
Listening Comprehension	17.6%	16.6%

4.3.2 EGRA English Item Analysis

Letter Sounds

Figure 11 summarizes the performance by students on the Letter Sounds subtask. More than 65 percent of the students scored between zero and 10 correct letter sounds in English, indicating that most students have not yet learned the most fundamental components of reading skills in English.

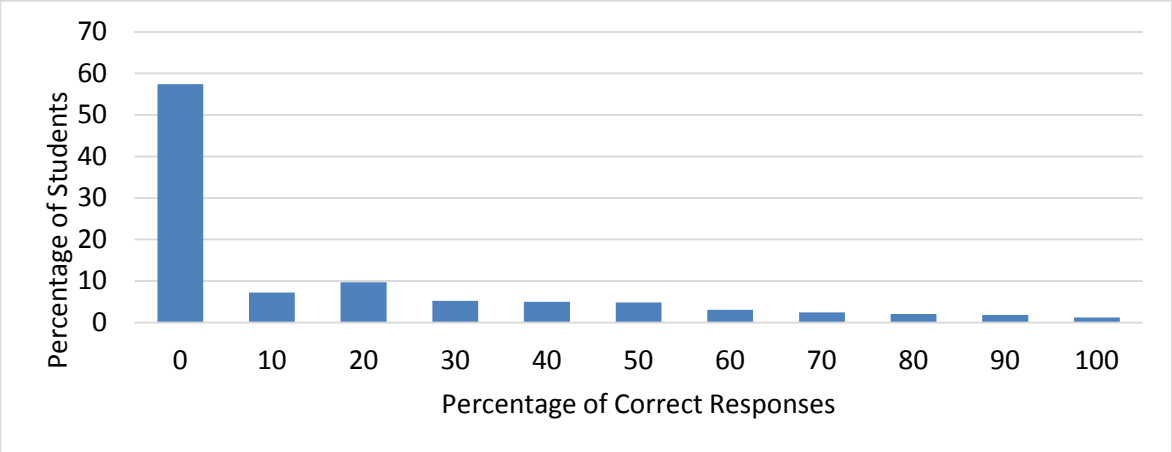
Figure 11. Performance on the EGRA (English) Letter Sound Subtask.



Phonemic Awareness

Figure 12 summarizes the performance by students on the Phonemic Awareness subtask. Students performed very poorly on the subtask, which asked them to identify the initial sound in words. There may be two possible explanations for the poor performance. First, students may not understand the linguistic task of identifying sounds in words. Second, they may not know the sounds of letters in English. The phonological structure of the English language is far more complex than Kiswahili; therefore, it will be easier to determine when students are proficient in reading in Kiswahili.

Figure 12. Performance on the EGRA (English) Phonemic Awareness Subtask.



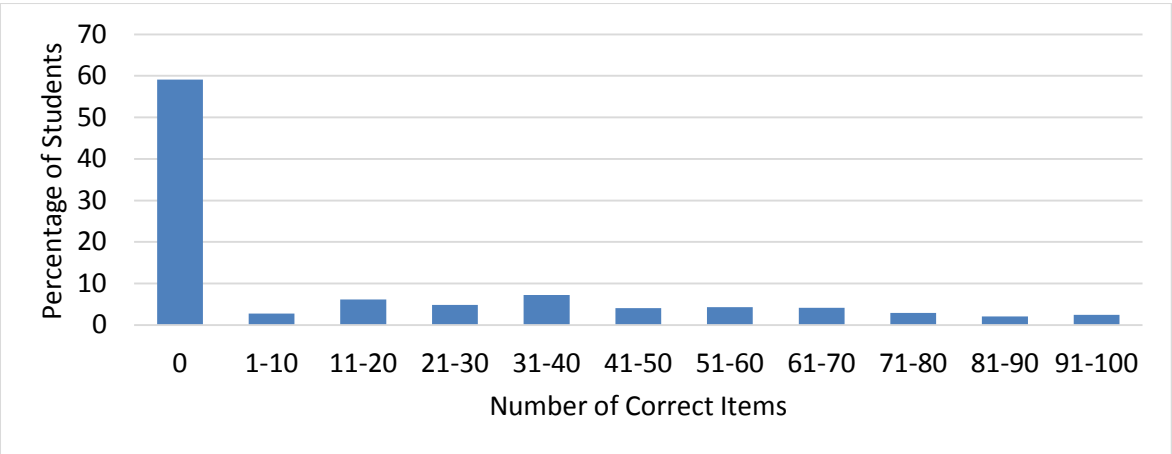
Familiar Words

Figure 13 summarizes the performance by students on the Familiar Words subtask. Clearly, English word reading is challenging for most students. Although nearly 25 percent of students could read a few words correctly, their performance was not good.

Sample English Familiar Word Items

goat	in	that
not	car	but
the	how	can
he	me	yes

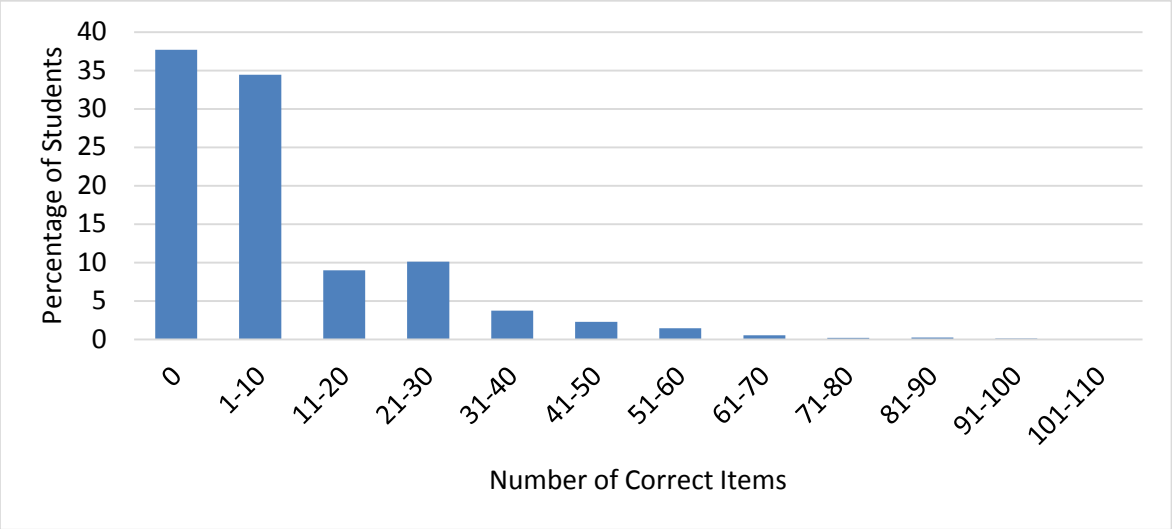
Figure 13. Performance on the EGRA (English) Familiar Words Subtask.



Oral Reading

Figure 14 summarizes the performance by students on the Oral Reading subtask. ORF is the most predictive measure determined by all of the EGRA subtasks. More than 70 percent of students read from zero to 10 correct words per minute, indicating that few Standard 2 students have reading skills in English.

Figure 14. Performance on the EGRA (English) Oral Reading Subtask.



Reading Comprehension

Figure 15 summarizes the performance by students on the Reading Comprehension subtask and the average ORF for each group of students. Most students could not read a passage in English; therefore, they would not be expected to correctly answer comprehension questions related to that passage. More than 90 percent of students could not correctly answer a single comprehension question.

Figure 15. Performance on the EGRA (English) Reading Comprehension Subtask, Including Average ORF per Outcome.

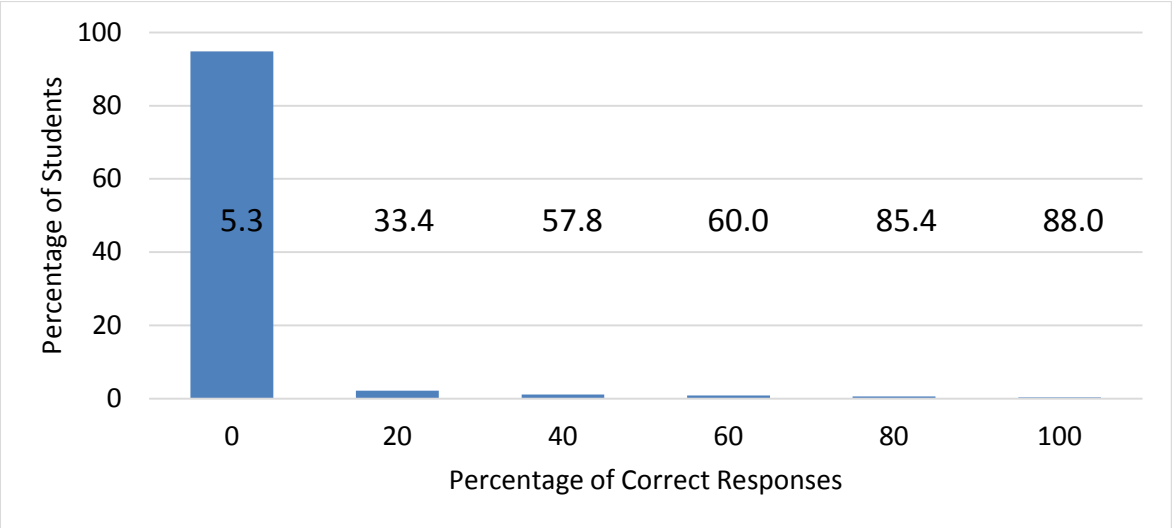


Figure 15 also reflects the impact of adequate ORF on comprehension skills. Although most students were not able to read many words in the English ORF subtask, the average scores on the ORF ranged from 33 to 88 correct words per minute for those who responded correctly to one or more comprehension questions.

4.4 EGRA Conclusion

Students performed far better on the EGRA Kiswahili measure. This finding was to be expected because in Standard 2, reading instruction is in Kiswahili; English is a subject that the students are learning. Still, student performance on the Kiswahili EGRA tasks indicates that there is a need for improved reading instruction in the early primary grades. It is possible for students to learn to read a passage at the Standard 2 difficulty level, with fluency and comprehension by the end of Standard 2, but that requires focused systematic instruction in reading in Standards 1 and 2. With improved instruction, it is very possible that students in the early primary grades can become proficient readers by the end of Standard 3.

In addition to high-quality instruction, it is critical that students have access to decodable and appropriately leveled books that they can read. Too often, instructional materials are not aligned with students' developing skills. Therefore, to increase reading proficiency, providing the appropriate instructional and supplemental reading materials is very important. In combination, with an effective evidence-based instructional approach, these materials can provide a foundation for increasing students' knowledge and skills in reading that will help decrease the number of school drop outs and increase levels of literacy. There is no higher priority in education than learning to read well because reading proficiency has a profound impact on all other academic skills.

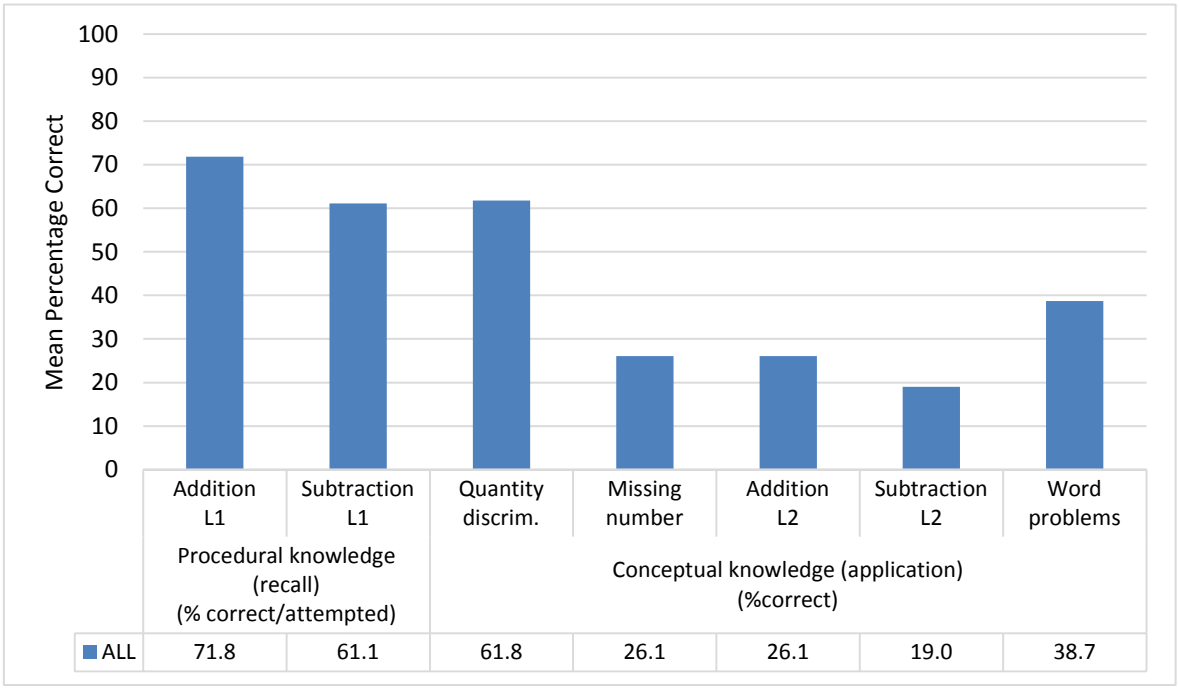
4.5 EGMA Results

Table 13 and ***Figure 16*** summarize the EGMA results by subtask.

Table 13. Performance on EGMA Subtasks.

Subtask	Number Correct per Minute	% Correct Attempted	% Correct	% Zero Scores
Addition (Level 1)	7.6	71.8%	—	12.3%
Subtraction (Level 1)	5.5	61.1%	—	21.9%
Quantity Discrimination	—	—	61.8%	5.3%
Missing Number	—	—	26.1%	10.9%
Addition (Level 2)	—	—	26.1%	47.7%
Subtraction (Level 2)	—	—	19.0%	57.9%
Word Problems	—	—	38.7%	23.5%

Figure 16. Performance on the EGMA Subtasks.

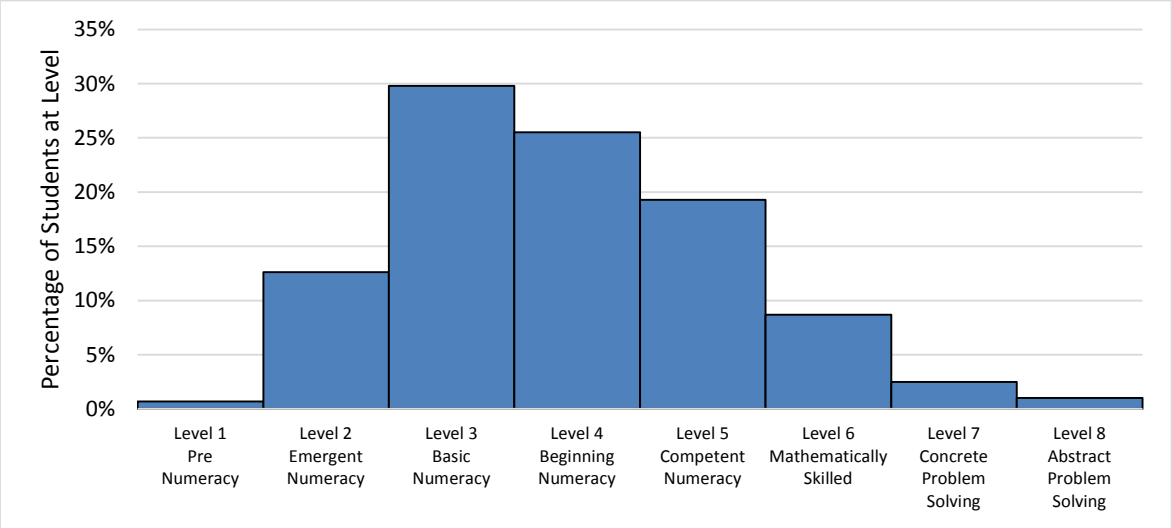


The EGMA showed that by the end of Standard 2, students were performing reasonably well on the more procedural items (i.e., Addition and Subtraction Level 1 subtasks), with students scoring, on average, nearly 60 percent or better on these subtasks. That said, the students performed better on Addition Level 1 than on Subtraction Level 1, and nearly 22 percent of the students were unable to correctly answer a single Subtraction Level 1 item, the easiest of these items being 4–1= ☐ When it came to the more conceptual items, the students still performed reasonably well on the Quantity Discrimination subtask. However, regarding the Missing Number, Addition Level 2, and Subtraction Level 2 subtasks, there was a sharp drop

in performance. Nearly 58 percent of the students were unable to correctly answer a single Subtraction Level 2 item, the easiest of these being 18–4= ☐. This stark difference in performance between the procedural and conceptual subtasks suggests a lot about how students in Tanzania are likely to experience school mathematics. It is likely that the students experience mathematics as a subject in which they have to know the answer rather than having a strategy for solving it. The students may view mathematics as the memorization of facts, rules, and procedures.

This trend observed in early grade mathematics performance provides a possible explanation for the lower number of students performing at the higher skill levels in SACMEQ in Standard 6. ***Figure 17*** presents the percentages of Tanzanian students at each of the different levels on the SACMEQ III study.

Figure 17. Percentage of Standard 6 Students at Each of the Different SACMEQ Mathematics Performance Levels.



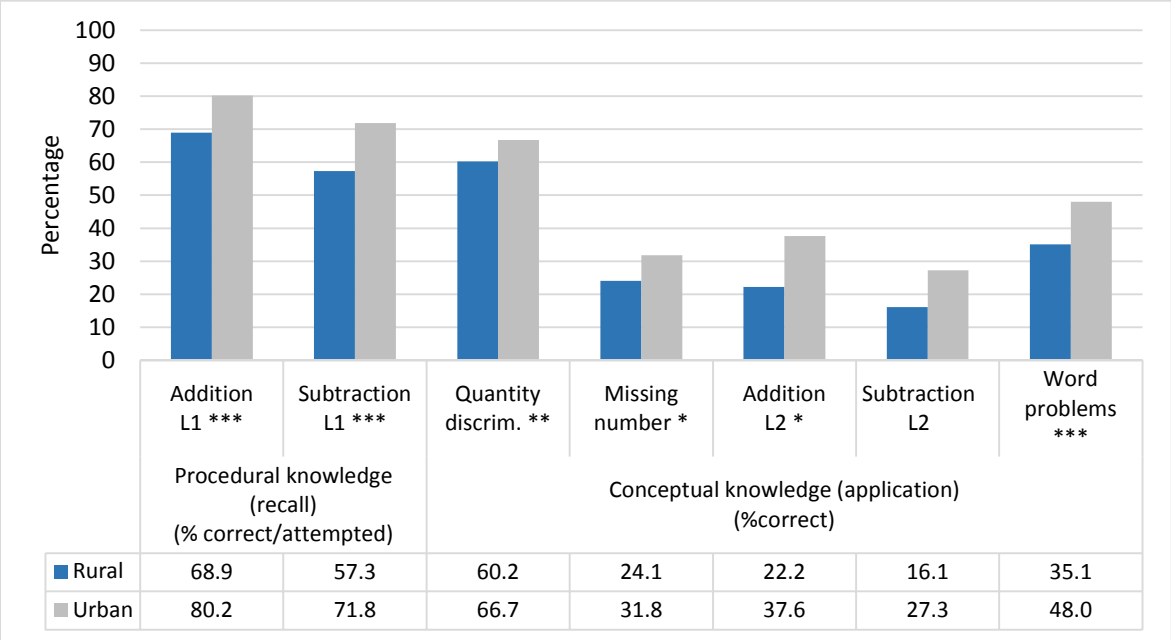
Although it is tempting in the early grades to teach mathematics as facts and rules to be memorized, the Tanzanian EGMA results show very clearly the limitations of this approach. In the early grades (Standard 1), it will appear to teachers, parents, and others that students "know their mathematics." In terms of the curricular expectations for Standard 1, and even much of Standard 2, which are in very low number ranges, students will appear to "perform well" because they will appear "to know the answers." As the number ranges in which students are expected to perform mathematics increase over the years, it is no longer possible to memorize all of the answers. Students need to be able to apply the so-called "basic facts" (assessed in the Addition and Subtraction Level 1 subtasks) with fluency, flexibility, and understanding to perform more complex tasks (assessed here in the Addition and Subtraction Level 2 subtasks). The sharp decline in performance and the dramatic increase in zero scores from the Level 1 to the Level 2 subtasks suggest that students do not know the Level 1 facts with understanding and are hence unable to apply them to solve the Level 2 subtasks.

4.5.1 Summary of Scores by Category

Urban and Rural Performance

Figure 18 summarizes the performance on the EGMA subtasks in terms of urban and rural schools. Students in urban schools performed better than their counterparts in rural schools. The difference in performance is marked and statistically significant on all but the Subtraction Level 2 subtasks. That said, the trend of students performing better on the more procedural items than on the more conceptual items, while true for both urban and rural schools, is more pronounced for the rural schools. It is clear that students in rural schools experience mathematics differently than their urban counterparts do.

Figure 18. Urban and Rural Performance on the EGMA Subtasks.



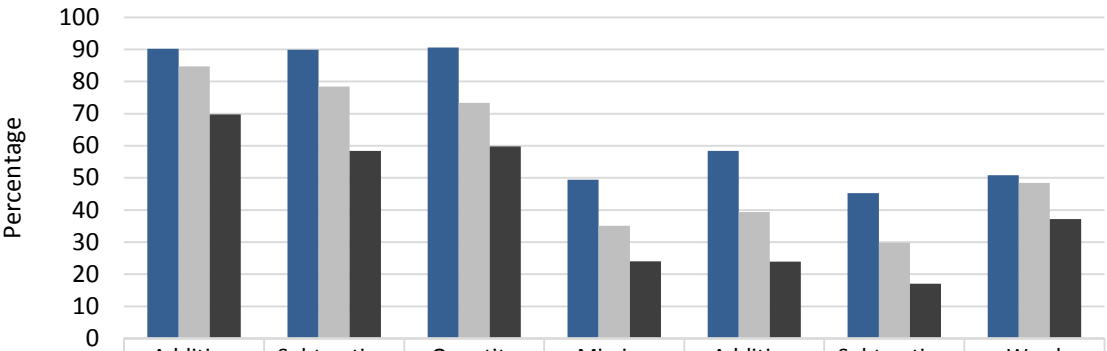
	Addition L1 ***	Subtraction L1 ***	Quantity discrim. **	Missing number *	Addition L2 *	Subtraction L2	Word problems ***
	Procedural knowledge (recall) (% correct/attempted)		Conceptual knowledge (application) (%correct)				
Rural	68.9	57.3	60.2	24.1	22.2	16.1	35.1
Urban	80.2	71.8	66.7	31.8	37.6	27.3	48.0

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Performance by School Performance Band

Figure 19 illustrates performance on the EGMA subtasks according to school performance band.

Figure 19. Performance on the EGMA Subtasks by School Performance Band.



	Addition L1 ***	Subtraction L1 ***	Quantity discrim. ***	Missing number ***	Addition L2 ***	Subtraction L2 ***	Word problems *
	Procedural knowledge (recall) (% correct/attempted)		Conceptual knowledge (application) (%correct)				
High	90.2	89.9	90.6	49.4	58.4	45.3	50.8
Medium	84.7	78.4	73.4	35.1	39.4	29.8	48.4
Low	69.8	58.4	59.8	24.0	23.9	17.1	37.2

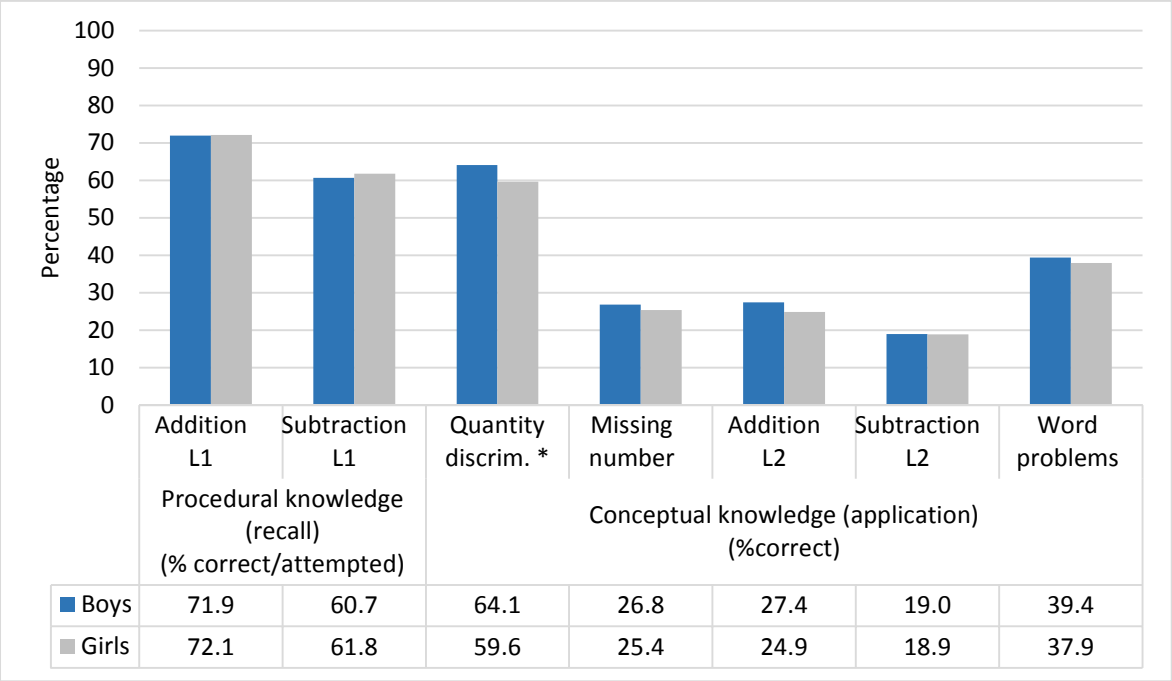
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The MoEVT determined the school performance band of each school based on the performance by students on the Standard 7 PSLEs of 2012. The interest in this study was to see if the students in these schools already demonstrate a difference in performance in the early grades. The EGMA results clearly show that, at least with regard to mathematics, the difference is already both pronounced and well established in Standard 2. In terms of general trends, students in all of the schools still performed better on the more procedural items than they do on the more conceptual items, indicating that the general approach to teaching mathematics is not as effective as it should be. However, the marked difference in performance across the school performance bands suggests very clearly that the children in the so-called low-performing schools receive a very different exposure to mathematics and quite possibly learning in general.

Performance by Gender

Figure 20 illustrates performance on the EGMA subtasks according to gender. There is no noticeable difference in the performance between boys and girls. This difference suggests that, at least in the early grades, boys and girls experience a very similar mathematics education.

Figure 20. Performance on the EGMA Subtasks by Gender.



	Addition L1	Subtraction L1	Quantity discrim. *	Missing number	Addition L2	Subtraction L2	Word problems
	Procedural knowledge (recall) (% correct/attempted)		Conceptual knowledge (application) (%correct)				
Boys	71.9	60.7	64.1	26.8	27.4	19.0	39.4
Girls	72.1	61.8	59.6	25.4	24.9	18.9	37.9

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.5.2 Subtask Analysis

Addition and Subtraction (Level 1)

Sample Addition and Subtraction Level 1 Items

1 + 3 = ☐	4 − 1 = ☐
3 + 2 = ☐	5 − 2 = ☐
6 + 2 = ☐	8 − 2 = ☐
7 + 3 = ☐	10 − 3 = ☐
8 + 7 = ☐	15 − 7 = ☐

The Addition and Subtraction Level 1 items were assessed in two different subtasks: one that consisted of addition items and the other of subtraction items. The Addition and Subtraction Level 1 subtasks each consisted of items for which it was expected that the students should have developed some level of automaticity and fluency. The items on these subtasks represented the foundational addition and subtraction "facts" that are at the heart of addition and subtraction with larger numbers. Without achieving some level of automaticity and fluency on the range of addition and subtraction facts represented by these items, there is little expectation that the students will be able to perform addition and subtraction (let alone multiplication and division) with larger numbers. That said, success in answering these questions, while necessary, is not sufficient to ensure success on the Addition and Subtraction Level 2 items, as already noted in the results for Tanzanian primary students.

Although the performance on the subtraction items was not as good as it was on the addition items, students' performance on the items in these two subtasks was in line with the changing structure of the items.

Figure 21 illustrates the performance on the Addition Level 1 items, and the following trends are evident:

- The students performed well (between 67 percent and 82 percent of the students responded correctly) on the items involving the addition of a single-digit number to a single-digit number with a sum less than 10 (i.e., not bridging the 10).
- Between 73 percent and 88 percent of the students responded correctly to the items involving the addition of two single-digit numbers with a sum equal to 10 (i.e., completing the 10).
- Between 64 percent and 70 percent of the students responded correctly to the items involving the addition of a single-digit number to 10 (i.e., adding to 10).
- The students performed least well (between 53 percent and 65 percent of the students correctly responded) to the items involving the addition of a single-digit number to a two-digit number with a sum less than 20. This finding is surprising because we would expect performance on these items to be better than the performance on the next group of items if students "see the structure." The fact that students perform most poorly on these items reinforces the impression that they know the answers to the Addition Level 1 items by rote and without much understanding.
- Between 50 percent and 71 percent of the students responded correctly to the items involving the addition of two single-digit numbers with a sum greater than 10 (i.e., single-digit addition involving bridging the 10).

Figure 21. Item-Level Performance on the Addition Level 1 Subtask.

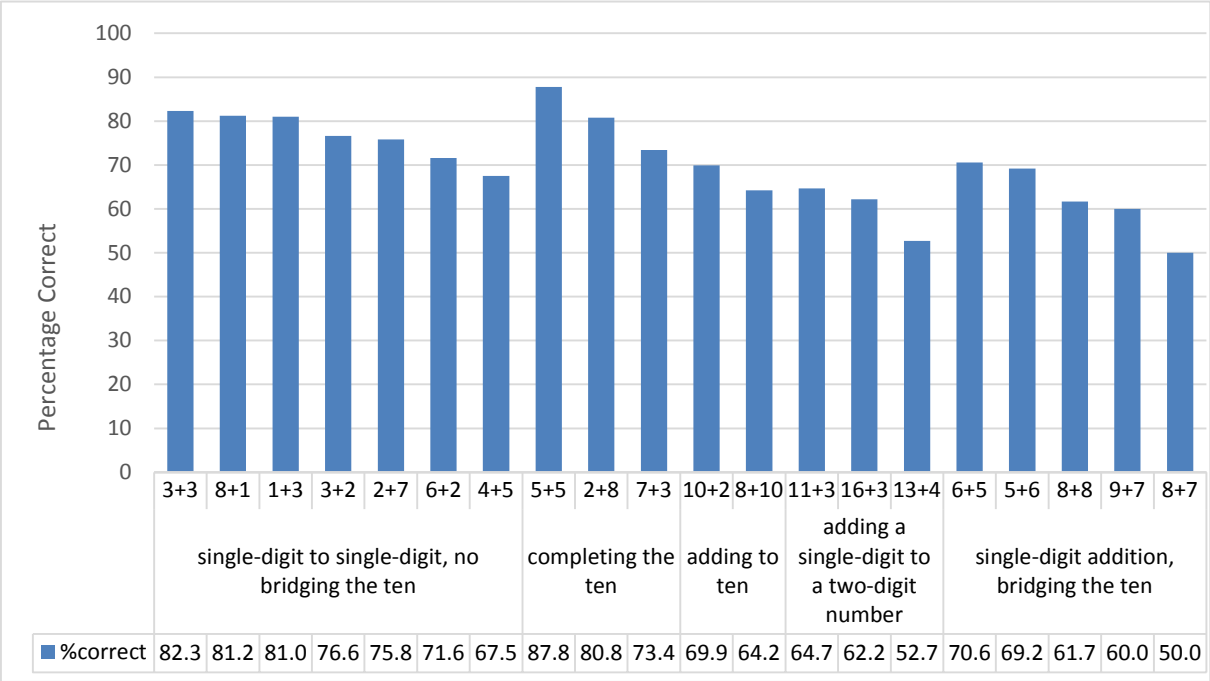
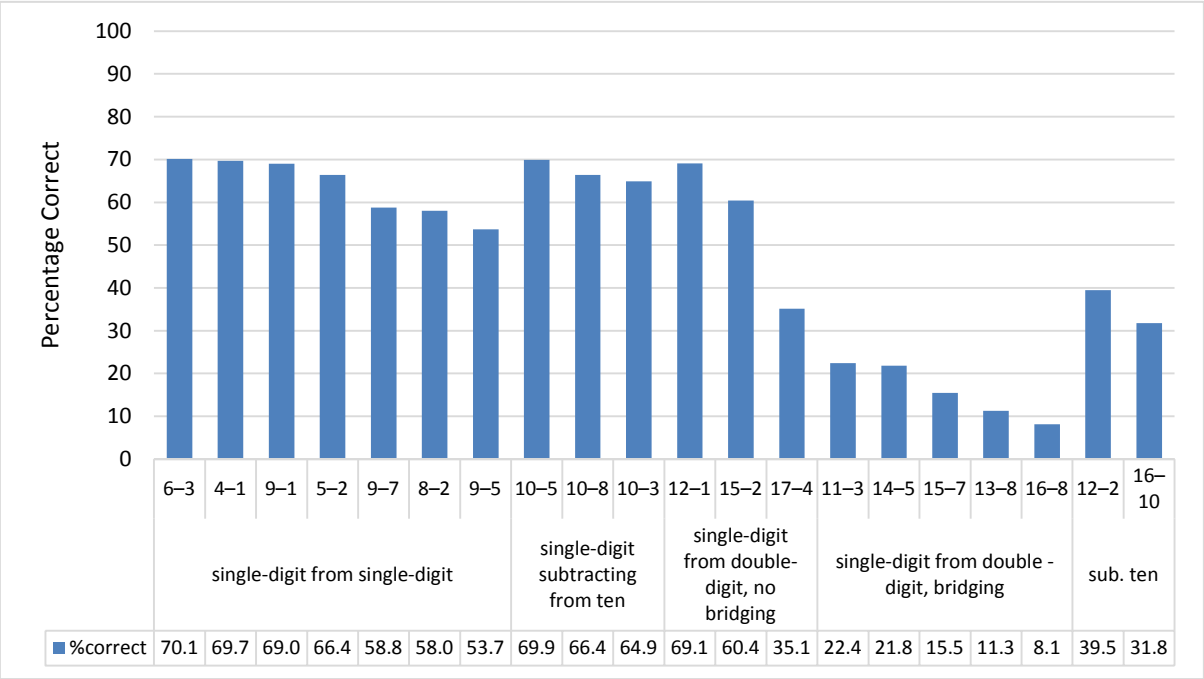


Figure 22 illustrates the performance on the Subtraction Level 1 items, and the following trends are evident:

- The students performed best (between 54 percent and 70 percent of the students correctly responded) on the items involving the subtraction of a single-digit numbers from a single-digit number.
- Between 65 percent and 70 percent of the students responded correctly to the items involving the subtraction of a single-digit number from 10 (i.e., subtracting from 10).
- Between 35 percent and 70 percent of the students responded correctly to the items involving the subtraction of a single-digit number from a two-digit number (less than 20) that did not involve the bridging of the 10.
- The students performed worst—and markedly so (between 8 percent and 22 percent of the students correctly responded)—on the items involving the subtraction of a single-digit from a two-digit number (less than 20) with a solution less than 20 (i.e., subtraction involving bridging the 10).

Figure 22. Item-Level Performance on the Subtraction Level 1 Subtask.



It is generally expected that students should be able to respond correctly to a large percentage of these items and be able to do so with automaticity and fluency. Tanzanian Standard 2 students responded to the Addition Level 1 items with a fluency of 7.6 correct answers per minute and to the Subtraction Level 1 items with a fluency of 5.5 correct answers per minute. Although the accuracy with which students are responding is generally pleasing, the fluency is low. Of particular concern, however, is the striking difference between the addition and subtraction accuracy and fluency scores. The scores suggest that more attention and time in class is being devoted to addition, with less to subtraction. In all likelihood, very little time is being devoted to developing an awareness of the interrelatedness of addition and subtraction: since 3 + 2 = 5, it follows that 5 − 2 = 3 and 5 − 3 = 2. If students are exposed to and learn about number relationships and operations with numbers in an interrelated way, then there is less for them to memorize. In addition, the knowledge that students develop is more easily applied with understanding in broader mathematical contexts, such as in the EGMA Addition and Subtraction Level 2 subtasks.

Quantity Discrimination

The Quantity Discrimination subtask in the EGMA in Tanzania measured students' abilities to make judgments about differences by comparing quantities, represented by numbers. The Quantity Discrimination subtask measured the students' sense of magnitude: Did they have a sense of how big a number or quantity was, and could they compare two numbers or quantities? Being able to compare numbers or quantities is a foundational mathematical skill that is critical to effective and efficient problem-solving strategies. For example, being able to compare numbers or quantities

Quantity Discrimination Items

7	5	88	78
11	24	146	153
39	23	287	534
58	49	603	630
65	67	967	965

is important when estimating the reasonableness of answers to problems. In the early school years, this means developing an awareness that addition results in a larger number, that subtraction produces an answer that is smaller than at least one of the original numbers, that multiplication can result in answers that are larger than the addition of the same numbers, and so on.

Before responding to the items on the Quantity Discrimination subtask, students completed two practice items to ensure that they understood the instructions of the assessor.

A distinct pattern emerged in the students' responses. More than 80 percent of the students could correctly discriminate between the quantities represented by the pairs in the first three items—pairs of quantities (numbers) less than 40. Between 70 percent and 73 percent of students could correctly discriminate between quantities represented by numbers in the range from 50 to 99, and less than half of the students could discriminate between quantities represented by three-digit numbers. In all likelihood, the difference in performance on items involving two-digit numbers and items involving three-digit numbers was a function of the different amount of time spent working on the different number ranges in class.

Missing Number

Mathematics is the study of patterns.

Determining which number is missing is an important mathematical skill that involves pattern recognition and extension. Being able to recognize number patterns, including counting patterns (by ones, tens, hundreds, fives and twos, and so on, both forwards and backwards), lays the foundation for other mathematical concepts, including multiplication and division and, later, algebra. Being able to identify patterns more generally helps students with problem solving.

Before responding to the items on the Missing Number subtask, students completed two practice items to ensure that they understood the instructions of the assessor.

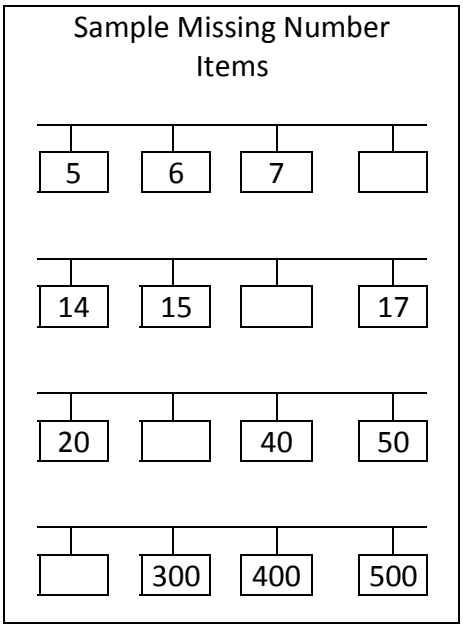


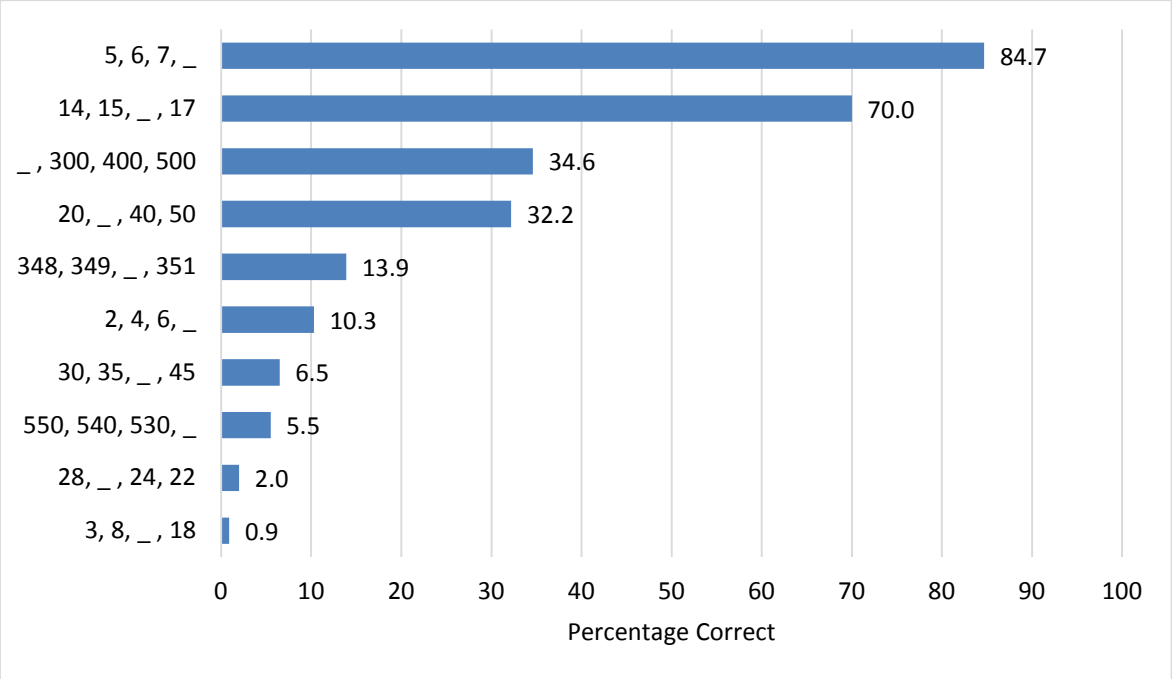
Figure 23 illustrates the performance on the Missing Number subtask, and the following trends are evident:

- Students performed best (between 70 percent and 85 percent of the students responded correctly) on the items with a step size of 1 and numbers below 20: 5, 6, 7, **8**, and 14, 15, **16**, 17.
- Between 32 percent and 35 percent of the students correctly determined the missing number in the following number patterns: **200**, 300, 400, 500 (which has a step-size of 100) and 20, **30**, 40, 50 (which has a step-size of 10). Determining the missing number in these patterns involves recognitions of the linkage between the patterns: 2, 3, 4, and 5; 200, 300, 400, and 500; and 20, 30, 40, and 50.

- Of the remaining items (which involved step-sizes of two and five, as well as larger numbers), between 1 percent and 14 percent of students could determine the missing numbers correctly.

The performance on the Missing Number subtask indicated a trend of students responding correctly only to the most procedural (memorizable) items and struggling on the items that required an understanding and application of foundational mathematical skills.

Figure 23. Item-Level Performance on the Missing Number Subtask.



Addition and Subtraction (Level 2)

Addition and Subtraction Level 2 Items

13 + 6 = ☐	18 – 4 = ☐
18 + 7 = ☐	23 – 5 = ☐
12 + 24 = ☐	36 – 12 = ☐
25 + 35 = ☐	40 – 19 = ☐
38 + 26 = ☐	43 – 26 = ☐

The Addition and Subtraction Level 2 subtasks assessed students' conceptual understanding of addition and subtraction. These subtasks also assessed students' abilities to apply the procedural knowledge assessed in the corresponding Level 1 subtasks to more complex tasks. If the students wanted to, they were allowed to use paper and pencil to help them solve these problems, but they were not required to do so. Students who did not solve a single problem correctly on the Level 1 items (i.e., 12.3 percent of the students in the case of Addition Level 1 and 21.9 percent in the case of Subtraction Level 1) were not asked to solve the Level 2 problems.

Nearly half (48 percent) of the students who attempted the Addition Level 2 problems and 58 percent of the students who attempted the Subtraction Level 2 problems were unable to correctly answer a single item. This is in stark contrast to the more impressive performance on the Addition and Subtraction Level 1 subtasks.

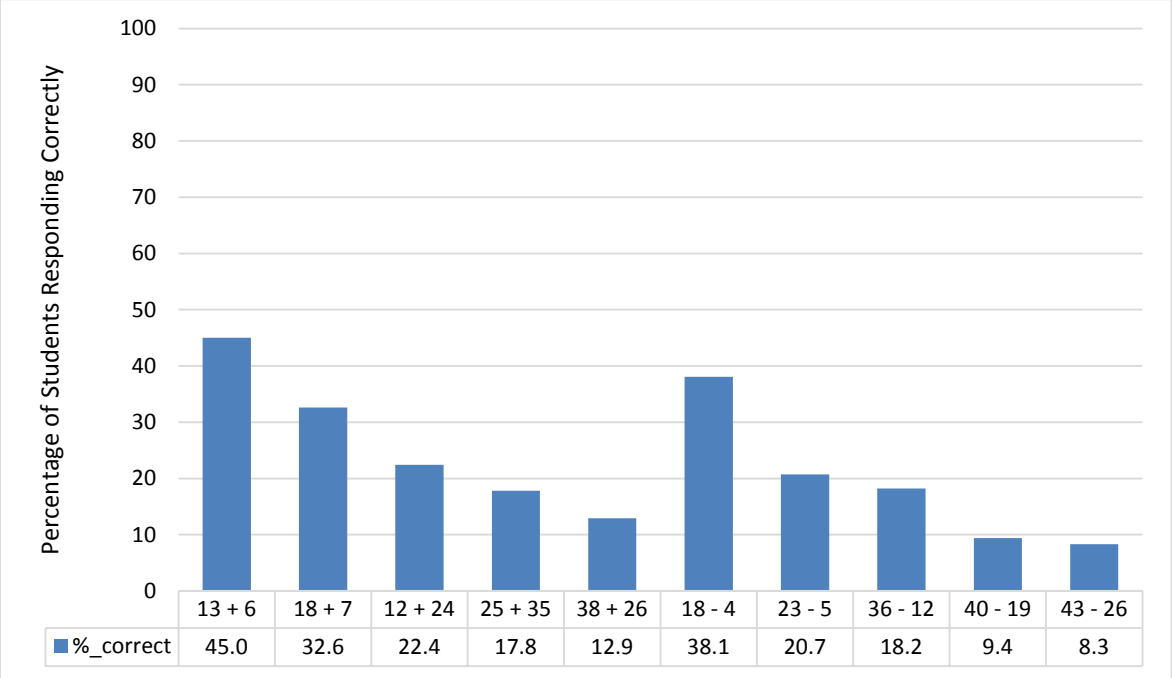
A close examination of the items on the Addition Level 2 subtask shows an increasing complexity and conceptual demand, as follows:

- From the addition of a single-digit number to a two-digit number with a sum less than 20
- To the addition of a single-digit number to a two-digit number involving bridging and a sum greater than 20
- To the addition of two, two-digit numbers not involving bridging, but involving increasingly larger number ranges
- To the addition of two, two-digit numbers involving bridging.

The Subtraction Level 2 subtask had the same pattern of increasing complexity and conceptual demand as the Addition Level 2 subtask.

Figure 24 illustrates the performance, by item, for each of the tasks in these subtasks. A striking linkage emerged between the students' performance and the conceptual demand of the items. There was also a marked difference between the students' performance on the Addition Level 2 subtask and on the Subtraction Level 2 subtask, with the performance on the Subtraction Level 2 subtask being much poorer.

Figure 24. Item-Level Performance on the Addition and Subtraction Level 2 Subtasks.



What is so notable about the Addition and Subtraction Level 2 performance is not that the response pattern of the students was aligned to the conceptual demand of the items, but rather that it was so out of alignment with the expectation created by the performance on the Addition and Subtraction Level 1 subtasks. Although the performance on the Addition Level 1, and particularly the Subtraction Level 1 subtasks, could and should be better, in fairness, the results are much better than the results of Standard 2 students in some other African countries where the EGMA has been administered (e.g., USAID Nigeria Northern Education

Initiative, 2013; Piper and Mugenda, 2013). In other words, with the students having fared relatively well on the Addition and Subtraction Level 1 subtasks, the expectation was for better performance than was observed on the Addition and Subtraction Level 2 subtasks. As already suggested, this disconnect hints very strongly at the way in which students learn mathematics. The Tanzanian students were unable to apply their basic addition knowledge and facts to solve one- and two-digit addition problems. In all likelihood, the students knew the basic addition knowledge as memorized facts as opposed to performing the calculations with understanding and hence being able to apply their knowledge in other settings.

Word Problems

Problem solving is central to performing mathematics. Because the focus of the EGMA Word Problems subtask in Tanzania was on assessing the students' abilities to make a plan and solve a problem, the numerical values involved in the problem were deliberately small (single-digit arithmetic). The reason the numerical values were small was to allow for the targeted skills to be assessed without confounding problems with calculation skills that might otherwise impede performance. If the students wanted to, they were allowed to use counters (objects) and paper and pencil to help them solve or model these problems, but they were not required to do so.

Before responding to the items on the Word Problems subtask, the students performed two practice items to ensure that they understood the instructions of the assessor. The word problems were administered in either Kiswahili or English, or in both languages according to the students' needs.

The word problems (***Figure 25***) were deliberately designed to provoke the students to make different plans as follows:

- Problem 1 has a "change, result unknown" structure. Problem 1 was designed to provoke a subtraction (or counting-back) type of strategy.
- Problem 2 has a "combine, total unknown" structure. Problem 2 was designed to provoke an addition (or counting-on) type of strategy.
- Problem 3 has a "compare, part unknown" structure. Problem 3 was designed to provoke either an addition (counting-on) or subtraction (counting-back) type of strategy.
- Problem 4 has a "change, start unknown" structure. Problem 4 was designed to provoke an addition (counting-on) type of strategy. Problem 4 was conceptually more demanding than Problem 1 because the starting value was unknown and needed to be determined.
- Problem 5 has a "sharing" structure. Sharing is a familiar activity in the lives of children; therefore, many of them can model and solve this problem using counters long before they start school.
- Problem 6 has a "multiplication (grid/array)" structure. Although Problem 6 is typically a little bit harder than Problem 5, many children are nonetheless able to model and solve this type of problem using counters before they start school.

Figure 25. Item-Level Performance on the Word Problems Subtask (English Version).

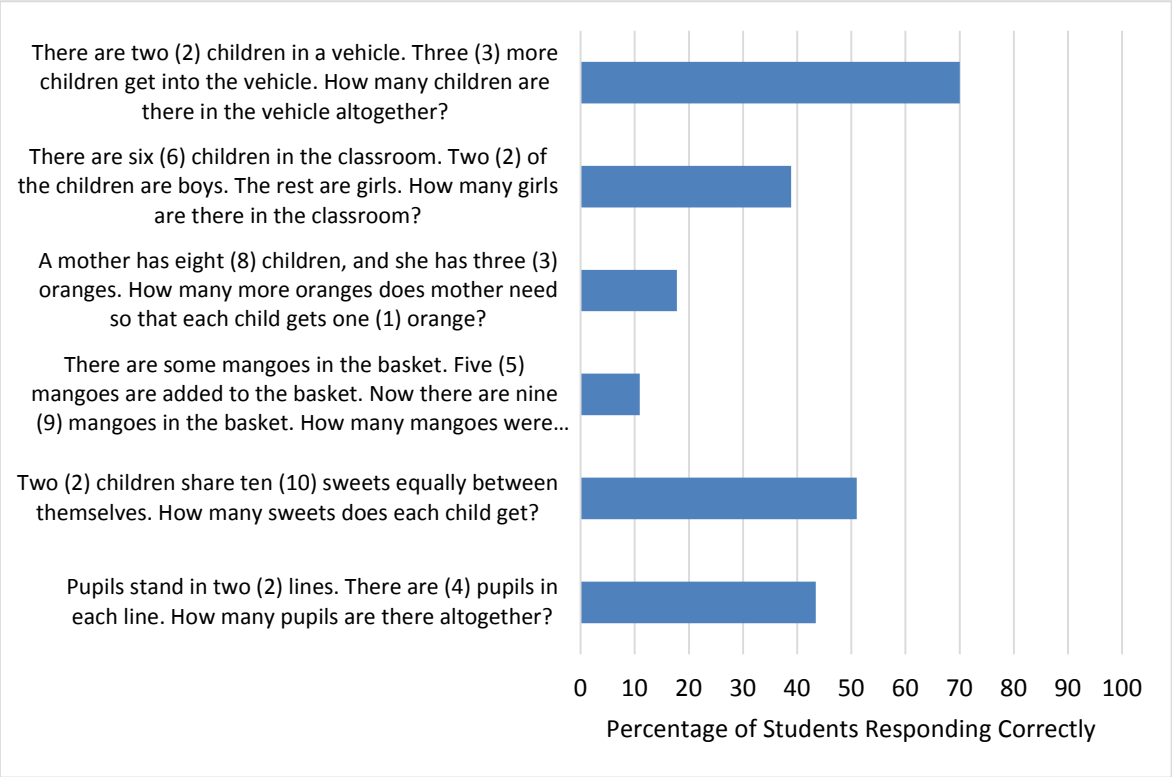


Table 13 showed that, on average, the Standard 2 students scored 38 percent for the Word Problems subtask, despite 24 percent of the students being unable to correctly answer a single question. This was markedly better than the performance on the other conceptual subtasks: Missing Number (26 percent), Addition Level 2 (26 percent), and Subtraction Level 2 (19 percent). The result of the Word Problems subtask is encouraging because it suggests that the Tanzanian students, while struggling to apply their basic (foundational) mathematical knowledge and skills in more conceptual context are nonetheless able to solve problems when these are posed in more familiar (everyday) contexts. It is possible to speculate that the large number of zero responses corresponds to students who have already learned to "give up" when faced with a word problem.

4.5.3 EGMA Conclusion

The results of the EGMA study in Tanzania strongly suggest that the teaching of mathematics is focused on the memorization of facts, rules, and formulas. However, based on the EGMA results, this approach does not appear to be working. Although teaching for memorization may contribute to the impression that children "know their mathematics" in the very early grades (e.g., Standards 1 and 2), the EGMA in Tanzania has shown that students are unable to apply their memorized knowledge, and therefore, they are not well prepared to learn more complex and important mathematics in the higher grades.

4.6 SSME Findings

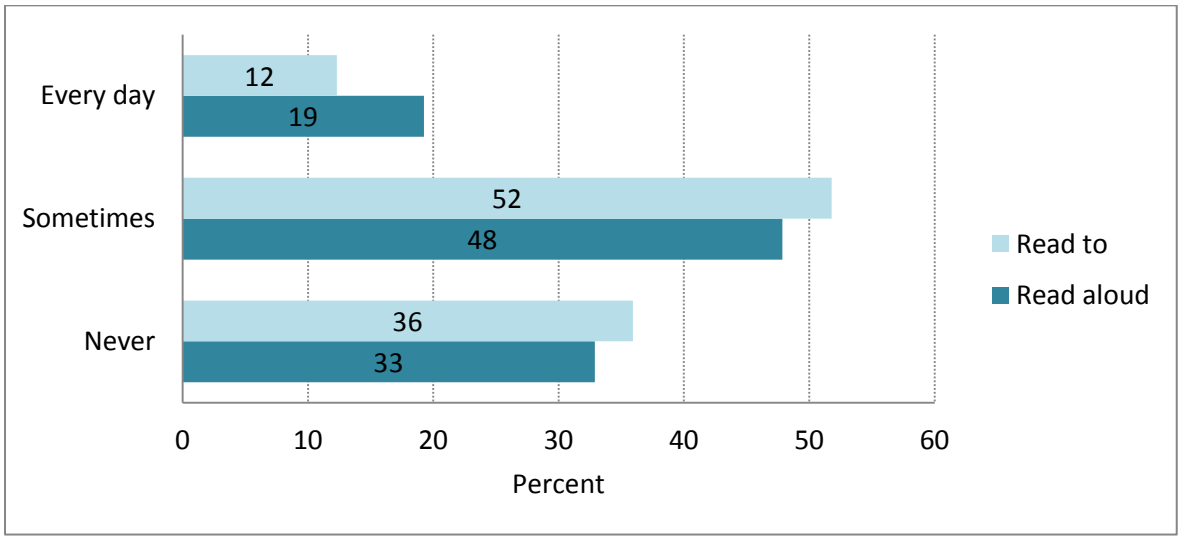
The SSME study provides a rich and fascinating insight into the lives of students, teachers, and schools across Tanzania. In particular, the study identifies a wide range of factors that contribute to the quality of learning by students. The most significant of these factors are the amount of time that children spend on learning the foundational skills, the availability of appropriate learning materials to support learning, and the support that students enjoy in their homes and communities. Another significant factor is the training of teachers with specific skills on how to effectively teach the foundational skills associated with early grade reading, writing, and arithmetic in ways that develop not only these foundational skills, but also conceptual understanding.

4.6.1 Student and Household Background Characteristics

Respondents to the Student Questionnaire comprised a relatively equal number of girls (50.5 percent) and boys (49.5 percent). The majority of surveyed students (59 percent) were the correct age for Standard 2, as prescribed by national regulations, although a significant minority was either underage (12 percent) or overage (29 percent). In addition, 12 percent of students reported that this was their second year in Standard 2. This proportion was verified by the reading and mathematics Teacher Questionnaires, suggesting some efficiency concerns with repetition.

Differences were evident vis-a-vis student performance and household access to reading materials. Students were asked whether they had access to reading materials (excepting schoolbooks) at home, how often they read aloud to someone at home, and how often someone read to them. More than 51 percent of students reported that they have other reading materials (e.g., books, newspapers) in their homes. However, just over 10 percent of students said that someone reads to them on a daily basis, and less than 20 percent of students said that they read aloud daily (***Figure 26***). One-third of students said that no one read to them (36 percent) and that they have not ever read to anyone at home (33 percent).

Figure 26. Frequency of Being Read to and Reading to Others at Home.



4.6.2 School Readiness

Nearly 20 percent of students reported that they did not attend pre-primary, preschool, kindergarten, or nursery school. These years of schooling, which research suggests are important in terms or preparing young children for subsequent elementary years and which are correlated with student outcomes on the EGRA and EGMA, are provided by the Ministry, but are not compulsory. Nevertheless, one out of every five children does not attend free preschool. In addition, 62 percent of students reported that they did not eat anything before arriving at school on the day of survey administration.

Enrollment, Class Size, and Student–Teacher Ratios

School enrollment ranged from 40 to 1,789 students, although the median school in the survey sample enrolled just over 400 students. Classroom size varied extensively, from as little as nine students to more than 200. The average classroom had 49 students, although nearly one in four classrooms had 70 students or more. Most reading and mathematics classrooms consisted of a slight majority of boys (52 percent of the student roster) over girls (48 percent). As previously noted, repetition is common: only 13 percent of classrooms did not have any repeaters on the student roster, and in the average classroom, 12 percent of students had repeated at least one year of schooling.

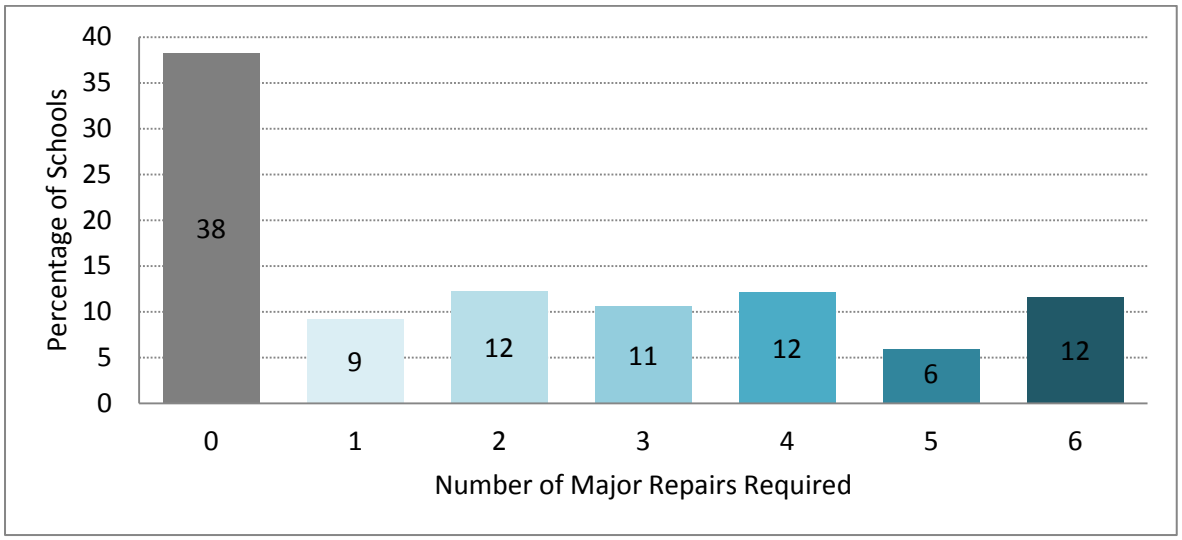
The students to teacher ratios ranged widely as well, from just over one student per teacher to 136 students per teacher. The median school reported a students to teacher ratio of 43 students per teacher. International norms suggest that school systems should aim to deploy enough teachers such that the students to teacher ratio does not exceed 50 students per teacher. Data from the Head Teacher Questionnaire indicates, however, that approximately 40 percent of schools in the sample had students to teacher ratios in excess of 50 students per teacher. These ratios have significant ramifications for teaching and learning: higher student-teacher ratios were associated with an increased likelihood of lower student performance on EGRA and EGMA.

4.6.3 Basic School Inputs

School Infrastructure

In general, school infrastructure data provide a sense of resource allocations across schools (i.e., whether resources are sufficient and whether they are distributed equitably). Infrastructure impacts the daily lives of both students and teachers and speaks to levels of safety and comfort, which can, in turn, impact attendance. The School Inventory revealed that most school buildings (62 percent) required major repairs, and 53 percent of schools required two or more repairs (***Figure 27***). The most commonly cited infrastructural deficiencies were deteriorating classroom walls (reported in 49 percent of schools), broken windows (45 percent), poor condition of exterior walls (38 percent), and roof or ceiling disrepair (34 percent).

Figure 27. Number of Major Repairs Needed at Surveyed School Sites.



More than 80 percent of schools either did not have a source of electricity or had one that was not functioning on the day of the assessment (4 percent). A source of drinking water was more common than electricity: 63 percent of schools reported having one. However, the source for drinking water was not working in 21 percent of schools. As such, approximately half of schools were effectively without access to drinking water on the day of data collection. Most schools (99 percent) had functional toilets, but these tended to be somewhat dirty (67 percent) or not at all clean (28 percent).

At the classroom level, the Classroom Inventory revealed that the majority of classrooms (58 percent) did not have a sufficient number of seats to accommodate all students. Given that nearly half of all classrooms had student numbers in excess of 50, the lack of available seating is perhaps unsurprising.

Safety at school sites is not a concern for most Head Teachers: only 14 percent suggested that safety was an issue at their school, and only 5 percent reported that they believe their students were not safe at school. Although most schools (96 percent) did not have a wall enclosing the school campus, two-thirds of schools had school security guards.

The median school sampled had seven or eight functional latrines or toilets, and most schools had an equivalent number of toilets for girls and boys. However, only 5 percent of these functional latrines were found to be “very clean”; the vast majority was either “somewhat clean” (67 percent) or “not at all clean” (28 percent). Beyond basic hygiene and levels of student comfort, clean toilets impact both the health and attendance of school children, particularly girls. Girls are less likely to attend school if there are inadequate numbers of latrines available or if those available are unsanitary.

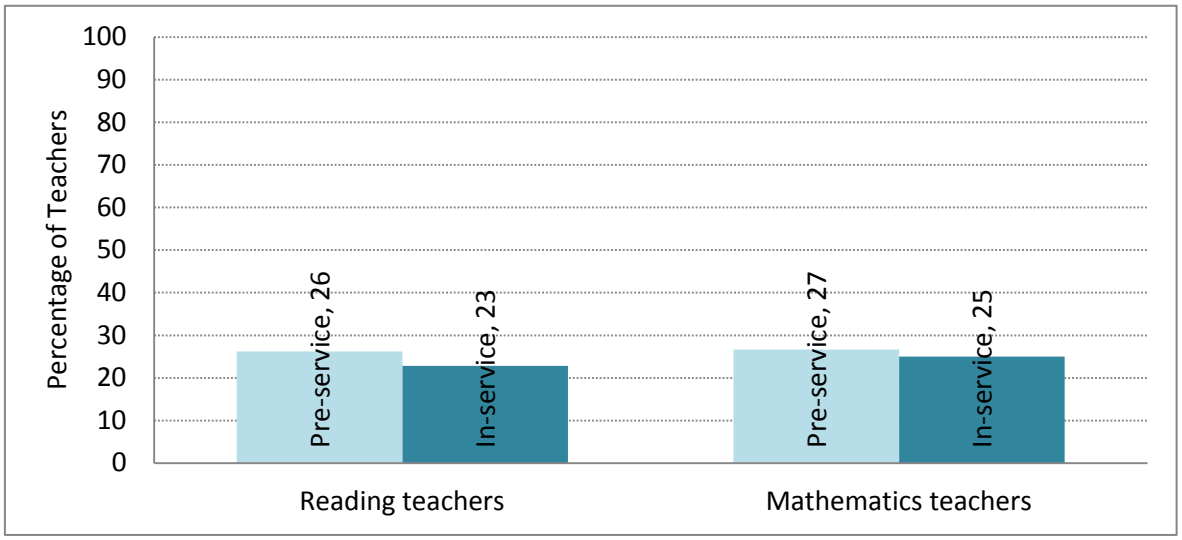
Teacher and Head Teacher Characteristics, Training, and Development

Most teachers were women (i.e., reading: 61 percent; and mathematics: 58 percent). However, Head Teachers were overwhelmingly men (81 percent), which suggests a tendency to promote male teachers to Head Teacher positions rather than female teachers. However, it is also true that Head Teachers tended to be more highly educated than classroom teachers. Nearly all (98 percent) reading and mathematics teachers earned their teaching certificates

and had trained for two years at a postsecondary, non-university teacher training institution. Although most Head Teachers surveyed earned their teaching certificates (56 percent), some had obtained a postsecondary diploma (10 percent), or earned a bachelor's degree or higher at a university (18 percent). Many Head Teachers also counted considerable experience in their current role: 68 percent of Head Teachers reported that they have held that position for at least five years.

Despite the importance of reading and mathematics teachers receiving training specific to their content area, approximately three-fourths of reading and mathematics teachers had not undergone any training during their pre-service education specific to reading instruction, and even fewer had completed any in-service training on the same subject (***Figure 28***). As reported by Head Teachers, teachers in most school sites (54 percent) had not participated in any of the six training programs named in the Head Teacher and Teacher questionnaires. The most commonly cited training program was MMS: 29 percent of Head Teachers reported that their instructional staff had participated in this program. However, no association was found between this teacher training program and student performance on EGRA and EGMA. Other training programs, such as EQUIP-T, TZ21, STEP, MUKA, and CDP, reportedly impacted teachers at fewer than 5 percent of school sites.

Figure 28. Proportion of Teachers Specifically Trained in Reading and Mathematics Instruction.



School Committees and Parental Involvement in School

All but four schools had a School Committee, and most Head Teachers (85 percent) reported being satisfied with the level of support that the Committee provides to the school.

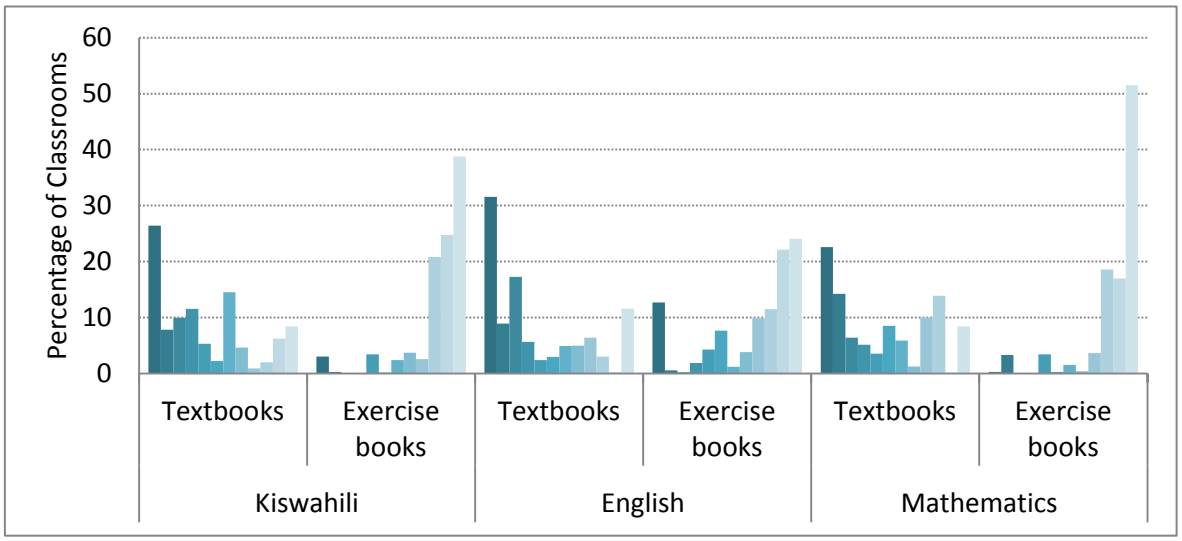
By and large, the majority of students (75 percent) reported that parents or guardians discussed what the student did at school when they arrived at home. Just over half of the Head Teachers (52 percent), however, expressed satisfaction with the amount of parental involvement in their children's schooling. These findings suggest that although parental support is relatively common in the schools surveyed, it may not, for whatever reason, be considered sufficient by school instructional leaders.

Availability and Use of Pedagogic Materials

The vast majority of Head Teachers (89 percent) reported that they began the year without the correct number of textbooks, as stipulated by MoEVT policy. The textbook backlogs were considerable, and three-fourths of schools had to wait more than three months before receiving the appropriate number of books. Results from the Teacher Questionnaire also validated these data. The majority of Kiswahili (81 percent), English (75 percent), and mathematics (75 percent) teachers reported having inadequate classroom materials with which to teach these subjects.

On the day of the assessment, many students had their English, Kiswahili, and mathematics exercise books with them in class (67, 87, and 87 percent, respectively), although very few (between seven and 12 percent) were in possession of the corresponding textbooks. The Classroom Inventory revealed distinct patterns in this regard. ***Figure 29*** tabulates the distribution of the proportion of Kiswahili, English, and mathematics textbooks and exercise books at the time of the Classroom Inventory. The histograms indicate the proportion of inventoried classrooms and the percentage of students who are in possession of textbooks and exercise books. Histograms with larger darker bars to the left indicate that more students in these classrooms did not have these books. Larger light bars on the right suggest, on the contrary, that more students had the indicated books. As shown in Figure 28, many inventoried classrooms had low percentages of students with textbooks. Indeed, approximately one out of three classrooms did not have any English textbooks, one out of four classrooms did not have any Kiswahili textbooks, and one out of five classrooms did not have any mathematics textbooks. However, more students tended to have exercise books in their possession at the time of the Classroom Inventory.

Figure 29. Availability of Textbooks and Exercise Books in Inventoried Classrooms.



Reading Materials Available

School libraries were rarely found in surveyed schools: only one out of 10 schools had a library that students used. Other sites either did not have a library (83 percent), or they had a library, but the students were not allowed to use it (7 percent). The Classroom Inventory

revealed that nearly one out of three classrooms had at least 40 books or other resources, aside from textbooks and exercise books, available and accessible to students to read (***Figure 30***). Although this is a positive finding, it also means that two-thirds of classrooms have less than 40 such books available for students' use. Given the previously mentioned classroom sizes, however, this does not necessarily translate to a sufficient number of reading materials available for student use, nor does it mean that the materials are at the appropriate level to facilitate students' reading development.

Figure 30. Number of Reading Books or Materials in Inventoried Classrooms.

When prompted, most students (60 percent) indicated that they had sufficient time during the school day to read books from the classroom or the school library on a daily basis. Despite the fact that nearly half of students do not have non-textbook reading material in their homes, only one out of four (26 percent) students report bringing reading books from class or the school library home to read.

4.6.4 Classroom Teaching and Learning Process

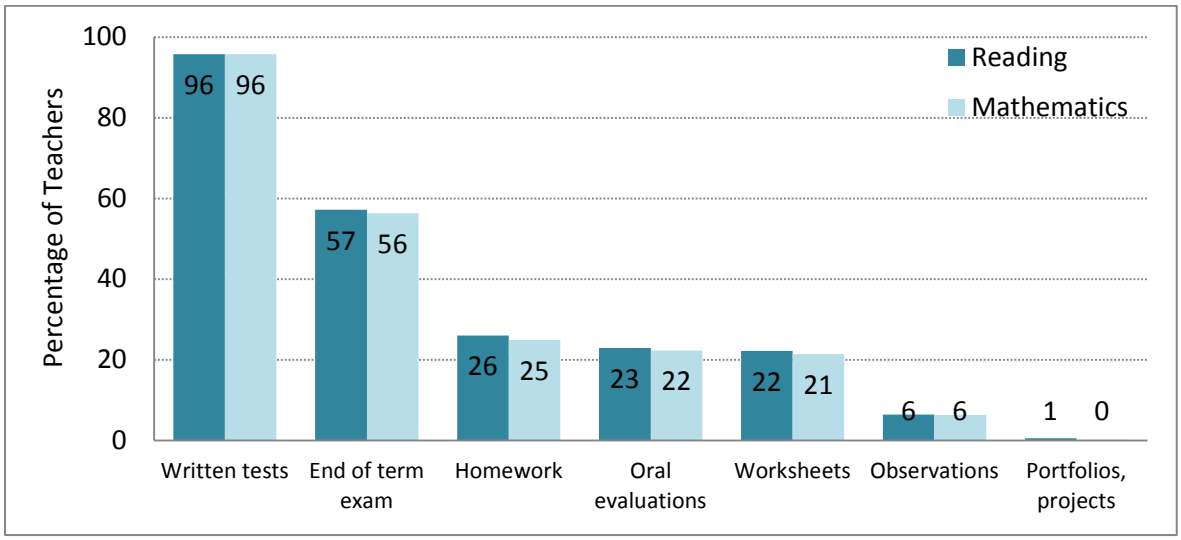
Lesson Planning

In the majority of classrooms inventoried, teachers had a lesson plan book (93 percent) and instructional plans were written therein (89 percent). However, a notable finding was that one out of 10 teachers either did not have a lesson plan book, or they did not use it for lesson planning purposes.

Assessment Approaches

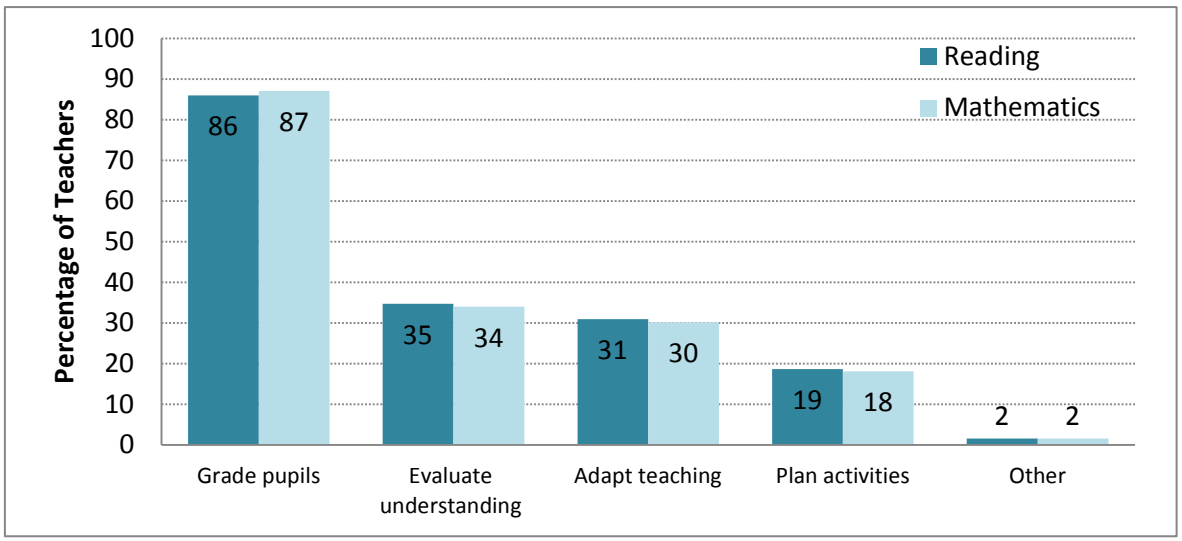
Students' academic progress is, generally, evaluated via formal evaluations in the reported reading and mathematics classrooms. Most reading and mathematics teachers reported that they base their assessments of student academic progress on written assessments (96 percent of teachers) or end-of-term examinations (57 percent). Other approaches and formative assessments are less common. One-fourth of classroom teachers or fewer reportedly used homework, oral evaluations, worksheets, observations, portfolios, or other projects to assess students' academic progress (see ***Figure 31***).

Figure 31. How Do Teachers Measure Students' Academic Progress?



The measures of student performance obtained by these formal written and oral assessments are, more than anything else, used simply to grade students. Approximately 87 percent of classroom teachers indicated that they used written and oral assessment data in this way (***Figure 32***). Far fewer (i.e., one out of every three) teachers use assessment results formatively to evaluate students' understanding of instructional content, to adapt their teaching to better suit the needs of students, or to plan future teaching and learning activities. Although the latter three pedagogical activities are important aspects of quality instruction in both reading and mathematics classrooms, it is also not clear if the majority of surveyed teachers had any training whatsoever in putting assessment data to use in this way.

Figure 32. How Do Teachers Use Assessment Data?



Teacher Interaction with Students

As reported by students, teachers who provided feedback to students based on their performance in the classroom fell along distinct patterns. When students performed well on a lesson or test, most students reported that their teachers praised them (51 percent). Other students reported receiving a prize for good performance (16 percent). Other students

reported that their teachers did nothing (14 percent). However, when asked what teachers normally do when the student is unable to answer a question in class, a few students reported that their teachers encourage them to try again (15 percent), their teachers repeat the question (15 percent), or their teachers correct the student (9 percent). However, a significant minority of students (44 percent) reported that their teachers normally hit students when they are unable to answer a question in class.

With the exception of corporal punishment, these student reports were largely borne out by the classroom observations of Kiswahili and mathematics lessons. According to observers, most teachers used questioning techniques to monitor and support students' understanding of lesson content. Teachers' questions checked for students' understanding and often provided students with assistance or further explanation when necessary (***Table 14***). When students responded incorrectly, their teachers encouraged them to try again, asked clarifying questions, or prompted them. Although these interactions are by and large positive, it is clear from observed student classroom behavior that teacher–student interaction mostly revolves around teacher questioning and student responses. In observed lessons, students participated when called on, but most tended not to volunteer, and there was little discussion of significance.

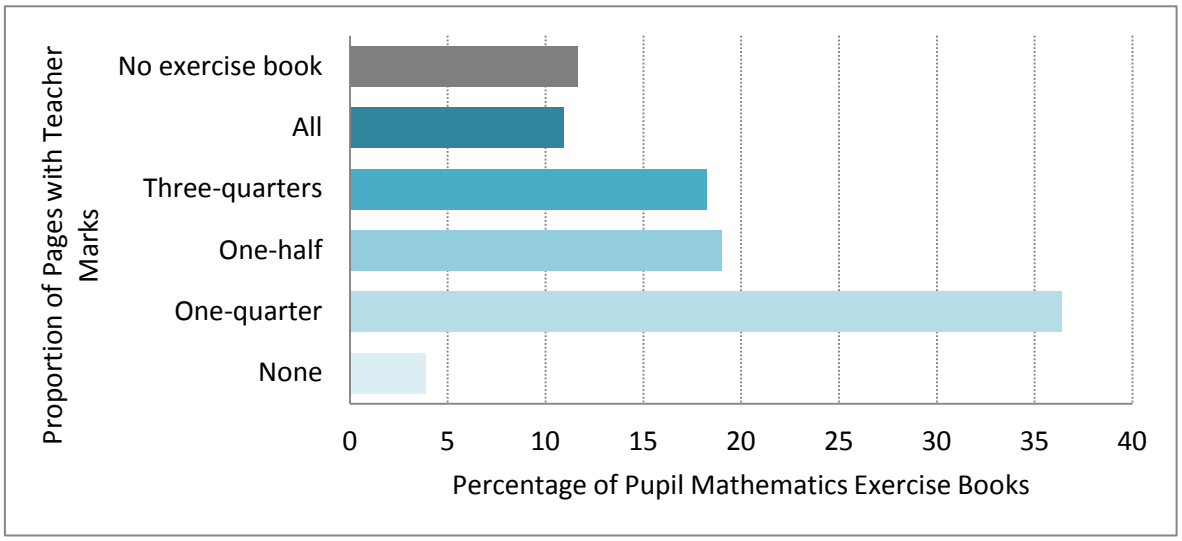
Table 14. Classroom Behaviors of Teachers and Students in Observed Reading and Mathematics Lessons

Classroom Environment	Observed Classroom Behavior	Reading (% of lessons)	Mathematics (% of lessons)
Teacher monitors understanding	Does not ask the students any questions	4.4%	3.4%
	Asks students recall or repetition questions, but not questions that check for understanding	14.7%	20.2%
	Asks questions to check for understanding, but does not provide further assistance	21.5%	13.4%
	Asks questions to check for understanding and provides assistance and/or further explanation	59.3%	63.0%
Teacher supports understanding when student responds incorrectly	Scolds or punishes the student	0.3%	0.1%
	Tells the student to try again or moves on to another	50.9%	47.0%
	Asks clarifying question, cues student, or breaks down task as appropriate	45.3%	52.6%
	No correct response given or not applicable	3.6%	0.3%
Student participation	Participates when called on, but does not volunteer	35.2%	20.3%
	Participates when called on and sometimes volunteers	52.7%	64.2%
	Actively participates (including willingness to ask and answer questions, make guesses)	12.1%	15.5%
Student engagement in discussion	Does not engage in discussion	10.2%	12.1%
	Responds to questions when called on	83.0%	87.0%
	Initiates discussion, poses, or responds to questions	5.1%	0.8%
	States opinions and defends them; uses appropriate interactions to agree or disagree	1.6%	0.2%
Students able to respond to questions	No questions were asked	4.6%	—
	Less than half (<50%)	19.8%	27.3%
	More than half (>50%)	75.2%	66.0%
	All (100%)	0.5%	6.8%

Student Work and Homework

Only one out of three students surveyed (35 percent) reported having homework assigned to them during the previous week by their teachers. However, more than half of students (51 percent) reported that someone at their homes assists them with homework when necessary. During the Student Questionnaire, students' mathematics exercise books were inspected for student work and teachers' markings. Approximately 89 percent of students had a mathematics exercise book; of these students, a significant minority (more than 40 percent) had few pages with teacher corrections or markings on them. The other 50 percent of students had teacher markings on at least half of pages with students working on them (***Figure 33***).

Figure 33. Proportion of Student Mathematics Exercise Books with Teacher Markings.



Lesson Content During Observed Reading and Mathematics Lessons

A wealth of research suggests that children, particularly in early primary years, need extensive opportunities to practice reading to master basic literacy skills, which, in turn, impact upon later learning outcomes (e.g., primary and secondary completion rates). The analysis of lesson content during observed reading lessons, however, indicated that students were reading aloud, on average, only 22.5 percent of the time, or only just over 7 minutes of a 30-minute period. This suggests that if students are to master their reading skills, much more time should be spent reading. Before being able to read, students need to have mastered foundational reading skills needed to decipher and understand words. Recognizing letters and their associated sounds, being able to string those letters together to form words, and memorizing familiar words are some of the foundational tools that help students read. During the observed lessons, on average, only 2 percent of the time was spent on letters, only 0.4 percent of the time was spent on listening to words and sounds. These are critical foundational skills, yet very little lesson time focuses on these. Another finding is that explicit instruction in vocabulary was not common during observed lessons, occurring approximately 6 percent of the time during observed lessons (or just under 2 minutes during a 30-minute period). Again, research suggests that explicit treatment of vocabulary is a critical element of reading achievement, but one that appears to be largely absent here. Work on reading or listening comprehension comprised 8.3 percent of observed lesson time, or 2

minutes and 30 seconds over the course of a 30-minute reading lesson. A final observation is that one-fourth of lesson time was dedicated to grammar, with teachers either presenting the rules of grammar or students somehow practicing these rules.

In terms of mathematics lessons, the majority of observed lesson segments (50.7 percent) focused on whole number addition, subtraction, or multiplication. The next most common mathematics concept taught during observed lessons was monetary concepts, comprising more than 18 percent of observed lesson segments, during which students were either identifying notes and coins (6.9 percent) or performing addition and subtraction calculations with money (11.2 percent). As such, the observation data suggest that the vast majority of time is spent on students performing practical, practice-oriented calculations. The underlying logic of this is that students will gain mathematical knowledge and conceptual understanding by spending a great deal of time performing calculations, an assumption not supported by research. Higher order mathematical practices (e.g., describing, comparing, classifying, sorting, applying) were observed less than 9 percent of the time in surveyed schools. In other words, these activities were only undertaken for approximately 2 minutes and 40 seconds during an average 30-minute lesson.

Teaching During Observed Reading and Mathematics Lessons

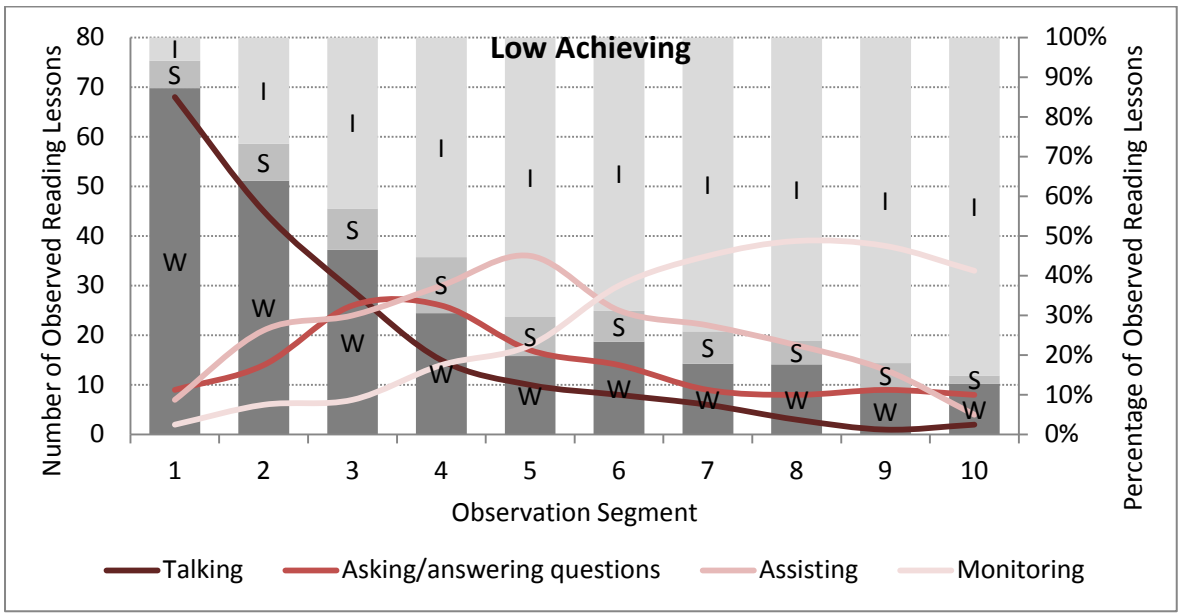
During observed reading and mathematics lessons, teachers' instructional practices were recorded every 3 minutes. Although the observational categories included greater nuance, teacher instructional behaviors fell into four overarching categories. These categories were talking, asking or answering questions, assisting students, or monitoring students. Instructional grouping (i.e., whole group, small group, or individual work) was also noted. Thus, the classroom observations paint a picture of the general pedagogical approaches used by teachers over the course of a 30-minute lesson in schools associated with either low or high performance on the EGRA and EGMA assessments. Notable differences were found between teachers in schools associated with low and high performance on the EGRA and EGMA assessments.

The observational results for a Kiswahili (reading and writing) lesson are shown in ***Figure 34*** for teachers and schools associated with low-performance on the EGRA and in ***Figure 35*** for teachers and schools associated with high performance on the EGRA. The line graph depicts evolutions in teacher instructional behavior over the course of reading lessons and is aligned to the primary (left) vertical axis. The proportional bar graph represents the instructional grouping used during the observed lesson and is aligned to the secondary (right) vertical axis. Reading lessons of teachers associated with both low and high performance on the EGRA tend to commence with the teacher talking or presenting the lesson content in a didactic manner to the entire class. Over the course of the lesson, the teacher would then transition to individual work, during which the teacher is assisting or monitoring individual student work. The instructional grouping observations support these general statements: at the beginning of lessons, most classes are working as a whole group, although the vast majority then transition to individual work over the course of the lesson. Very few classes of teachers associated with either low or high performance on the EGRA used small groups during observed Kiswahili (reading and writing) lessons.

Differences are evident, however, between classes of teachers in schools associated with low performance on the EGRA and those associated with high performance on the EGRA. For

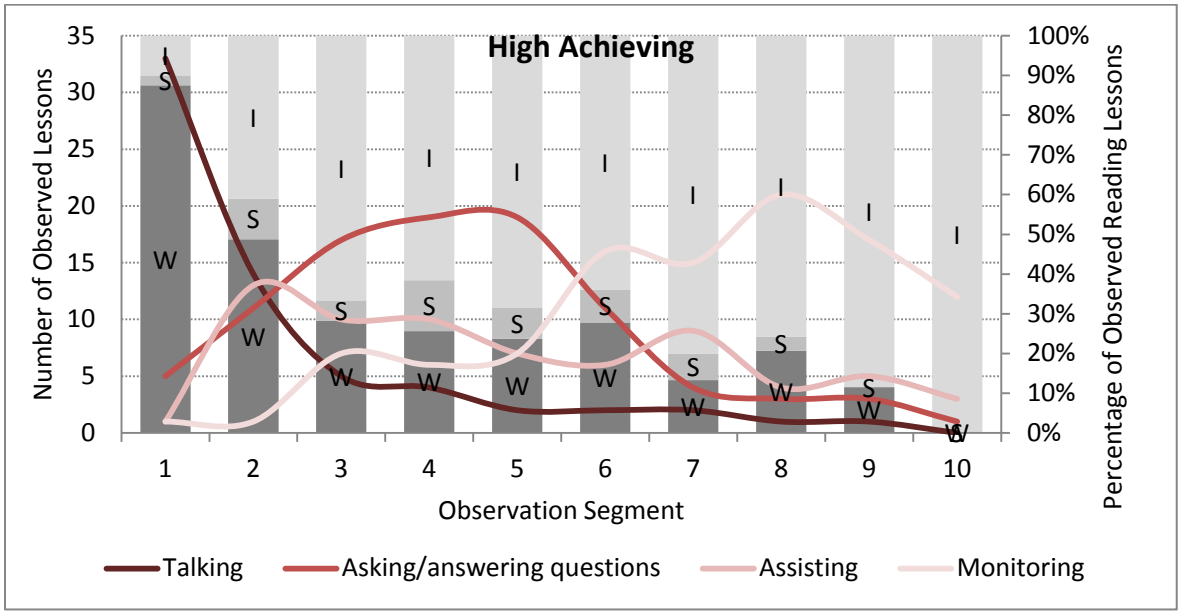
example, although most teachers associated with both low and high performance on the EGRA began lessons by direct instruction, more observed teachers associated with high performance on the EGRA could transition much quicker to other instructional approaches that allowed for more student engagement (e.g., questions). In classrooms of teachers associated with low-performance on the EGRA, this transition did not take place until approximately 10 minutes into the lesson. In classrooms of teachers associated with high performance on the EGRA, this transition occurred within 6 minutes. Teachers associated with high performance on the EGRA also tended to dedicate more time to answering students' questions and posing some of their own during the middle of the lesson. Furthermore, observed teachers associated with high performance on the EGRA were more likely to interrupt the flow of the lessons to address students' concerns or questions regarding the assigned task or lesson content (observed in 55 percent of classrooms). This was less likely to be the case for teachers of classes associated with lower performance on the EGRA (observed in only 33 percent of classrooms).

Figure 34. Instructional Practices During Observed Reading Lessons of Teachers Associated with Low Achievement on the EGRA.



I = individual; S = small group; W = whole group.
Note: The line graph is associated with primary vertical axis. Instructional grouping (whole group, small group, individual) is associated with the secondary vertical axis. The number of classrooms observed that were associated with high-achievement was 85. The number of classrooms observed that were associated with low-achievement was 40.

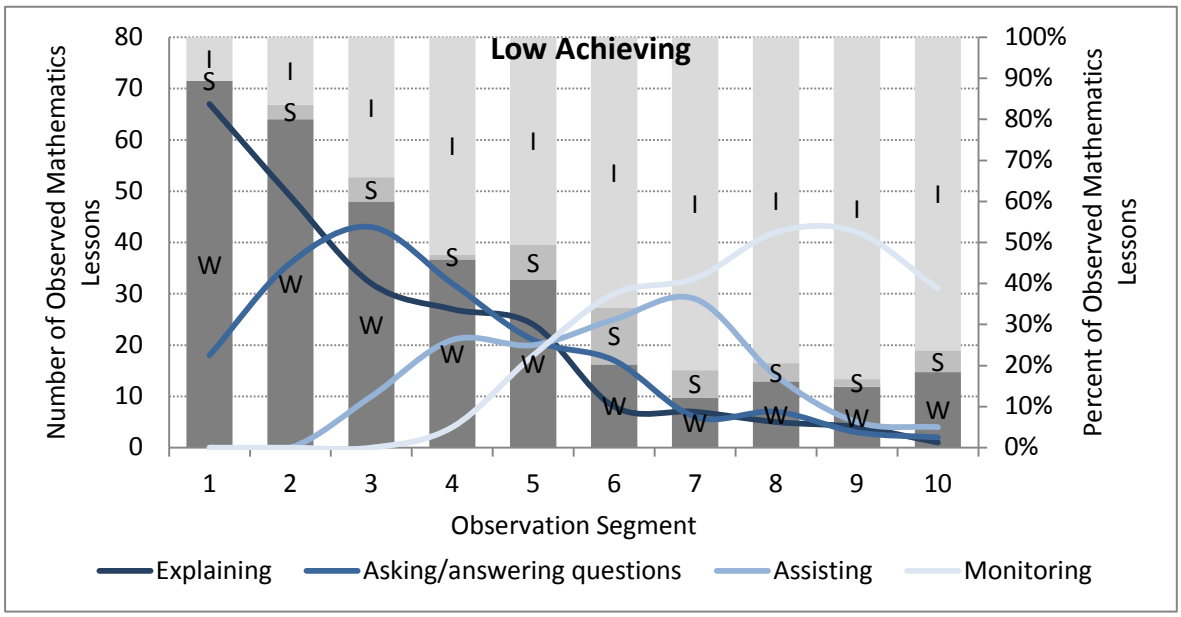
Figure 35. Instructional Practices During Observed Reading Lessons of Teachers Associated with High-Achievement on the EGRA.



I = individual; S = small group; W = whole group.
Note: The line graph is associated with primary vertical axis. Instructional grouping (whole group, small group, individual) is associated with the secondary vertical axis. The number of classrooms observed that were associated with high-achievement was 85. The number of classrooms observed that were associated with low-achievement was 40.

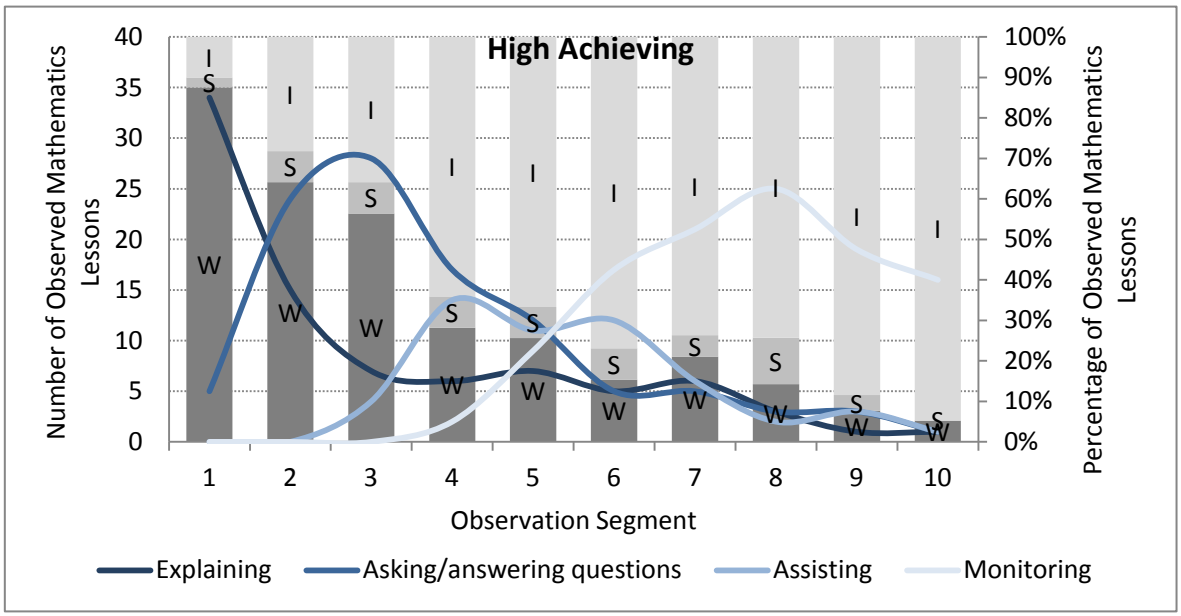
The results of observed mathematics lessons for classroom teachers are shown in ***Figure 36*** for teachers associated with low-performance on the EGMA and in ***Figure 37*** for teachers associated with high performance on the EGMA.

Figure 36. Instructional Practices During Observed Mathematics Lessons for Teachers Associated with Low-Achievement on the EGMA.



I = individual; S = small group; W = whole group.
Note: The line graph is associated with the primary vertical axis. Instructional grouping (whole group, small group, individual) is associated with the secondary vertical axis. The number of classrooms observed that were associated with high-achievement was 85. The number of classrooms observed that were associated with low-achievement was 40.

Figure 37. Instructional Practices During Observed Mathematics Lessons for Teachers Associated with High-Achievement on the EGMA.



I = individual; S = small group; W = whole group.
Note: The line graph is associated with the primary vertical axis. Instructional grouping (whole group, small group, individual) is associated with the secondary vertical axis. The number of classrooms observed in high-achieving schools was 85. The number of classrooms observed in low-achieving schools was 40.

Similar to the observed reading lessons, mathematics teachers tended to begin mathematics lessons with whole group direct instruction and transitioned over the course of the lesson to question and answer periods followed by individual work time. The transition to individual practice and task work took place at the same juncture in schools associated with low- and high performance on the EGMA, approximately halfway through the 30-minute observation period. Small groups were rarely used in observed mathematics classrooms; the vast majority of lessons consisted of whole group instruction followed by individual practice. Unlike reading lessons, however, in which teachers in classes associated with high performance on the EGRA were more likely to interrupt lessons to address students' questions or misconceptions, mathematics teachers were rarely observed doing so. Less than one out of 10 mathematics teachers were observed interrupting the flow of the lesson to address students' questions. Instead, the teachers would monitor and assist individual students.

Several findings from the classroom observations of mathematics lessons diverged according to performance on the EGMA. First, teachers of students in schools associated with high performance on the EGMA dedicated significantly more time to answering students' questions and asking them questions. Indeed, asking and answering questions was the most frequently observed teacher behavior in four out of ten observation segments (i.e., 40 percent of the time) in schools associated with high performance on the EGMA, which was double the proportion in classrooms in schools associated with lower performance on the EGMA (i.e., 20 percent). Second, teachers of students in schools associated with high performance on the EGMA tended to transition more quickly from one section of the lesson to another than their counterparts in schools associated with low-performance on the EGMA. During the observation, the latter cohort (teachers associated with lower-performance on the EGMA) spent more time explaining mathematics concepts to the whole group at the beginning of the lesson. Third, students in classrooms associated with high performance on the EGMA were

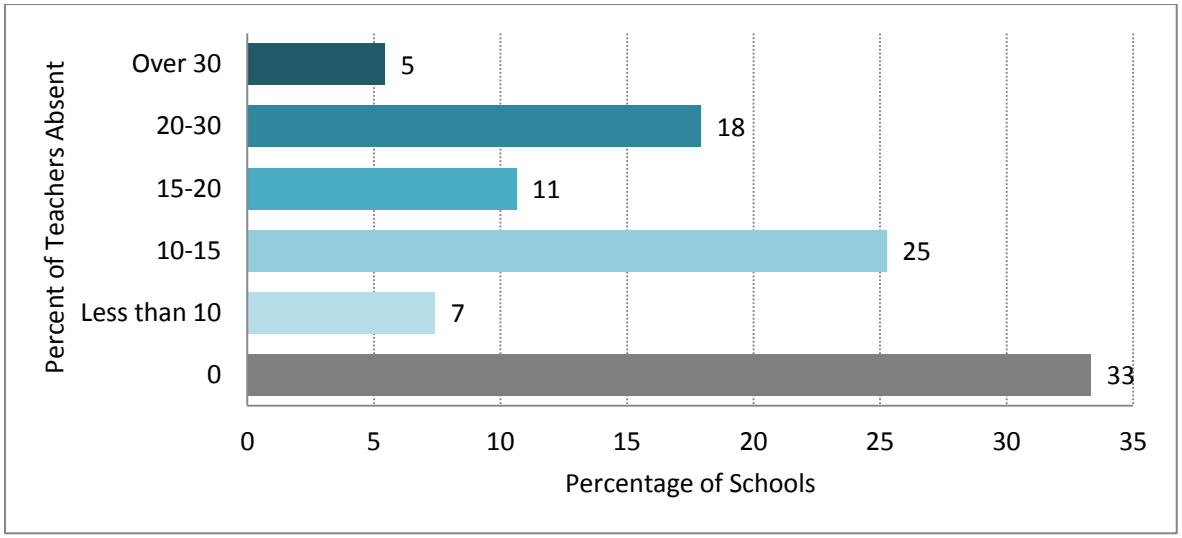
provided more time for individual practice and execution of the assigned tasks, with assistance and monitoring, than their counterparts in schools associated with lower-performance on the EGMA. This is, in part, due to the efficient transitions between lesson segments in classrooms associated with high performance on the EGMA.

Student and Teacher Absenteeism

Student absenteeism, as reported by reading and mathematics teachers, was common in their classrooms: only 8 percent of teachers indicated that there were no student absences on a typical school day. The average classroom teacher reported non-attendance rates of approximately 10 percent, and one out of every four reading and mathematics teachers reported average non-attendance rates in excess of 15 percent.

Teacher absenteeism also appears to be a notable issue in sampled schools. Although one-third of Head Teachers did not report any teacher absences on the day prior to the assessment, over half reported teacher absentee rates of more than 10 percent. ***Figure 38*** highlights that one out of four Head Teachers reported that between 10 and 15 percent of teachers were absent on the day prior to the assessment, and nearly one out of five reported that between 20 and 30 percent of teachers were absent. However, it should be noted that a substantial proportion (92 percent) of these absences were excused or due to employee leave. As such, they appear not to be unaccounted for or otherwise unplanned. When a teacher is absent, most Head Teachers allocate the absent teachers' students to other teachers' classrooms.

Figure 38. Teacher Absenteeism in Tanzanian Schools.



Late Arrivals Among Students and Teachers

According to classroom teachers, student tardiness seems to be less of an issue than non-attendance. More teachers (17 percent) reported that on a typical day, all students arrive on time to class. On average, less than 5 percent of students were tardy, and only in one-fourth of classrooms does tardiness involve more than 10 percent of students.

Tardiness among teaching staff does not appear to pose a substantial problem in most schools in the survey sample (e.g., 84 percent of schools reported that no teachers had arrived late on the day prior to the assessments). However, one out of every 10 schools reported that more than 10 percent of teachers arrived at school more than 15 minutes late for class. Although

teacher tardiness seems to impact only a minority of schools (16 percent), the number of teachers arriving late amounts to at least 38 hours of lost instructional time in these schools during the previous school day alone.

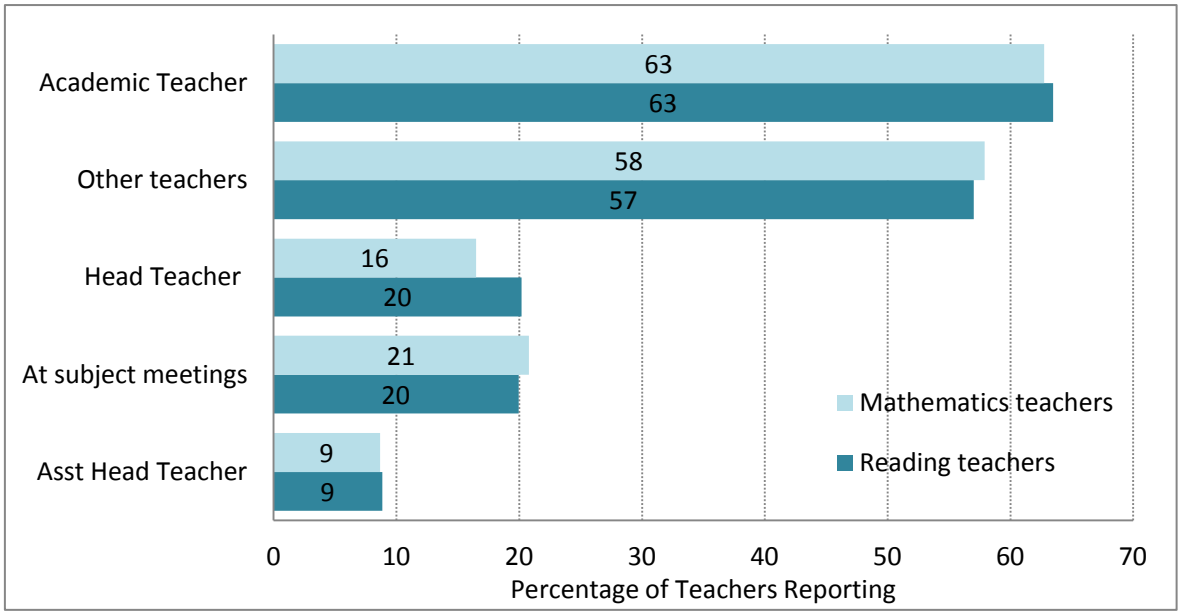
4.6.5 Pedagogical Oversight

Nearly nine out of 10 classroom reading and mathematics teachers (89 percent) reported that the Head Teacher or Assistant Head Teacher checks the teachers' lesson plan books. Although the frequency of these checks varied, 83 percent of reading teachers and 81 percent of mathematics teachers reported having their lessons checked at least once every two weeks.

Most Head Teachers reported using at least two methods to monitor student academic progress in their schools. The most commonly cited method for monitoring academic progress was via tests, either those given by teachers (82 percent of Head Teachers referred to such tests) or end-of-term exams (53 percent of Head Teachers reporting). Other means used by Head Teachers include classroom observations (reported by 43 percent of Head Teachers) and checking students' assignments or homework (reported by 23 percent of Head Teachers).

When the teachers need assistance with their teaching, all teachers reported having someone with whom they can discuss their instructional strategies (***Figure 39***). Most reading and mathematics teachers would discuss instructional questions with the Academic Teacher (63 percent) or casually with other teachers. Other pedagogical resources were the Head Teacher, other teachers at subject meetings, and the Assistant Head Teacher.

Figure 39. Whom Teachers Consult When Needing Help with Teaching.



The majority of reading and mathematics teachers (approximately 58 percent) were observed in the classroom only two times per year by the Head Teacher or Assistant Head Teacher. Teachers had more frequent interactions with the Academic Teacher with whom they discussed their instruction, but 92 percent of teachers had to wait one month or longer between such sessions.

4.6.6 Factors Associated with EGRA and EGMA Performance

Table 15 tabulates factors from the child-, classroom-, and school-level survey instruments that were found to have a statistically significant association with high performance on EGRA and EGMA. This linkage was tested via a logistic regression model that, in essence, assessed whether the factors listed in the first column increase the likelihood that students were identified as high or low performers on EGRA and EGMA, while controlling for student household wealth. The first column lists the factors that were found to have a statistically significant linkage with either high or low performance on EGRA and EGMA. The third column presents the proportion of the survey populations that either reported having or were reported to have had (depending on the survey) the factors in column one. The final two columns indicate, according to our models, how much the factor's presence increases the likelihood of whether students are high or low performers on EGRA and EGMA. For example, the first factor (i.e., living in an urban location) can be said to increase the likelihood that a student will be identified as a top EGRA and EGMA performer. Put another way, students in tested, urban locations were 4.8 times more likely to be top performers on the assessments conducted.

Table 15. Factors Associated with EGRA and EGMA Performance.

Factor	Sub-category	% of Sample	Increased Likelihood of the Student Being an EGRA and EGMA	
			High Performer	Low Performer
Student reads aloud at home	Every day	19.3%	5.1	—
Student brings textbook to class	Kiswahili	11.1%	2.1	—
	Mathematics	11.9%	2.1	—
High parental involvement	—	52.2%	2.0	—
School performance band	Low	87.2%	—	3.1
	High	1.4%	4.8	—
Teacher absentee rate	>15%	44.0%	—	1.8
School begins the year with appropriate materials	—	10.9%	2.9	—
High student-teacher ratio	>40	55.5%	—	2.1
Percentage of exercise book pages marked by a teacher	25%	36.4%	—	4.3
	50%	19.0%	—	3.2
Teacher gives positive feedback to students	No	48.6%		2.7
	Yes	51.4%	1.9	—
Teacher checks for students' understanding	Mathematics	76.4%	6.6	—
High percentage of students respond to questions in class	Reading	0.5%	5.7	—
Advanced student discussion in class	Mathematics	0.2%	14.5	—
School infrastructure in good repair		38.5%	3.5	—
Condition of school latrines	Very clean	4.5%	5.9	—

Note: Relationships were tested by logistic regression models (i.e., does the factor increase the likelihood that students are high or low performing?) controlling for student household wealth. All relationships reported here are statistically significant at the $p < 0.05$ level.

As shown in Table 15, numerous factors were found to have an association with an increased likelihood of either high or low performance on the EGRA and EGMA. At the individual student level, tested students who read aloud to others on a daily basis were more likely to be among the highest performing students on the assessments given. This finding emphasized the importance of time spent reading and the regularity of their engagement with text, particularly for young children. Moreover, this finding highlights the importance of making use of available reading materials. Another finding is that many children have non-academic materials in their homes, but a minority of students reported that they read at home on a daily basis. Finally, students who brought their textbooks to class (or who at least had them on the day of the survey) and whose parents are significantly involved in their scholastic lives are more likely to be high performers in reading and mathematics.

At the school level, high teacher absenteeism (i.e., more than 15 percent on average) was associated with an increased likelihood of lower student performance on EGRA and EGMA. Access to teaching and learning materials also appears to be a factor. For example, schools that began the academic year with the appropriate number of textbooks and other instructional materials were more likely to count a higher proportion of top performing students. The ratio of students to teachers, a measure of education quality and access to instruction, was a factor in student performance. Students in classrooms with a student-teacher ratio larger than 40 were significantly more likely to be among the lowest performing cohort on EGRA and EGMA. In addition, school infrastructure and clean latrines, both indicators of effective school management, were predictors of higher student performance on EGRA and EGMA.

In terms of classroom teaching and learning interactions between teachers and students, several pedagogical processes were found to be associated with student performance. Feedback from teachers to students, both in terms of teachers' marking of students' work and praising them for good performance on exams, were significantly associated with an increased likelihood of high EGRA and EGMA outcomes. Indeed, when the proportion of pages of students' exercise books marked by teachers decreased, the likelihood of lower EGRA and EGMA performance increased. These findings indicate that students are more likely to learn more when teachers take the time to provide feedback on assigned tasks the students complete. During the classroom observations of reading and mathematics lessons, patterns of teacher and student behavior were found to be associated with higher student performance. Students whose teachers checked whether they understood the content being taught during mathematics lessons were more likely to be among the highest performing students. In addition, students who actively participated in class (i.e., engage spontaneously and not just when they are called upon to do so, answer questions correctly, engage with other students, and put forth arguments and defend them) were associated with an increased likelihood of high student performance.

4.6.7 Factors Associated with School Performance Band

Table 16 presents factors from the child-, classroom-, and school-level survey instruments that were found to have a statistically significant association with school performance band, as determined by the MoEVT. Similar to ***Table 15***, this association was tested via a logistic regression model (again, controlling for student household wealth) that assessed whether the factors listed in the first column increase the likelihood that schools fell within the "high" or "low" performance bands. The first column lists the factors that were found to have a statistically significant linkage with school band categorization. The third column presents

the proportion of the survey populations that either reported having or were reported to have had (depending on the survey) the factors in column one. The final two columns indicate, according to our models, how much the factor's presence increases the likelihood of whether schools fell into the high or low bands as determined by the Ministry.

Table 16. Factors Associated with School Performance Band.

Factor	Sub-category	% of Sample	Increased Likelihood of the School Being	
			High Band	Low Band
Student eats before arriving	No	61.7%	—	1.6
	Yes	38.3%	6.5	—
Student reads aloud at home	Never	32.9%	—	2.1
Student attended preschool		80.3%	1.8	—
Student brings textbook to class	Kiswahili	11.1%	5.5	—
	Mathematics	11.9%	3.8	—
Student brings reading books home	—	6.1%	1.6	—
Teacher pre-service in reading instruction	—	26.2%	6.9	—
Teacher in-service training (none)	Reading	22.8%	—	2.1
	Mathematics	25.1%	—	2.4
Teacher assigns homework		34.6%	2.1	—
Teacher checks for students' understanding	Reading	76.4%	5.1	—
Teacher absentee rate	0%	33.3%	4.5	—
Teacher has adequate materials	Reading	19.1%	8.2	—
	Mathematics	20.1%	7.2	—
School begins the year with appropriate materials	No	89.1%	—	2.8
	Yes	10.9%	9.3	—
School has central library	Yes	17.5%	8.6	—
School infrastructure in good repair		38.5%	5.4	—
Condition of latrines	Somewhat clean	66.5%	6.2	—
	Very clean	4.5%	13.3	—
% of repeaters	None	12.6%	7.5	—
	>10%	41.8%	—	6.7
Student-teacher ratio	<40	44.5%	12.0	—
	>40	55.5%	—	3.4
Percentage of exercise book pages marked by a teacher	None	3.9%	—	1.8
	50%	19.0%	—	2.9
Students participate actively in class	Mathematics	12.1%	8.0	—
Low % of students respond correctly to questions in class	Mathematics	6.8%	—	4.7

Note: Relationships were tested by logistic regression models (i.e., does the factor increase the likelihood that the school is in the high or low-performance band?), controlling for student household wealth. All relationships reported here are statistically significant at the $p < 0.05$ level.

At the student level, schools in which the student population ate before arriving were more likely to be in the high-performance band, whereas the opposite was true of schools with student populations that did not eat before arriving. Schools in which more students had attended preschools were more likely to fall in the high-performance band. In addition, student reading practices at home were found to be a predictive factor in the model: schools with students who never read aloud at home were more likely to be in the low-performance band. Schools in the high-performance band were also more likely to have students that brought textbooks to class, and who brought reading books home from school.

At the classroom level and during the observed reading and mathematics lessons, several variables were associated with school performance band. High-performance band schools were more likely to have adequate materials for teachers in reading and mathematics classrooms, a finding which significantly predicted student performance. Schools in which teachers assigned homework and used questions to check for students' understanding of concepts were more likely to be high-performance band schools. However, schools in which teachers did not take time to mark assigned tasks in students' exercise books and who therefore choose to not engage in providing students feedback on assignments were more likely to be low-performance band schools. During the classroom observations of mathematics lessons, high-performance band schools tended to be those in which students participated actively in class, and low-performance band schools tended to be those in which a majority of observed students could not answer questions correctly. The proportion of students in class who had repeated a year in school was associated with school performance band. Schools in which surveyed classrooms had no repeating students were significantly more likely to be in the high-performance band. However, schools in which surveyed classrooms had a larger proportion of repeating students (more than 10 percent) were more likely to be low-performance band schools. This finding suggests, perhaps unsurprisingly, that student repetition in the early years and lower school performance are linked.

Numerous factors at the school level were found to be associated with school performance band. High-performance band schools were more likely to have teachers who had undergone specific pre-service training in reading instruction, and low-performance band schools were more likely to have an instructional staff (both reading and mathematics teachers) that had not had any in-service training. This finding suggests that effective schools are those in which instructional staff have been trained specifically in content-specific pedagogical practices. Other findings at the school level associated with schools' performance band included material and infrastructural variables. For instance, beginning the year with the appropriate amount of instructional materials, having a central library, good condition of school buildings, and the condition of latrines were all associated with school performance band.

5. Conclusions and Recommendations

The National Baseline Assessment for the 3Rs has shown quite clearly that although the early grade education program in Tanzania is doing a good job with laying a foundation for learning, there is much work to do.

The generally low levels of zero scores on the reading and writing subtasks of the EGRA (Kiswahili) assessment are encouraging. That said, only 8 percent of the Standard 2 students are reading with comprehension—the goal of reading instruction. In general, students are not reading Kiswahili with either sufficient accuracy or fluency to be able to read with comprehension and this is, in part, because the more foundational skills are not well established.

The EGRA (English) demonstrates quite clearly that instruction in English as a subject in Standard 2 is not doing enough to enable students to read in English. With nearly 60 percent of the students unable to read a single familiar English word correctly, it is no wonder that they struggle to read a passage of connected text and, in turn, try to comprehend the contents of that passage.

The trend on the EGMA is also very clear. Although students perform reasonably well on the more procedural tasks (basic addition and subtraction facts), they struggle to apply this procedural knowledge to solve tasks that are more conceptual in nature, with only 13 percent of Standard 2 students able to calculate 38 + 26 = ☐ correctly, and less than 9 percent of Standard 2 students able to calculate 43 – 26 = ☐ correctly. That is not withstanding the expectation of the Standard 2 mathematics curriculum in Tanzania that Standard 2 students should be able to add and subtract with numbers up to 500.

Although the results of the EGRA and EGMA are clear—children are not performing at the level that we would like them to—the explanation lies more in *how* they are taught than in *what* they are taught. The nature of the results of these studies creates the strong impression that students are memorizing what they learn, rather than engaging with understanding. Teachers need to be supported in adopting pedagogically more effective approaches for teaching reading, writing, and arithmetic in the early grades.

The SSME study provides a rich and fascinating insight into the lives of students, teachers, and schools across Tanzania. The study identifies a wide range of factors that contribute to the underperformance by students previously described. In particular,

- Although this study, and research in general, shows very clearly that learning to read takes practice and, in particular, that students must have time, opportunity, and access to appropriately leveled reading materials, the study also shows that
  - On average, less than 22.5 percent or 7 minutes of every 30-minute Kiswahili lesson was spent on reading.
  - On the day of the assessment, 92 percent of students did not have a Kiswahili reader and 97 percent of the students did not have an English reader.
  - 90 Percent of the schools did not have a library that students could use.

  - Although 51 percent of students reported having reading materials other than school textbooks at home, only 19 percent of them reported that they read aloud to somebody every day.
- Although the schools in the high-performance band were more likely to have adequate materials for teaching in both the reading and mathematics classrooms, a finding which significantly predicted student performance, the study also found that
  - 89 Percent of Head Teachers reported that their schools did not begin the year with the correct number of textbooks.
  - 75 Percent of the schools that did not start the year with the correct number of textbooks had to wait more than 3 months before they received them.
  - 33 Percent of classrooms in the study did not have English readers or textbooks, 25 percent did not have Kiswahili readers or textbooks, and 20 percent of classrooms did not have mathematics textbooks.
- Teachers who reported that they received specific training on how to teach reading and mathematics were associated with better performing students. For example,
  - Only approximately one-fourth of the teachers interviewed had received any specific pre- and/or in-service training on how to teach early grade reading, writing, and arithmetic.
  - Although all teachers reported that they assessed students, largely by means of written tests and examinations, few teachers reported using assessment results formatively to evaluate students' understanding of instructional content, adapt their teaching to better suit the needs of students, or plan future teaching and learning activities. Although the latter three pedagogical activities are important aspects of quality instruction in both reading and mathematics classrooms, it is not clear whether the majority of surveyed teachers had any training in putting assessment data to use in this way.
- Classroom practices also correlate very closely with student performance. However, these practices are not as common as would be ideal:
  - Students participate actively (including willingness to ask and answer questions, and make guesses) in only 12 percent of Kiswahili lessons and 16 percent of mathematics lessons, and yet students in classes in which students participate actively were 3.9 times more likely to be high performers.
  - Students in classes in which all of the students were involved in answering questions were 5 times more likely to be high-performing students for mathematics classes and 10 times more likely to be high-performing students for Kiswahili lessons. However, classes in which all students were involved in answering questions accounted for less than 7 percent of the mathematics lessons and less than 1 percent of the Kiswahili lessons.
- Across the study, it was observed that greater relative wealth of students was associated with stronger performance: students in the highest wealth quartile were 15 times more likely to be high performers. Conversely, students in the lower wealth quartile were 3 times more likely to be low performers. However, when analyzed

more closely, there are factors associated with student performance in the relative wealth quartiles that are not directly related to wealth. For example,

- Head Teachers whose students were in the lower wealth quartile were more likely to have lower expectations about students' performance. When Head Teachers were asked when they believed students should be able to write in Kiswahili, the most common answer given among the Head Teachers and teachers at the schools with students in the lower wealth quartile was Standard 3. By contrast, for Head Teachers and teachers at the schools with students in the highest wealth quartile, the most common answer was Standard 2.
- Students receiving help at home with homework correlated with better performance. Although only 45 percent of students from the lowest wealth quartile reported that they had somebody to assist them with homework, 67 percent of the students in the highest wealth quartile did.
- Parents praising their children for achieving good grades (that is, parents showing an interest in their children's studies) correlated with better student performance. Although only 29 percent of students from the lowest wealth quartile reported that their parents praised them when they achieved good grades, 52 percent of the students in the highest wealth quartile reported that their parents did so.
- Having reading materials at home was a strong predictor of success on the EGRA and EGMA. Although only 39 percent of students from the lowest wealth quartile reported having such materials, 80 percent of the students in the highest wealth quartile reported having them.
- Reading aloud at home and being read to at home were also strong predictors of success on both EGRA and EGMA. According to the survey, 45 percent of students from the lowest wealth quartile reported that they do not read aloud in their homes and that no one in their homes reads to them. In contrast, only 9 percent of students in the highest wealth quartile reported that they do not read aloud in their homes and only 17 percent reported that no one in their homes reads to them.

5.1 Policy Dialogue Workshop and Recommendations

On February 26–28, 2014, the MoEVT hosted a policy dialogue workshop in Dar es Salaam. The purpose of this workshop was to review the findings of the National Assessment of the 3Rs in Tanzania, examine the implications arising from those findings, make recommendations for this report, and set benchmarks and targets for reading, writing, and arithmetic in Tanzania.

The workshop was opened and addressed by the Minister of Education Dr. Shukuru Kawamba, who also stayed to hear the overview of the study findings.

During the first day of the workshop, the results of the study were presented to a larger audience of approximately 150 people representing the following organizations, among others:

- MoEVT
- Prime Minister's Office—Regional Authorities and Local Government (PMORALG)

- National Examination Council of Tanzania
- Tanzania Institute of Education
- Regional and District Education Officers
- Heads of Teacher Training colleges
- Local and international nongovernmental organizations working in the field of early grade education
- Teachers and teacher unions.

For the second and third days of the workshop, there were approximately 50 to 60 participants representing the various ministries, regions, and districts, and a few representatives from the donor community and nongovernmental organizations working in the field of early grade education.

The focus of the second and third days of the workshop was to generate recommendations for this report and to set benchmarks for student performance.

In creating the recommendations that follow, the participants were organized into groups that covered five key issues emerging from the report. There was overlap in the recommendations from these working groups, and they have been reorganized based on the key themes that emerged from the rich discussions. Participant notes from the five original issues may be found in the ***Annex B***. The recommendations from each of the groups were made during the full workshop and are discussed in the remainder of this section below.

Teacher Training

With respect to reading, the study has shown that children are not learning to decode words effectively and efficiently. Although they can read some familiar words, it is more likely that the have memorized them rather than learned the letter sounds for decoding the words. Very little time is spent during the reading lesson on these foundational reading skills. Because children are not learning to decode effectively, they are not comprehending what they attempt to read as well as they should be. The study has also shown that students "know" their basic addition and subtraction facts, yet they seem unable to use these facts to solve related addition and subtraction problems even at the two-digit level. They do not appear to experience mathematics as a meaningful, sense-making, problem-solving activity. This again is not surprising because a majority of mathematics lessons is spent on procedural exercises rather than on activities designed to strengthen students' conceptual understanding of mathematics.

Teaching approaches used by teachers in the early grades do not support the development of conceptual understanding and/or the mastery of the foundational skills. Teaching early grade reading and mathematics is more complex than often assumed. Approaches to teaching of both early grade reading and mathematics need to be informed by the science of how children develop the foundational skills in these areas and to be aligned with evidence-based teaching methods. Furthermore, teachers also need to learn how to use formative assessment to guide instructional decisions.

In light of the previously mentioned items, the following recommendations were made:

- The MoEVT needs to identify, either through its own resources or with the assistance of technical experts, effective evidence-based best practices regarding the teaching of early grade reading, writing, and arithmetic. Such an approach would support the acquisition of foundational reading and mathematics skills, with an emphasis on students' conceptual understanding. This may mean conducting literature reviews, calling for input from technical experts, and/or participating in study visits to other countries. Once the MoEVT has established an evidence-based approach to the teaching of early grade reading, writing, and arithmetic for Tanzania, attention should shift to the implementation of the approach.
- Implementing the approach previously described will involve the following tasks:
  - Training teachers through both in- and pre-service programs on using the evidence-based approach adopted for Tanzania in their teaching. This training should include both theoretical inputs and a range of coaching approaches.
  - Ensuring that teacher training includes specific instruction in how to use assessment results to adapt teaching approaches in the classroom.
  - Making curricular revisions to support the evidence-based approach.
  - Evaluating the curriculum and timetable to ensure that adequate time is set aside to work on reading, writing, and arithmetic.
  - Developing and providing sufficient grade and appropriate age-leveled learning materials for reading, writing, and arithmetic that support the evidence-based approach.
  - Identifying and harmonizing the efforts of the various programs contributing to the 3Rs campaign to support the evidence-based approach adopted for Tanzania.
  - Once these new approaches are being implemented, ensure better quality control of schools through use of inspectors, mentors, and coaches.

Opportunities to Learn—Materials and Time

This study and research in general shows quite clearly that in addition to effective instruction, in order to learn, students need appropriate learning materials, time to learn and opportunities, and time to practice newly acquired skills. This study has shown that the opportunity to learn in Tanzania is not what it could be. Textbooks arrive late at most schools, and when they arrive, insufficient quantities are provided. Only a small minority of students had access to textbooks in schools. Only 1 out of 10 schools had a library that students could use. Very little time was spent reading in school, and student and teacher absenteeism further reduced instructional time in school.

In light of the previously mentioned items, the following recommendations were made:

- The MoEVT need to plan better to improve the timely and correct delivery of learning materials to schools (e.g., textbooks, readers exercise books). This does not have budgetary implications; it is simply a matter of improving the planning cycle.
- Suggestions should be provided to teachers on how to use locally available and low-cost materials to help students develop a conceptual understanding of mathematics.
- Reading corners should be provided in classrooms with books, posters, and letter and word charts.

- As a long-term goal, the MoEVT needs to plan for all schools to have libraries that students can access. The libraries should be stocked with age-appropriate reading materials for students in the early grades. In the short-term, the MoEVT needs to encourage schools, Head Teachers, and teachers to source a wide range of reading materials to create reading corners in all early grade classrooms.
- Principals need to be made aware of the findings of this study and, in particular, to see their role as, among other things, to
  - Monitor and address teacher and student tardiness and absenteeism.
  - Monitor teachers' implementation of the evidence-based approach with particular focus on the effective development of foundational skills and conceptual understanding.
  - Monitor teachers' lessons to ensure that ample time is set aside for practicing skills (in the case of reading: time for silent reading; in the case of mathematics: time for independent practice).
  - Take a greater interest in the work of teachers and students by monitoring lesson planning, students' work, and teachers' effective use of assessments.
- An effective school feeding program needs to be established to ensure that all students eat a nutritious meal before they start school every day.

Parents and the Community as Resources to Support Learning

This study has shown that students' homes have an impact on their learning. Students who are read to and who read aloud at home are more likely to be high-performing students on both EGRA and EGMA. Students whose parents show an interest in their school and homework are likely to be better performers. Students who attend school regularly are likely to be better performers.

In light of the previously mentioned items, the following recommendations were made:

- A national parent campaign needs to be conducted through the various media (print, radio, and national television) and/or posters in schools and/or through community forums to make parents aware of the value of and their roles in supporting their children through the following:
  - As much as they can, sourcing age-appropriate reading materials in addition to schoolbooks for the home. If parents cannot afford these materials, then they should borrow them from the library and or share resources within the family and community.
  - Reading to their children on a regular basis.
  - Encouraging their children to read both silently and aloud every day and to ask their children questions about the stories that they have read.
  - Showing an interest in what happens at school every day by asking children about their school day and what they learned during the day.
  - Ensuring that their children eat nutritious meals every morning before going to school.
  - Making sure that their children attend school every day and arrive on time.

  - Monitoring the school in terms of checking that their children receive learning materials at the start of the year and checking on the absenteeism of teachers.
- At the school and community levels, steps can be taken to support learning outside of regular school hours. For instance,
  - Communities should explore creative ways to make reading materials more accessible. For example, stories could be printed on the back of calendars and in newspapers, schools could establish book borrowing systems to read books at schools, and community members could donate appropriate reading materials for schools. In addition, community members could help teachers by using locally available materials such as reading cards for children to read at home.
  - At the school level, creativity should be explored to help support learning. For instance, schools could establish peer reading groups and subject groups, as well as cooperative learning communities.

5.2 Benchmarks and Targets

As part of the policy dialogue workshop hosted by the MoEVT on February 26–28, 2014, participants representing the various ministries, regions, and districts, as well as a few representatives from the donor community and nongovernmental organizations working in the field of early grade education set benchmarks and targets for EGRA and EGMA.

The benchmarks reported in ***Table 17*** were developed based on the results of Tanzanian students in the 2013 National Baseline Assessment and informed by a range of international benchmarks, the participants' experience with and knowledge of the Tanzanian context, and technical support provided by the researchers who led the National Baseline Assessment for the 3Rs.

The 5-year targets reported in ***Table 17*** were set by the participants, with support from the technical experts based on the assumptions that the recommendations recorded in this report are implemented and that a concerted effort by all role players is exerted with respect to the implantation of these recommendations. The targets attempt to temper the desire for dramatic improvements with the realization that change in education is generally slow and that the recommendations made in this report—in particular, regarding the development of teaching and learning approaches and the associated teacher training—all take time.

Table 17. Standard 2 Performance Benchmarks and 5-Year Targets for the 3Rs Campaign.

		Kiswahili			English		Mathematics	
		Invented/Non-words (cnonwpm)	**Oral Reading Fluency (cwpm)**	**Oral Reading Comprehension (comp)**	**Oral Reading Fluency (cwpm)**	**Oral Reading Comprehension (comp)**	**Addition and Subtraction Level 2 (add_sub_L2)**	**Missing Number (miss_num)**
2013 Baseline study data	Mean (average)	12.3	17.9	28.9%	9.4	14.9	22.5%	26.1%
	% Zero scores	28.0%	27.7%	40.3%	37.9%	94.8%	43.0%	10.9%
Benchmark		40	50	80%	50	80%	80%	60%
Percentage Standard 2 students achieving benchmark	2013 Baseline study	1.5%	12%	8%	3%	1%	8%	8%
	Proposed 5-year target	15%	45%	40%	40%	15%	35%	35%
Percentage of zero scores	2013 Baseline study	28.0%	27.7%	40.3%	37.9%	94.8%	43.0%	10.9%
	Proposed 5-year target	14%	14%	20%	20%	50%	20%	5%

As much as the benchmarks and targets in ***Table 17*** were developed by representatives of a wide range of education stakeholders in Tanzania, they are yet to be reviewed and finalized by the MoEVT and PMORALG.

References

Baroody, A.J., M.-L. Lai, and K.S. Mix. 2006. The development of number and operation sense in early childhood. Pp. 187–221 in *Handbook of Research on the Education of Young Children.* Edited by O. Saracho and B. Spodek. Mahwah, NJ: Erlbaum.

Chard, D.J., B. Clarke, S. Baker, J. Otterstedt, D. Braun, and R. Katz. 2005. Using measures of number sense to screen for difficulties in mathematics: Preliminary findings. *Assessment forEffective Intervention 30*(2):3–14.

CIA (Central Intelligence Agency). 2014. *The World Factbook*. Available at https://www.cia.gov/library/publications/the-world-factbook/geos/tz.html

Clements, D., and J. Samara. 2007. Early childhood mathematics learning. Pp.461–555 in *Second Handbook on Mathematics Teaching and Learning*. Edited by F.K. Lester, Jr. Charlotte, NC: Information Age.

Craig, H., and W. Heneveld. 1996. *Schools Count: World Bank Project Designs and the Quality of Primary Education in Sub-Saharan Africa.* World Bank Technical Paper Number 303 (Africa Technical Department Series). Washington DC: World Bank. (See also: Carasco, J., C. Munene, D. Kasente, and M. Odada. 1996. *Factors Affecting School Effectiveness in Uganda: A Baseline Study*. Kampala: UNEB.)

Ehri, L.C. 1995. Phases of development in learning to read words by sight. *Journal of Research in Reading 18*(2):116–125.

Foegen, A., C. Jiban, and S. Deno. 2007. Progress monitoring measures in mathematics: A review of literature. *The Journal of Special Education 41*(2):121–139.

Geva, E., and Z. Yaghoub Zadeh. 2006. Reading efficiency in native English-speaking and English-as-a-second-language children: The role of oral proficiency and underlying cognitive-linguistic processes. *Scientific Studies of Reading* 10:31–58. (See also Quiroga, T., Z. Lemos-Britton, E. Mostafapour, R.D. Abbott, and V.W. Berninger. 2002. Phonological awareness and beginning reading in Spanish-speaking ESL first graders: Research into practice. *Journal of School Psychology* 40:85–111.)

Gough, P.B., and W.E Tunmer. 1986. Decoding, reading, and reading disability. *Remedial and Special Education* 7:6–10. (See also Hoover, W.A., and P.B. Gough. 1990. The simple view of reading. *Reading and Writing: An Interdisciplinary Journal* 2:127–160.)

Hasbrouck, J., and G.A. Tindal. 2006. Oral reading fluency norms: A valuable assessment tool for reading teachers. *The Reading Teacher 59*(7):636–644.

IMF (International Monetary Fund). 2011. *World Economic Outlook Database: Reports for selected countries and subjects*. Available at http://www.imf.org/external/pubs/ft/weo/2011/01/weodata

National Institute of Child Health and Human Development. 2000. *Report of the National Reading Panel. Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction.* NIH Publication No. 00-4769. Washington, DC: U.S. Government Printing Office. (See also Perfetti, C.A. 1992. The representation problem in reading acquisition. Pp. 145–174 in *Reading acquisition*. Edited by Gough, P.B., L.C. Ehri, and R. Treiman. Hillsdale, NJ: Erlbaum.)

Piper, B., and A. Mugenda. 2013. *The Primary Math and Reading (PRIMR) Initiative: Midterm Impact Evaluation.* Report prepared for USAID under the EdData II project, Task Order No. ID-623-M-11-00001. Research Triangle Park, NC, USA: RTI International. Available at https://www.eddataglobal.org/countries/index.cfm?fuseaction=pubDetail&ID=486

SACMEQ (Southern and Eastern Africa Consortium for Monitoring Educational Quality). 2010. *SACMEQ III Project Results: Pupil Achievement Levels in Reading and Mathematics*. Available at http://www.sacmeq.org/reports

UNESCO (United Nations Educational, Scientific, and Cultural Organization) Institute for Statistics. 2011. *Education (All Levels) Profile United Republic of Tanzania*. Available at http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=en&BR_Country=7620

USAID (U.S. Agency for International Development) Nigeria Northern Education Initiative. 2013. *Results of the Early Grade Reading and Early Grade Mathematics Assessments (EGRA and EGMA) in Bauchi and Sokoto States* (three documents). Available at https://www.eddataglobal.org/countries/index.cfm?fuseaction=pubDetail&ID=514

World Bank. 2013. *Tanzania Overview*. October. Available at http://www.worldbank.org/en/country/tanzania

World Bank. 2012a. *World Development Indicators*. Available at http://data.worldbank.org/indicator

World Bank. 2012b. *World Development Indicators*. Available at http://data.worldbank.org/country/tanzania#cp_wdi

Annex A. EGRA, EGMA, SSME Assessment Tools

EGRA Kiswahili Sub-test 1: Syllables/ Kusoma Silabi

EGRA Kiswahili Sub-test 1. Syllables/ Kusoma Silabi | **Page 1** | **Sekunde 60** seconds

Mwoneshe mwanafunzi karatasi yenye sylabi. Show the pupil the sheet of syllables.

🗣 **Hii ni karatasi yenye silabi. Soma silabi nyingi kwa haraka kadri uwezavyo. Kwa mfano, silabi hii (onesha silabi /ma/): Hii ni /ma/.** [Onesha silabi ma]
Here is a page full of syllables of the Kiswahili alphabet. Read as many syllables as quickly as you can. For example: This is /ma/. [point to the syllable /ma/]

Sasa tufanye: zoezi wote. Soma silabi hii [onesha silabi /nda/]**.**
Now let's do the exercise together. Read the syllable [point to the syllable /nda/].

✓🗣: **Vizuri.**
Good

✘🗣: **Silabi hii ni /nda/.**
The syllable is /nda/.

🗣 **Jaribu mfano mwingine**. Soma silabi hii [onesha silabi /re/].
Let's try another one: Read the syllable [point to the syllable /re/].

✓🗣: **Vizuri**
Good

✘🗣: **Silabi hii ni /re/.**
The syllable is /re/.

🗣 **Je, umeelewa unachotakiwa kufanya? Nikisema "Anza" soma silabi kwa umakini na haraka kadri uwezavyo. Anzia hapa** [onesha] **endelea mpaka mwisho wa mstari baada ya mfano sogeza kidole chako mpaka mwisho wa mstari**. **Ukifikia silabi ambayo huifahamu endelea kusoma inayofuata. Je, upo tayari? Anza.**

Do you understand what you are supposed to do? When I say "Begin," start here and go on to the end of the line. If you come to a syllable you do not know, go on to the next syllable. Ready? Begin.

✍ (/) **Kwa kutumia penseli fuatilia na weka alama ya mkwaju kwa silabi aliyokosea kuisoma/** Mark any incorrect syllable with a slash
(Ø) . **Iwapo uliweka alama ya kosa aliposahihisha kusoma silabi aliyokesea, zungushia neno kisha endelea.**/Circle self-corrections if you already marked the syllable incorrect
( ]) **Weka alama ya mabano katika silabi ya mwisho aliyosoma.**/Mark the final silabi read with a bracket

Mfano ma nda re

he	kwa	fe	ma	no	ta	ge	zu	ndwa	lu
a	ke	bi	ru	nywe	che	ya	so	ji	du
sa	hi	mba	fo	pi	to	nu	chwa	u	wa
la	bu	ro	ni	e	nyu	mi	te	cho	wi
se	yu	de	mwa	ra	ndi	gu	ho	vi	ka
ng'o	da	mwe	ju	nzi	go	su	po	re	bo
li	tu	nya	ha	we	yo	i	le	mu	kwe
vu	mo	fi	pa	ndo	ne	ngo	ku	dha	jo
nda	pe	za	o	ki	ba	to	ze	si	chu
ka	ga	va	tha	cha	ye	me	zi	fu	je

Anza kupima muda mara mwanafunzi anapoanza kusoma silabi la kwanza./
Start the timer when the child reads the first syllable.

➲ **Endapo mtoto hajajibu swali baada ya sekunde 3.** If the child doesn't respond to an item after 3 seconds.

✋ **Endapo muda umekwisha (sekunde 60).** /If the time on the stopwatch runs out (60 seconds)

✋ **Iwapo mwanafunzi hataweza kusoma neno lolote kwa usahihi tangu mwanzo mpaka mwisho wa mstari, Sema "Asante," Sitisha zoezi hili, kisha weka alama kwenye kisanduku kilichopo hapa chini kisha endelea na zoezi linalofuata.**

If the child does not provide a single correct response on the first line (10 items), say "Thank you!", discontinue this subtask, check the box at the bottom, and go on to the next subtask.

✍ **Muda uliobaki (sekunde)**
Time remaining (SECONDS)

✍ **Sitisha zoezi kwa sababu mwanafunzi hana majibu kwenye mstari wa kwanza.**
Exercise discontinued because the child had no correct answers in the first line.

EGRA Kiswahili Sub-test 2. Familiar words/ Kusoma maneno

EGRA Kiswahili Sub-test 2. Familiar words/ Kusoma maneno | **Page 2** | **Sekunde 60** seconds

Mwoneshe mwanafunzi karatasi yenye maneno. Show the pupil the sheet of words.

🗣 **Hii ni karatasi yenye maneno tofauti tofauti soma maneno mengi kwa haraka kadri uwezavyo. Usiseme herufi za maneno lakini yasome. Kwa mfano neno "babu"** [onesha neno babu]**. Soma "babu".** Here is a page with some words in Kiswahili. I would like you to read as many as you can. Do not spell the words, but read them. For example, this word is: "babu". [Point to the word "babu".] Read "babu".

Tufanye zoezi pamoja: soma neno hili [onesha neno "shule"]**.**
Let's practice: Please read this word [point to the word "shule"].

✓🗣: **Vizuri. Neno hili ni "shule"**.
Good, This word is "shule".

✗🗣: **Neno hili ni "shule".**
This word is "shule".

Jaribu mfano mwingine: Soma neno hili [onesha neno "takataka"]**.**
Now try another one: please read this word [point to the next word: "takataka"].

✓🗣: **Vizuri. Neno hili ni "takataka".**
Good, this word is "takataka".

✗🗣: **Neno hili ni "takataka".**
This word is "takataka".

Nikisema "Anza" soma maneno kwa umakini na haraka kadri uwezavyo. Anzia hapa [onesha] **na endelea mpaka mwisho wa mstari**. [Onesha neno la kwanza katika mstari baada ya mfano, sogeza kidole chako mpaka mwisho wa mstari]**. Ukifikia neno ambalo hulifahamu endelea kusoma neno linalofuata. Weka kidole kwenye neno la kwanza. Je upo tayari? Anza.**
When I say "Begin," start here [point to first word] and read across the page [point]. Point to each word and read it in a loud voice. Read as quickly and carefully as you can. If you come to a word you do not know, go on to the next word. Put your finger on the first word. Ready? Begin.

✍ (/) **Kwa kutumia penseli fuatilia na weka alama ya mkwaju kwa maneno yote aliyokosea kuyasoma/** Mark any incorrect words with a slash
(Ø) . **Iwapo uliweka alama ya kosa aliposahihisha kusoma neno alilokosea, zungushia neno kisha endelea.**/Circle self-corrections if you already marked the word incorrect
( ]) **Weka alama ya mabano katika neno la mwisho alilosoma.**Mark the final word read with a bracket

Mfano: babu shule takataka

watoto	katika	kitabu	shamba	bubu
jina	sana	watu	yake	anaitwa
maji	gari	kalamu	kiti	kwa
mimi	ni	wote	bibi	mwalimu
mkubwa	vile	nani	mama	la
yangu	siku	lake	mdogo	yeye
huu	hili	nini	kaka	dada
wa	shati	meza	acha	wanafunzi
mti	na	darasa	nyumba	nzuri
ya	sisi	huyu	baba	je

Anza kupima muda mara mwanafunzi anapoanza kusoma neno la kwanza./ Start the timer when the child reads the first word.

➲ **Endapo mtoto hajajibu swali baada ya sekunde 3.** If the child doesn't respond to an item after 3 seconds.

✋ **Endapo muda umekwisha (sekunde 60).** /If the time on the stopwatch runs out (60 seconds)

✋ **Iwapo mwanafunzi hataweza kusoma neno lolote kwa usahihi tangu mwanzo mpaka mwisho wa mstari, Sema "Asante," Sitisha zoezi hili, kisha weka alama kwenye kisanduku kilichopo hapa chini kisha endelea na zoezi linalofuata.**

If the child does not provide a single correct response on the first line (5 items), say "Thank you!", discontinue this subtask, check the box at the bottom, and go on to the next subtask.

✍ **Muda uliobaki (sekunde)**
Time remaining (SECONDS)

✍ **Sitisha zoezi kwa sababu mwanafunzi hana majibu kwenye mstari wa kwanza.**
Exercise discontinued because the child had no correct answers in the first line.

EGRA Kiswahili Sub-test 3. Non-words/ Kusoma maneno yasiyokuwa na maana

EGRA Kiswahili Sub-test 3. Non-words/ Kusoma maneno yasiyokuwa na maana	🕮 **Page 3**	🕐 **Sekunde 60** seconds

Mwoneshe mwanafunzi karatasi yenye maneno yasiyokuwa na maana. Show the pupil the sheet of non-words.

🗣 **Hii ni karatasi yenye maneno yasiyokuwa na maana: Soma maneno mengi kwa haraka kadri uwezavyo. Kwa mfano, neno "kamula"**[onesha neno "kamula"] **soma "kamula".** Here is a page with some non-words in Kiswahili. Read the non-words as quickly as you can. For example, this non-word is: "kamula "[Point to the word "kamula"].

Tufanye zoezi pamoja: soma neno hili [onesha neno "goge"]**.**
Let's practise: Please read this word [point to the non-word: "goge"].

✓🗣: **Vizuri, neno hili ni "goge".**
Good, This word is "goge".

✘🗣: **Neno hili ni "goge".**
This made-up word is "goge".

Jaribu mfano mwingine: Soma neno hili [onesha neno "naji"]**.**
Now try another one: please read this word [point to the next made- upword: "naji"].

✓🗣 **Vizuri. Neno hili ni "naji".**
Good, this made-up word is "naji".

✘🗣: **Neno hili ni "naji".**
This made-up word is "naji".

Nikisema "Anza" soma maneno kwa umakini na haraka kadri uwezavyo. Anzia hapa [onesha] **na endelea mpaka mwisho wa mstari.** [Onesha neno la kwanza katika mstari baada ya mfano, sogeza kidole chako mpaka mwisho wa mstari]**. Ukifikia neno ambalo hulifahamu endelela kusoma neno linalofuata. Je upo tayari? Anza.**
When I say "Begin," start here [point to first non-word] and read across the page [point]. Point to each word and read it in a loud voice. Read as quickly and carefully as you can. If you come to a word you do not know, go on to the next word. Put your finger on the first word. Ready? Begin.

Anza kupima muda mara mwanafunzi anapoanza kusoma neno la kwanza./ Start the timer when the child reads the first word.

➲ **Endapo mtoto hajajibu swali baada ya sekunde 3.** If the child doesn't respond to an item after 3 seconds.

✋ **Endapo muda umekwisha (sekunde 60).** /If the time on the stopwatch runs out (60 seconds)

✋ **Iwapo mwanafunzi hataweza kusoma neno lolote kwa usahihi tangu mwanzo mpaka mwisho wa mstari, Sema "Asante," Sitisha zoezi hili, kisha weka alama kwenye kisanduku kilichopo hapa chini kisha endelea na zoezi linalofuata.**

If the child does not provide a single correct response on the first line (5 items), say "Thank you!", discontinue this subtask, check the box at the bottom, and go on to the next subtask.

✍ (/) **Kwa kutumia penseli fuatilia na weka alama ya mkwaju kwa maneno yote aliyokosea kuyasoma/** Mark any incorrect words with a slash
(Ø) . **Iwapo uliweka alama ya kosa aliposahihisha kusoma neno alilokosea, zungushia neno kisha endelea.**/Circle self-corrections if you already marked the word incorrect
( ]) **Weka alama ya mabano katika neno la mwisho alilosoma./**Mark the final word read with a bracket

Mfano: kamula goge naji

mbanyu	rishadi	yuhu	keya	tikaka
kojima	sarada	kamula	jami	tuwa
naa	shoke	lesho	lengeke	fumre
rufishi	varede	ongu	kela	zame
riga	mbwaku	nefesi	rabo	lihi
chito	zihi	buba	goge	tewo
funanziwa	koya	takibu	leki	mbekoki
daifa	naji	suki	towato	rakinja
domgo	fasira	twaiana	mbeje	nyuya
uhu	vinja	pifu	rinzu	limwamu

✍ **Muda uliobaki (sekunde)**
Time remaining (SECONDS)

✍ **Sitisha zoezi kwa sababu mwanafunzi hana majibu kwenye mstari wa kwanza.**
Exercise discontinued because the child had no correct answers in the first line.

EGRA Kiswahili Sub-test 4a. ORAL READING PASSAGE

EGRA Kiswahili Sub-test 4a. ORAL READING PASSAGE	🕐 **Sekunde 60** seconds	EGRA Kiswahili Sub-test 4b. READING COMPREHENSION
✋ **1. Iwapo mwanafunzi atashidwa kusoma japo neno moja kwa usahihi kwenye kisanduku sema "Asante." Sitisha zoezi hili, kisha weka alama kwenye kisanduku kilichopo hapa chini kisha endelea na zoezi linalofuata. Usimuulize maswali ya ufahamu.**/If the child does not provide a single correct word before the word in a box, say "Thank you!", discontinue this subtask and check the box at the bottom. Do not ask any comprehension questions.2. **Iwapo mwanafunzi atasema 'Sijui' Chukulia kama ni kosa./**If a child says "I don't know," mark as incorrect.		
Muoneshe mwanafunzi karatasi yenye hadithi wakati unasoma maelekezo. Show the child the sheet in the student stimulus booklet as you read the instructions.	➲ **Endapo mtoto hajajibu swali baada ya sekunde 3.** If the child doesn't respond to an item after 3 seconds	**Baada ya mwanafunzi kumaliza kusoma. Ondoa karatasi ya hadithi mbele yake.** **Muulize mwanafunzi maswali yanayohusiana na hadithi aliyosoma.** **Mwanafunzi lazima asome hadithi ambayo inahusiana na maswali atakayoulizwa.** **Iwapo mwanafunzi atashindwa kujibu swali baada ya sekunde kumi (10) weka alama ya hakuna 'Jibu'. Na endelea kuuliza swali linalofuata. Usirudie kuuliza swali.** After the child is finished reading, REMOVE the passage from in front of the child. Ask the child only the questions related to the text read. A child must read all the text that corresponds with a given question. If the child does not provide a response to a question after 10 seconds, mark "no response" and continue to the next question. Do not repeat the question.
🗣 **Hii ni karatasi yenye hadithi fupi. Soma hadithi hii kwa sauti, haraka na kwa umakini: ukimaliza kusoma nitakuuliza maswali kuhusu yale uliyosoma. Je umeelewa unachotakiwa kufanya? Nikisema 'Anza' soma hadithi, haraka na kwa umakini kadri uwezavyo. Kama utanona neno usiloweza kusoma endelea kusoma neno linalofuata. Weka kidole chako kwenye neno la kwanza. Je, upo tayari? "Anza ".** Here is a short story. I want you to read it aloud, quickly but carefully. When you finish, I will ask you some questions about what you have read. When I say "Begin," read the story as best as you can. If you come to a word you do not know, go on to the next word. Put your finger on the first word. Ready? Begin. 🕐 **Anza kupima muda mara mwanafunzi anapoanza kusoma neno la kwanza./** Start the timer when the child reads the first word. ✋ **Endapo muda umekwisha (sekunde 60).** /If the time on the stopwatch runs out (60 seconds)		🗣 **Sasa nitaanza kuuliza maswali machache kuhusu hadithi uliyosoma. Jitahidi kujibu maswali uwezavyo.** Now I am going to ask you a few questions about the story you just read. Try to answer the questions as well as you can.
✍ (/) **Kwa kutumia penseli fuatilia na weka alama ya mkwaju kwa maneno yote aliyokosea kuyasoma/** Mark any incorrect words with a slash (Ø) . **Iwapo uliweka alama ya kosa aliposahihisha kusoma neno alilokosea, zungushia neno kisha endelea.**/Circle self-corrections if you already marked the word incorrect ( ]) **Weka alama ya mabano katika neno la mwisho alilosoma.**/Mark the final word read with a bracket		✍ (✓) 1 = Sahihi Correct (✓) 0 = Isiyosahihi Incorrect (✓) . = Hakuna jibu No response.

Neema		**Maswali (Majibu) Questions [Answers]**			
Jumapili ilikuwa tarehe ya kuzaliwa kwa **Neema**.	7	**Siku ya kuzaliwa Neema ilikuwa lini?** [Jumapili]	1	0	.
Neema aliwaalika rafiki **zake** kwenye sherehe.	13	**Neema aliwaalika nani?** [Rafiki zake / Joni]	1	0	.
Rafiki zake walikwenda kwenye sherehe wakiwa wamebeba **zawadi**.	21	**Rafiki zake Neema walibeba nini?** [Zawadi]	1	0	.
Sebuleni kulikuwa kumepambwa kwa maua na mapulizo. Neema alipomwona Joni alimkaribisha ndani. Ilipofika wakati wa kutoa zawadi, Joni hakuwa **nayo**.	41	**Nani hakuwa na zawadi?** [Joni]	1	0	.
Joni alisahau kuomba fedha kwa mama yake. Aliona aibu akainamisha kichwa chini. Joni alijilaumu kwa sababu hakuwa na **zawadi**.	60	**Kwa nini Joni aliinamisha kichwa chini?** [Aliona aibu/Hakuwa na zawadi]	1	0	.

✍ **Muda uliobaki (sekunde)** Time remaining (SECONDS)	
✍ **Sitisha zoezi kwa sababu mwanafunzi hana majibu kwenye mstari wa kwanza.** Exercise discontinued because the child had no correct answers in the first line.	

EGRA Kiswahili Sub-test 5. LISTENING COMPREHENSION

EGRA Kiswahili Sub-test 5. LISTENING COMPREHENSION	🕮 X			🕐 X
🗣 **Nitakusomea hadithi fupi kwa sauti MARA MOJA tu na kisha utajibu baadhi ya maswali. Tafadhali sikiliza kwa makini na jibu maswali kadiri unavyoweza. Unaweza kutoa majibu kwa lugha yo yote utakayoichagua. Uko tayari? Tuanze.** I am going to read you a short story aloud ONCE and then ask you some questions. Please listen carefully and answer the questions as best as you can. You can answer the questions in whichever language you prefer. Ready? Let's begin.				**Ondoa karatasi ya kichocheo toka kwa mwanafunzi. Msomee mwanafunzi maelekezo.** Remove the pupil stimuli booklet from the child's view.
✍ (✓) 1 = Sahihi Correct (✓) 0 = Isiyosahihi Incorrect (✓) . = Hakuna jibu No response.				
Madenge alikuwa mtoto wa kwanza kwa wazazi wake. Alikuwa na wadogo zake wawili. Siku moja wazazi wake walifanya sherehe nyumbani. Walipika vyakula vya aina nyingi. Madenge alikuwa na tabia ya kula kwa ulafi. Alikula pilau, kuku, samaki na kunywa soda tatu. Mara Madenge alilia na kulalamika kuwa anaumwa tumbo. Alipelekwa hospitali kupata matibabu. Madenge alitambua kuwa kula sana ni hatari.				**Uliza maswali yote. Usimruhusu mwanafunzi kuangalia katika kifungu cha habari au maswali.** Ask all of the questions. Do not allow the child to look at the passage or the questions.
Madenge alikuwa na wadogo zake wangapi? [Wawili]	1	0	.	**Majibu yenye maana inayofanana na yale yaliyotolewa, yawekewe alama ya "Sahihi". Kama mwanafunzi akisema "Sijui" weka alama ya "Isiyosahihi".** If a child says "I don't know," mark as incorrect.
Wazazi wa Madenge walifanya sherehe wapi? [Nyumbani]	1	0	.	
Madenge alikuwa na tabia gani? [Ulafi]	1	0	.	
Madenge alipelekwa wapi baada ya kuumwa tumbo? [Hospitali]	1	0	.	
Madenge alijifunza nini alipoumwa tumbo? [Kula sana ni hatari]	1	0	.	

EGRA Kiswahili Sub-test 6a. Imla (maneno) Dictation (words)

EGRA Kiswahili Sub-test 6a. Imla (maneno) Dictation (words)	🕮 **X**	🕐 **X**

Mpe mwanafunzi penseli na karatasi. / Give the child a pencil and paper.

🗣 **Nitakuambia maneno machache. Nisikilize kwa makini tafadhali. Nikishakuambia kila neno, nitayarudia ili nawewe uandike. Umeelewa ni nini cha kufanya? Haya, sikiliza na tuanze:**
I am going tell you a few words. Please listen carefully. After I have told you each word, I will repeat it and then I want you to write it down. Do you understand what you are to do? Okay, listen and let's get started:

🗣 wetu **Rudia mara moja na subiri sekunde 5 kabla ya kusema neno linalofuata]**repeat once and wait 5 seconds before saying the next word**]**
🗣 twende **Rudia mara moja na subiri sekunde 5 kabla ya kusema neno linalofuata]**repeat once and wait 5 seconds before saying the next word]
🗣 juani **Rudia mara moja sekunde 5 kabla ya kusema neno linalofuata]** repeat once and wait 5 seconds before saying the next word]
🗣 kusoma **Rudia mara moja sekunde 5 kabla ya kusema neno linalofuata]** repeat once and wait 5 seconds before saying the next word]

✍ (✓) 1 = **Sahihi** / Correct
(✓) 0 = **siyo sahihi** / Incorrect
(✓) . = **Hakuna jibu** / No response.

wetu	1	0	.	juani	1	0	.
twende	1	0	.	kusoma	1	0	.

Usimruhusu mwanafunzi kuangalia maneno. Do not allow the child to look at the words.

Kama mwanafunzi atasema "sijui" weka alama kuonyesha siyo sahihi . If a child says "I don't know," mark as incorrect.

EGRA Kiswahili Sub-test 6b. Imla (sentensi) / Dictation (sentence)

EGRA Kiswahili Sub-test 6b. Imla (sentensi) / Dictation (sentence)	🕮 **X**	🕐 **X**

Kisha mpe mwanafunzi penseli na karatasi. / Give the child a pencil and paper.

🗣 **Sikiliza kwa makini. Nitasoma sentensi nzima kwa mara ya kwanza kisha nitasoma tena sehemu za sentensi hiyo ili uweze kuandika ulichokisikia. Nitasoma tena mara ya tatu ili uweze kuhakiki sentensi yako. Je unaelewa unachotakiwa kufanya? Sasa sikiliza:**
I am going to read you a short sentence. Please listen carefully. I will read the whole sentence once. Then I will read it in parts so you can write what you hear. I will read it a third time so that you can check your work. Do you understand what you are to do? Okay, listen:

[Soma sentensi ifuatayo mara moja, (Neno moja kwa sekunde moja)] / [Read the following sentence once, at about 1 word per second.]

🗣 Baba na mama wanakwenda dukani.

Soma sentensi kwa mara ya pili, ukipumzika sekunde 5 kwa kila kifungu cha maneno / Read the sentence a second time, pausing 5 seconds between groups of words.

🗣 Baba na mama [**sekunde 5] 5** seconds]
🗣 wanakwenda [**sekunde 5] 5** seconds]
🗣 dukani. [**sekunde 5] 5** seconds]

Subiri kwa sekunde 15. Iwapo mwanafunzi hakumaliza kuandika sentensi hiyo, soma tena sentensi nzima.
Wait up to 15 seconds (if the child has not finished) and read the whole sentence.

🗣 Baba na mama wanakwenda dukani.

✍ (/) **Kwa kutumia penseli fuatilia na weka alama ya mkwaju kwa maneno yote aliyokosea kuyasoma/** Mark any incorrect words with a slash
(Ø) **Zungushia neno ambalo mwanafunzi amesahihisha kosa lake kama ulikuwa tayari umemwekea kosa hilo neno.**/Circle self-corrections if you already marked the word incorrect

Herufi kubwa B *Capital* B	Baba	***Nafasi*** *space*	na	***Nafasi*** *Space*
mama	***Nafasi*** *space*	wanakwenda	***Nafasi*** *space*	dukani
Nukta *full-stop*				

✍ **Sitisha zoezi kwa sababu mwanafunzi hana majibu sahihi kwenye mstari wa kwanza.**
Exercise discontinued because the child had no correct answers in the first line.

Usiwaruhusu wanafunzi kuangalia kifungu cha maneno au maswali.
Do not allow the child to look at the passage or the questions.

Kama mwanafunzi atasema "sijui" weka alama kuonyesha siyo sahihi.
If a child says "I don't know," mark as incorrect.

✋ **Iwapo mwanafunzi hataweza kusoma neno lolote kwa usahihi tangu mwanzo mpaka mwisho wa mstari, Sema "Asante," Sitisha zoezi hili, kisha weka alama kwenye kisanduku kilichopo hapa chini kisha endelea na zoezi linalofuata.**

If the child does not provide a single correct response on the first line (5 items), say "Thank you!", discontinue this subtask, check the box at the bottom, and go on to the next subtask.

EGRA English Sub-test 1. Letter names/Utambuzi wa Majina na herufi

EGRA English Sub-test 1. Letter names/Utambuzi wa Majina na herufi	🕮 **Page 1**	🕐 **Sekunde 60** seconds

Mwoneshe mwanafunzi karatasi yenye herufi. Show the pupil the sheet of letters.

🗣 **Hii ni karatasi yenye herufi za alfabeti. Taja majina ya herufi nyingi kwa haraka kadiri uwezavyo.** Here is a page full of letters of the ENGLISH alphabet. Please tell me the NAMES of as many letters of the alphabet as you can. Not their sounds, but their names.

[onesha herufi "a"] Kwa mfano: Jina la herufi hii ni "a".
[point to the letter "a"] For example, the name of this letter is "a".

[Onesha herufi "C"] Sasa tufanye zoezi wote: Nitajie jina la herufi hii.
[point to the letter "C"] Let's practice: Tell me the name of this letter.

✓🗣 **Vizuri, jina la herufi hii ni "C".**
Good, the name of this letter is "C".

✖🗣 **Jina la herufi hii ni "C".** The name of this letter is "C".

[Onesha herufi "y"] Jaribu mfano mwingine: Nitajie jina la herufi hii.
[point to the letter "y"] Now let us try another one. Tell me the name of this letter.

✓🗣 **Vizuri, Jina la herufi hii ni "y".** Good, the name of this letter is "y".

✖🗣 **Jina la herufi hii ni "y".** The name of this letter is "y".

🗣 **Nikisema "anza" anzia hapa kuonesha na endelea mpaka mwisho wa mstari**. **Onesha herufi ya kwanza katika mstari baada ya mfano, sogeza kidole chako mpaka mwisho wa mstari. Soma kwa sauti kubwa, haraka na kwa makini kadri uwezavyo.Ukifikia herufi ambayo huifahamu endelea kusoma herufi inayofuata. Upo tayari? Anza.**

When I say "Begin," start here and go across the page. Point to each letter and tell me the name of that letter in a loud voice. Read as quickly and carefully as you can. If you come to a letter you do not know, go on to the next letter. Put your finger on the first letter. Ready? Begin.

✍ (/) **Kwa kutumia penseli fuatilia na weka alama ya mkwaju kwa maneno yote aliyokosea kuyasoma**/Mark any incorrect words with a slash.
(Ø) **Iwapo uliweka alama ya kosa aliposahihisha kusoma neno alilokosea, zungushia neno kisha endelea.** /Circle self-corrections if you already marked the word incorrect
( ]) **Weka alma ya mabano katika neno la mwisho alilosoma.** /Mark the final word read with a bracket

Mfano: a C y

H	e	L	A	D	O	I	s	c	N
q	N	a	h	t	W	X	a	S	e
E	T	E	P	F	I	C	Y	Z	p
y	h	T	I	s	A	r	L	i	g
a	t	C	O	e	n	T	E	S	O
M	G	a	e	m	i	B	t	A	U
S	R	J	o	a	V	i	K	o	E
L	A	H	I	R	h	o	d	n	H
y	n	t	b	S	r	e	u	h	s
k	i	e	s	M	E	a	R	O	A

✍ **Muda uliobaki (sekunde)**
Time remaining (SECONDS)

✍ **Sitisha zoezi kwa sababu mwanafunzi hana majibu kwenye mstari wa kwanza.**
Exercise discontinued because the child had no correct answers in the first line.

Anza kupima muda mara mwanafunzi anapoanza kusoma neno la kwanza./ Start the timer when the child reads the first word.

➲ **Endapo mtoto hajajibu swali baada ya sekunde 3.** If the child doesn't respond to an item after 3 seconds.

✋ **Endapo muda umekwisha (sekunde 60).** /If the time on the stopwatch runs out (60 seconds)

✋ **Iwapo mwanafunzi hataweza kusoma neno lolote kwa usahihi tangu mwanzo mpaka mwisho wa mstari, Sema "Asante," Sitisha zoezi hili, kisha weka alama kwenye kisanduku kilichopo hapa chini kisha endelea na zoezi linalofuata.**

If the child does not provide a single correct response on the first line (10 items), say "Thank you!", discontinue this subtask, check the box at the bottom, and go on to the next subtask.

EGRA English Sub-test 2. Phonemic awareness

EGRA English Sub-test 2. Phonemic awareness	🕮 X	🕐 X

Zoezi hili SIYO la kwisha kwenye muda maalum na HAKUNA KARATASI YA MWANAFUNZI YA KUJIBIA. Msomee mwanafunzi maelekezo na mwelekeze mifano. Soma udodosaji kisha tamka neno kwa mara nyingine. / This is NOT a timed exercise and THERE IS NO STUDENT SHEET. Read the instructions to the child and conduct the examples. Read the prompt and then pronounce the word a second time.

🗣 **Nakutamkia neno, baada ya kutamka neno hilo utaniambia sauti ya kwanza unayoisikia baada ya mimi kumaliza kulitamka neno hilo. Mfano kama nikisema /Hen/ wewe utajibu /h/.** I am going to say a word. After I say it, tell me the first sound you hear. If I say "hen" – "hen", you would say /h/.

🗣 **Sasa naomba ujaribu katika neno hili nitakalo tamka , sauti gani ya kwanza unayoisikia katika neno hili "Play" [Subiri hadi mwanafunzi aweze kujibu]**

Now you try it. What is the first sound you hear in the word "play"?

✓🗣 **Vizuri , mwambie vizuri sauti ya kwanza katika neno "play ni /p/** Good, the first sound in the word "play" is /p/

✗🗣 **Sauti ya kwanza ya neno "play" ni /p/.** The first sound in the word "play" is /p/

Hebu tujaribu tena na hili, niambie ni sauti gani unayoisikia kupitia hili neno "fast" [Subiri hadi mwanafunzi aweze kujibu]

Now you try it. What is the first sound you hear in the word "**f**ast"?

✓🗣 **Vizuri, mwambie vizuri, sauti ya kwanza katika neno "fast" ni /f/.** Good, the first sound in the word "fast" is /**f**/

✗🗣 **Sauti ya kwanza ya neno "fast" ni /f/.** The first sound in the word "fast" is /f/

🗣 **Je, umeelewa unachotakiwa kukifanya?** Do you understand what you are to do?

Tamka neno mara mbili, subiri sekunde 5 ili mtoto aweze kujibu. Tumia jedwali kuweka alama kama mwanafunzi kapatia kutaja sauti hiyo, kama ameshindwa kutaja sauti hiyo, au kama mwanafunzi hajajibu sauti hiyo (kanyamaza). USIENDELEE NA ZOEZI KAMA MWANAFUNZI ATASHINDWA KUJIBU MASWALI YOTE MATANO YA KWANZA KWA USAHIHI. Vinginevyo enedelea swali la 6 hadi la 10.

Pronounce the word twice. Allow 5 seconds for the child to respond. Use the grid below to mark whether the child gave the correct sound, the incorrect sound, or if the child didn't say anything at all. STOP IF CHILD FAILS TO ANSWER ALL FIRST 5 ITEMS CORRECTLY. Otherwise, move on to 6 through 10.

➲ **Endapo mtoto hajajibu swali baada ya sekunde 5.** If the child doesn't respond to an item after 5 seconds.

✋ **Iwapo mwanafunzi hataweza kusoma neno lolote kwa usahihi tangu mwanzo mpaka mwisho wa mstari, Sema "Asante," Sitisha zoezi hili, kisha weka alama kwenye kisanduku kilichopo hapa chini kisha endelea na zoezi linalofuata.**

If the child does not provide a single correct response on the first line (5 items), say "Thank you!", discontinue this subtask, check the box at the bottom, and go on to the next subtask.

at	/a/	☐ Correct	☐ Incorrect	☐ No response
so	/s/	☐ Correct	☐ Incorrect	☐ No response
chalk	/ch/	☐ Correct	☐ Incorrect	☐ No response
very	/v/	☐ Correct	☐ Incorrect	☐ No response
car	/k/	☐ Correct	☐ Incorrect	☐ No response
for	/f/	☐ Correct	☐ Incorrect	☐ No response
man	/m/	☐ Correct	☐ Incorrect	☐ No response
ox	/o/	☐ Correct	☐ Incorrect	☐ No response
yes	/y/	☐ Correct	☐ Incorrect	☐ No response
go	/g/	☐ Correct	☐ Incorrect	☐ No response

EGRA English Sub-test 3. Familiar words/ Kusoma maneno

EGRA English Sub-test 3. Familiar words/ Kusoma maneno | **Page 2** | **Sekunde 60** seconds

Mwoneshe mwanafunzi karatasi yenye maneno. Show the pupil the sheet of words.

Hii ni karatasi yenye maneno tofauti tofauti soma maneno mengi kwa haraka kadri uwezavyo. Kwa mfano neno "book" [onesha neno book]**. Soma "book".** Here is a page with some words in Kiswahili. I would like you to read as many as you can. Do not spell the words, but read them. For example, this word is: "book".

Tufanye zoezi pamoja: soma neno hili [onesha neno "teacher"].

Let's practice: Please read this word [point to the word "teacher"].

✓: **Vizuri. Neno hili ni "teacher"**.

Good, This word is "teacher".

✗: **Neno hili ni "teacher".**

This word is "teacher".

Jaribu mfano mwingine: Soma neno hili [onesha neno "cat"]**.**

Now try another one: please read this word [point to the next word: "cat"].

✓: **Vizuri. Neno hili ni "cat".**

Good, this word is "cat".

✗: **Neno hili ni "cat".**

This word is "cat".

Nikisema "Anza" soma maneno kwa umakini na haraka kadri uwezavyo. Anzia hapa [onesha] **na endelea mpaka mwisho wa mstari**. **Onesha neno la kwanza katika mstari baada ya mfano, sogeza kidole chako mpaka mwisho wa mstari. Ukifikia neno ambalo hulifahamu endelea kusoma neno linalofuata. Weka kidole kwenye neno la kwanza. Je upo tayari? Anza.**

When I say "Begin," start here [point to first word] and read across the page [point]. Point to each word and read it in a loud voice. Read as quickly and carefully as you can. If you come to a word you do not know, go on to the next word. Put your finger on the first word. Ready? Begin.

(/) **Kwa kutumia penseli fuatilia na weka alama ya mkwaju kwa maneno yote aliyokosea kuyasoma/** Mark any incorrect words with a slash

(Ø) . **Iwapo uliweka alama ya kosa aliposahihisha kusoma neno alilokosea, zungushia neno kisha endelea.**/Circle self-corrections if you already marked the word incorrect

( ]) **Weka alma ya mabano katika neno la mwisho alilosoma./** Mark the final word read with a bracket

Mfano: book teacher cat

my	she	an	there	do
may	play	those	friend	are
shoes	it	fifty	colour	and
has	what	his	this	likes
bag	they	these	your	cat
please	mother	teacher	orange	banana
book	goat	in	that	football
many	not	car	but	to
have	the	how	can	no
is	he	me	yes	you

Anza kupima muda mara mwanafunzi anapoanza kusoma neno la kwanza./ Start the timer when the child reads the first word.

Endapo mtoto hajajibu swaoli baada ya sekunde 3. If the child doesn't respond to an item after 3 seconds.

Endapo muda umekwisha (sekunde 60). /If the time on the stopwatch runs out (60 seconds)

Iwapo mwanafunzi hataweza kusoma neno lolote kwa usahihi tangu mwanzo mpaka mwisho wa mstari, Sema "Asante," Sitisha zoezi hili, kisha weka alama kwenye kisanduku kilichopo hapa chini kisha endelea na zoezi linalofuata.

If the child does not provide a single correct response on the first (5 items), say "Thank you!", discontinue this subtask, check the box at the bottom, and go on to the next subtask.

Muda uliobaki (sekunde)
Time remaining (SECONDS)

Sitisha zoezi kwa sababu mwanafunzi hana majibu kwenye mstari wa kwanza.
Exercise discontinued because the child had no correct answers in the first line.

EGRA English Sub-test 4a. ORAL READING PASSAGE

EGRA English Sub-test 4a. ORAL READING PASSAGE	🕐 Sekunde 60 seconds	EGRA English Sub-test 4b: READING COMPREHENSION
✋1. Iwapo mwanafunzi atashidwa kusoma japo neno moja kwa usahihi kwenye kisanduku sema "Asante." Sitisha zoezi hili, kisha weka alama kwenye kisanduku kilichopo hapa chini kisha endelea na zoezi linalofuata. Usimuulize maswali ya ufahamu./If the child does not provide a single correct word before the word in a box, say "Thank you!", discontinue this subtask and check the box at the bottom. Do not ask any comprehension questions. 2. Iwapo mwanafunzi atasema 'Sijui' Chukulia kama ni kosa./If a child says "I don't know," mark as incorrect.		
Muoneshe mwanafunzi karatasi yenye hadithi wakati unasoma maelekezo Show the child the sheet in the student stimulus booklet as you read the instructions.	➲ Endapo mtoto hajajibu swali baada ya sekunde 3. If the child doesn't respond to an item after 3 seconds	Baada ya mwanafunzi kumaliza kusoma. Ondoa karatasi ya hadithi mbele yake. Muulize mwanafunzi maswali yanayohusiana na hadithi aliyosoma. Mwanafunzi lazima asome hadithi ambayo inahusiana na maswali atakayoulizwa. Iwapo mwanafunzi atashindwa kujibu swali baada ya sekunde kumi (10) weka alama ya hakuna 'Jibu'. Na endelea kuuliza swali linalofuata. Usirudie kuuliza swali. After the child is finished reading, REMOVE the passage from in front of the child. Ask the child only the questions related to the text read. A child must read all the text that corresponds with a given question. If the child does not provide a response to a question after 10 seconds, mark "no response" and continue to the next question. Do not repeat the question.
🗣 Hii ni karatasi yenye hadithi fupi. Soma hadithi hii kwa sauti, haraka na kwa umakini: ukimaliza kusoma nitakuuliza maswali kuhusu yale uliyosoma. Je umeelewa unachotakiwa kufanya? Nikisema 'Anza' soma hadithi, haraka na kwa umakini kadri uwezavyo. Kama utanona neno usiloweza kusoma endelea na linalofuata. Weka kidole chako kwenye neno la kwanza. Je, upo tayari? "Anza ". Here is a short story. I want you to read it aloud, quickly but carefully. When you finish, I will ask you some questions about what you have read. When I say "Begin," read the story as best as you can. If you come to a word you do not know, go on to the next word. Put your finger on the first word. Ready? Begin. 🕐 Anza kupima muda mara mwanafunzi anapoanza kusoma neno la kwanza./ Start the timer when the child reads the first word. ✋ Endapo muda umekwisha (sekunde 60). /If the time on the stopwatch runs out (60 seconds)		🗣 Sasa nitaanza kuuliza maswali machache kuhusu hadithi uliyosoma. Jitahidi kujibu maswali uwezavyo. Now I am going to ask you a few questions about the story you just read. Try to answer the questions as well as you can.
✍ (/) Kwa kutumia penseli fuatilia na weka alama ya mkwaju kwa maneno yote aliyokosea kuyasoma/ Mark any incorrect words with a slash (Ø) . Iwapo uliweka alama ya kosa aliposahihisha kusoma neno alilokosea, zungushia neno kisha endelea./Circle self-corrections if you already marked the word incorrect ( ]) Weka alama ya mabano katika neno la mwisho alilosoma./Mark the final word read with a bracket		✍ (✓) 1 = Sahihi Correct (✓) 0 = Isiyosahihi Incorrect (✓) . = Hakuna jibu No response.

		Maswali (Majibu) Questions [Answers]			
One day, Juma lost his hat.	6	What did Juma lose? / Juma alipoteza nini? [Juma lost his hat]	1	0	.
He was not happy. It was very cold. He looked into his desk and on his chair.	23	Where did Juma look for his hat? / Juma alitafuta kofia yake wapi? [one or more of: in his desk, seat, classroom, under the big tree, playground]	1	0	.
The hat was not there. He ran to the playground.	33	Where did Juma run? / Juma alikimbilia wapi? [the playground]	1	0	.
He looked under the big tree. It was not there. He told the teacher he had lost his hat. The teacher pointed to Juma's head.	58	Where was Juma's hat? / Kofia ya Juma ilikuwa wapi? [on Juma's head]	1	0	.
Juma laughed.	60	Why did Juma laugh? / Kwa nini Juma alicheka? [one or more of :because the hat was on Juma's head / he felt silly / embarrassed]	1	0	.

✍ Muda uliobaki (sekunde) Time remaining (SECONDS)	
✍ Sitisha zoezi kwa sababu mwanafunzi hana majibu kwenye mstari wa kwanza. Exercise discontinued because the child had no correct answers in the first line.	

EGMA—Kazi 1: Kutofautisha namba kwa idadi (zoezi kwa vitendo) / Number Discrimination - Practice

Kazi 1: Kutofautisha namba kwa idadi (zoezi kwa vitendo) / Number Discrimination - Practice	🕮 A1	🕐 ×

P1: ✋×

🗣 **Angalia namba hizi kwa makini. Niambie ni namba gani kubwa kuliko zote. /** Look at these numbers. Tell me which number is bigger.

8 4

✓🗣 **Vizuri, 8 ndio namba kubwa kuliko zote. Hebu tuendelee.** That's correct, 8 is bigger. Let's do another one.

×🗣 **Namba kubwa ni 8. [Onesha namba 8]. [Onesha namba 4]. Hii ni namba 4. Namba 8 ni kubwa kuliko namba 4. Hebu tuendelee.**

The bigger number is 8. *[Point to 8]* This is 8. *[Point to 4]* This is 4. 8 is bigger than 4. Let's do another one.

P2:

🗣 **Angalia namba hizi kwa makini. Niambie ni namba gani kubwa kuliko zote. /** Look at these numbers. Tell me which number is bigger.

10 12

✓🗣 **Vizuri namba 12 ni kubwa zaidi, tuendelee na swali lingine.** That's right, 12 is bigger. Let's continue.

×🗣 **Namba 12 ni kubwa zaidi. [Onesha ilipo namba 10] Namba hii ni 10. [Onesha ilipo namba 12] Namba hii ni 12. 12 ni namba kubwa kuliko 10. Hebu tuendelee.**

The bigger number is 12. *[Point to 10]* This number is 10. *[Point to 12]* This is 12. 12 is bigger than 10. Let's continue.

Kazi 1: Kutofautisha namba/ idadi Number Discrimination	🕮 A2 & A3	🕐 ×

🗣 **Angalia namba hizi kwa makini. Niambie ni namba gani kubwa kuliko zote. [Rudia kwa kila namba]**

Look at these numbers. Tell me which number is bigger.[*Repeat for each item*]

✍ (✓) 1 = **Sahihi** / Correct.
(✓) 0 = **Jibu sio sahihi au halijajibiwa** / Incorrect or no response.

7	5	*7*	1	0	88	78	*88*	1	0
11	24	*24*	1	0	146	153	*153*	1	0
39	23	*39*	1	0	287	534	*534*	1	0
58	49	*58*	1	0	603	630	*630*	1	0
65	67	*67*	1	0	967	965	*967*	1	0

✋

- **Endapo mwanafunzi amekosea mara 4 mfululizo.** / If the child makes 4 successive errors

➲

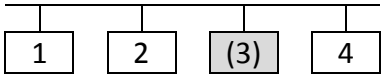
- **Endapo mwanafunzi hajajibu swali baada ya sekunde 5.** / If the child doesn't respond after 5 SECONDS.

EGMA—Kazi 2: Namba inayaokesekana (zoezi) Missing number - Practice

Kazi 2: Namba inayaokesekana (zoezi) Missing number - Practice	🕮 B1	🕐 ×

P1

🗣 **Angalia namba hizi. 1, 2, na 4. Ni namba gani itaingia hapa?**
Here are some numbers. 1, 2, and 4, what number goes here?

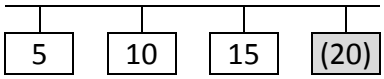


✓🗣 **Vizuri ni namba 3. Tufanye swali jingine.**
That's correct, 3. Let's do another one.

×🗣 **Namba 3 itaingia hapa, tutamke namba hizi pamoja. [Onesha kila namba] 1, 2, 3, 4. Tufanye swali jingine.**
The number 3 goes here. Say the numbers with me. [Point to each number] 1, 2, 3, 4. 3 goes here. Let's do another one.

P2:

🗣 **Hapa pana baadhi ya namba 5,10,15. Namba gani itaingia hapa?**
Here are some numbers. 5, 10, and 15, what number goes here?



✓🗣 **Vizuri ni 20, tuendelee na swali jingine.**
That's correct, 20. Let's do some more.

×🗣 **Namba 20 itakuwa hapa katika mfululizo huu. Tusome namba hizi kwa pamoja. [Onesha kila namba] . . . 5, 10, 15, 20. Tuendelee na swali jingine.**
The number 20 goes here. Say the numbers with me. [Point to each number] 5, 10, 15, 20. 20 goes here. Let's do some more.

✋ ×

➲ ×

EGMA—Kazi 2: Namba inayokosekana Missing number

Kazi 2: Namba inayokosekana Missing number	🕮 B2 & B3	🕐 ×
🗣 **Hapa kuna namba zaidi. [Onesha katika sanduku] ni namba gani inaingia hapa?** Here are some more numbers. [Point to the box] What number goes here? [Repeat for each item]		✋ • **Endapo mwanafunzi amekosea mara 4 mfululizo.** / If the child makes 4 successive errors
🖉 (✓) 1 = **Sahihi** / Correct. (✓) 0 = **Jibu sio sahihi au halijajibiwa** / Incorrect or no response.		➲ • **Endapo mwanafunzi hajajibu swali baada ya sekunde 5.** / If the child doesn't respond after 5 SECONDS.

1	5	6	7	(8)	1	0	6	348	349	(350)	351	1	0
2	14	15	(16)	17	1	0	7	28	(26)	24	22	1	0
3	20	(30)	40	50	1	0	8	30	35	40	45	1	0
4	(200)	300	400	500	1	0	9	550	540	530	520	1	0
5	2	4	6	(8)	1	0	10	3	8	(13)	18	1	0

EGMA—Kazi 3A: Kujumlisha (hatua 1) Addition: Level 1

Kazi 3A: Kujumlisha (hatua 1) **Addition: Level 1**	🕮 C1 & C2	🕐 **sekunde 60** seconds
🗣 **Hapa kuna maswali ya kujumlisha [onesha kwa mkono kutoka juu hadi chini].** **Nitakwambia wakati wa kuanza na wa kumaliza. Toa majibu kwa kila swali na kama hujui jibu, endelea na swali linalofuata. Upo tayari?** **Anzia hapa [Onesha swali la kwanza].** Here are some addition problems *[glide hand from top to bottom]*. I will tell you when to start and when to stop. Say the answer for each problem. If you don't know an answer, move to the next problem. Are you ready? Start here *[point to first problem]*.		✋ • **Endapo muda umekwisha (sekunde 60).** / If the time on the stopwatch runs out (60 seconds). ➲ • **Endapo mwanafunzi hajajibu swali baada ya sekunde 5.** / If the child doesn't respond to an item after 5 SECONDS.
✍ (/) **Jibu sio sahihi au halijajibiwa** / Incorrect or no response ( ]) **Baada ya swali la mwisho kujibiwa** / After the last number read		
✍ **Muda uliobaki (sekunde)** / Time left (seconds):		

1 + 3 = (4)	11 + 3 = (14)
3 + 2 = (5)	13 + 4 = (17)
6 + 2 = (8)	16 + 3 = (19)
4 + 5 = (9)	6 + 5 = (11)
3 + 3 = (6)	8 + 7 = (15)
8 + 1 = (9)	9 + 7 = (16)
7 + 3 = (10)	8 + 8 = (16)
2 + 7 = (9)	5 + 6 = (11)
5 + 5 = (10)	10 + 2 = (12)
2 + 8 = (10)	8 + 10 = (18)

EGMA—Kazi 3B: Kujumlisha (hatua 2) Addition: Level 2

Kazi 3B: Kujumlisha (hatua 2) Addition: Level 2	🕮 C3	🕐 ×
❖ **Karatasi na kalamu. /**Paper and pencil.		
🗣 **Hapa kuna maswali mengine.** **Unaweza kutumia karatasi na penseli lakini sio lazima.** **Anzia hapa [Onesha swali la kwanza].** Here are more addition problems. You may use this paper and pencil if you want to. You do not have to do so. Start here [point to first problem].		✋ • **Endapo mtoto hajajibu swali lolote la hatua ya kwanza kwa usahihi.** / If the child did not answer any Level 1 question correctly. • **Endapo mwanafunzi amekosea mara 4 mfululizo.**/ If the child makes 4 consecutive errors.
✍ (✓) 1 = **Sahihi** / Correct. (✓) 0 = **Jibu sio sahihi au halijajibiwa** / Incorrect or no response. 13 + 6 = (19) [1] [0] 18 + 7 = (25) [1] [0] 12 + 24 = (36) [1] [0] 25 + 35 = (60) [1] [0] 38 + 26 = (64) [1] [0] **Mwanafunzi**/The pupil: ☐ **ametumia vidole kutali** / used fingers/tick marks, ☐ **ametumia karatasi na penseli** / used paper & pencil, ☐ **amejibu maswali kwa kichwa**/solved the problem(s) in his/her head		➲ • **Iwapo mwanafunzi atatumia njia isiyoridhisha (Mf; kuchora chora vimstari) muulize mwanafunzi kama anaweza kutumia njia nyingine?** / If the child uses an inefficient strategy (e.g., tick marks), ask the child "Do you know another way to solve the problem?" • **Endapo mwanafunzi ataendelea kutumia njia isiyosahihi au atasimama/ atakwama kwa sekunde tano katika swali hilo. Onesha kuwa amekosa na mtake.** / If a child continues to use an inefficient strategy or stops on an item for 5 SECONDS.

EGMA—Kazi 3B: Kujumlisha (hatua 2) Addition: Level 2

Kazi 4A: Kutoa (hatua ya 1)
Subtraction: Level 1

📖 D1 & D2

🕐 **sekunde 60** seconds

🗣 **Hapa kuna maswali ya kutoa [onesha kwa mkono kutoka juu hadi chini].**
Nitakwambia wakati wa kuanza na wa kumaliza. Toa majibu kwa kila swali na kama hujui jibu, endelea na swali linalofuata. Upo tayari?
Anzia hapa [Onesha swali la kwanza]**.**
Here are some subtraction problems *[glide hand from top to bottom]*.
I will tell you when to start and when to stop. Say the answer for each problem. If you don't know an answer, move to the next problem. Are you ready?
Start here *[point to first problem]*.

✍ (/) **Jibu sio sahihi au halijajibiwa** / Incorrect or no response
( ]) **Baada ya swali la mwisho kujibiwa** / After the last number read

4 – 1 = (3)	12 – 1 = (11)
5 – 2 = (3)	15 – 2 = (13)
8 – 2 = (6)	17 – 4 = (13)
9 – 5 = (4)	12 – 2 = (10)
6 – 3 = (3)	16 – 10 = (6)
9 – 1 = (8)	11 – 3 = (8)
10 – 3 = (7)	14 – 5 = (9)
9 – 7 = (2)	13 – 8 = (5)
10 – 5 = (5)	15 – 7 = (8)
10 – 8 = (2)	16 – 8 = (8)

✋
- **Endapo muda umekwisha (sekunde 60).** / If the time on the stopwatch runs out (60 seconds).

➲
- **Endapo mwanafunzi hajajibu swali baada ya sekunde 5.** / If the child doesn't respond to an item after 5 SECONDS.

✍ **Muda uliobaki (sekunde)** / Time left (seconds):

EGMA—Kazi 4B: Kutoa (hatua ya 2) Subtraction: Level 2

Kazi 4B: Kutoa (hatua ya 2) Subtraction: Level 2	🕮 D3	🕐 ×
❖ **Karatasi na kalamu. /**Paper and pencil.		
🗣 **Hapa kuna maswali mengine ya hesabu za kutoa.** **Unaweza kutumia karatasi na penseli lakini sio lazima.** **Anzia hapa** [Onesha swali la kwanza]**.** Here are more subtraction problems. You may use this paper and pencil if you want to. You do not have to do so. Start here [point to first problem].		✋ • **Endapo mtoto hajajibu swali lolote la hatua ya kwanza kwa usahihi.** / If the child did not answer any Level 1 question correctly. • **Endapo mwanafunzi amekosea mara nne mfululizo.**/ If the child makes 4 consecutive errors.
✍ (✓) 1 = **Sahihi** / Correct. (✓) 0 = **Jibu sio sahihi au halijajibiwa** / Incorrect or no response. 18 – 4 = (14) [1] [0] 23 – 5 = (18) [1] [0] 36 – 12 = (24) [1] [0] 40 – 19 = (21) [1] [0] 43 – 26 = (17) [1] [0] **Mwanafunzi**/The pupil: ☐ **ametumia vidole kutali** / used fingers/tick marks, ☐ **ametumia karatasi na penseli** / used paper & pencil, ☐ **amejibu maswali kwa kichwa**/solved the problem(s) in his/her head		➲ • **Iwapo mwanafunzi atatumia njia isiyoridhisha (Mf; kuchora chora vimstari) muulize mwanafunzi kama anaweza kutumia njia nyingine?** / If the pupil uses an inefficient strategy (e.g., tick marks), ask the child "Do you know another way to solve the problem?" • **Endapo mwanafunzi ataendelea kutumia njia isiyosahihi au atasimama/ atakwama kwa sekunde 5 katika swali hilo. Onesha kuwa amekosa na mtake.** / If a pupil continues to use an inefficient strategy or stops on an item for 5 SECONDS.

EGMA—Kazi 5: Mafumbo (zoezi) Word Problems – Practice

Kazi 5: Mafumbo (zoezi) Word Problems – Practice	🕮 ×	🕐 ×
❖ **Karatasi, penseli na vihesabio. /** Counters, paper and pencil.		
🗣 **Nina swali nataka ulijibu** **Hapa kuna vitu vinavyoweza kukusaidia kujibu. Unaweza kutumia lakini sio lazima.** **Sikiliza kwa makini kila swali. Kama ukihitaji nitarudia swali.** **Haya, tuanze**. I have some problems that I am going to ask you to solve for me. Here are some things to help you. You can use them if you need them, but you don't have to use them. Listen very carefully to each problem. If you need, I will repeat problem for you. Okay, let's get started. 🗣 **Kuna watoto 3 kwenye basi.** [subiri na angalia kama amekuelewa] **Mtoto mmoja aliteremka.** [subiri na angalia kama amekuelewa] **Wamebaki watoto wangapi kwenye basi?** There are three children on the bus. *[pause and check]* One child gets off the bus. *[pause and check]* How many children are left on the bus? ✓🗣 **Ni sawa, Watoto wawili wamebaki kwenye basi. Ngoja tufanye maswali mengine**. That's right. There are two children left on the bus. Let's do some more. ×🗣 **Fanya watoto kuwa vihesabio** **Hesabu watoto 3 walio kwenye basi.** **Mtoto mmoja ashuke kwenye basi. Onesha mtoto mmoja akishuka kwenye basi.** **Watoto wangapi wamebaki kwenye basi?** **Sawa. Kuna watoto wawili (2) wamebaki kwenye basi. Tufanye maswali mengine.** Pretend these counters are children. Count out three children. These children are on the bus. One child gets off the bus. Show me one child getting off the bus with the counters. How many children are left on the bus? That's right. There are two children left on the bus. Let's do some more.		👋 ×

EGMA—Kazi 5: Mafumbo Word Problems

Kazi 5: Mafumbo Word Problems	🕮 ×	🕐 ×
✎ ❖ **Karatasi, penseli na vihesabio. /** Counters, paper and pencil.		
🗣 **Sasa nina maswali mengine kwako.** Now I have some more problems for you.		✋ • **Endapo mwanafunzi amekosea mara 4 mfululizo.** / If the child makes 4 successive errors. ➲ • **Kama mwanafunzi hajajibu baada ya sekunde 5 (na hajaribu kufanya kwa kutumia vihesabio , daftari, vidole, karatasi au penseli.** / If a child stops on an item for 5 SECONDS. (and does not attempt to use counters, fingers, paper, or pencil) • **Endapo mwanafunzi anaonesha kufanya lakini hajibu swali baada ya dakika moja, onesha kuwa swali hilo amelikosa na endelea.** / If the child is working but does not respond to an item after 1 minute, mark item as wrong and move on. **Maoni: (subiri na angalia kama amekuelewa) Katika kila swali inaonesha kuwa utahakikisha mwanafunzi anaelewa ulichosema kabla ya kuendelea. Unaweza ukauliza (Umeelewa)** **Comment**: The "[pause and checkls" in each
✍ (✓) 1 = **Sahihi** / Correct. (✓) 0 = **Jibu sio sahihi au halijajibiwa** / Incorrect or no response.		
Swali 1 🗣 **Kuna watoto wawili(2) kwenye gari.** [*subiri na angalia kama amekuelewa*] **Watoto wengine watatu(3) wanapanda kwenye gari hilo.** [*subiri na angalia kama amekuelewa*] **Je kwenye gari kuna watoto wangapi?** There are two (2) children in a vehicle. [*pause and check*] Three (3) more children get into the vehicle. [*pause and check*] How many children are there in the vehicle altogether?	(5) 1 0	
Swali 2 🗣 **Kuna wanafunzi sita (6) darasani.** [*subiri na angalia kama amekuelewa*] **Wanafunzi wawili (2) ni wavulana.** [*subiri na angalia kama amekuelewa*] **Waliobaki ni wasichana.** **Je kuna wasichana wangapi darasani?** There are six (6) children in the classroom. [pause and check] Two (2) of the children are boys. [pause and check] The rest are girls. How many girls are there in the classroom?	(4) 1 0	
Swali 3 🗣 **Mama ana watoto wanane (8) na ana machungwa matatu (3).** [*subiri na angalia kama amekuelewa*] **Je anahitaji machungwa mangapi zaidi ili kila mtoto apate chungwa moja?** A mother has eight (8) children, and she has three (3) oranges. [pause and check] How many more oranges does mother need so that each child gets one (1) orange?	(5) 1 0	

Swali 4 🗣 **Kikapu kina maembe. [***subiri na angalia kama amekuelewa*] **Maembe matano (5) yameongezwa kwenye kikapu.** [*subiri na angalia kama amekuelewa*] **Kwa sasa yapo maembe tisa (9) kwenye kikapu.** [*subiri na angalia kama amekuelewa*] **Je hapo awali kulikuwa na maembe mangapi kwenye kikapu?** There are some mangoes in the basket. [pause and check] Five (5) mangoes are added to the basket. [pause and check] Now there are nine (9) mangoes in the basket. [pause and check] How many mangoes were there in the basket to begin with?	(4) 1 0	
Swali 5 🗣 **Watoto wawili (2) wanagawana pipi kumi (10) kwa idadi sawa.** [*subiri na angalia kama amekuelewa*] **Je kila mmoja atapata pipi ngapi?** Two (2) children share ten (10) sweets equally between themselves. [pause and check] How many sweets does each child get?	(5) 1 0	
Swali 6 🗣 **Wanafunzi wamesimama kwenye mistari miwili (2).** [*subiri na angalia kama amekuelewa*] **Kuna wanafunzi wanne (4) katika kila mstari.** [*subiri na angalia kama amekuelewa*] **Jumla kuna wanafunzi wangapi?** Pupils stand in two (2) lines. [pause and check] There are (4) pupils in each line. [pause and check] How many pupils are there altogether?	(8) 1 0	
Mwanafunzi/The pupil : ☐ **Ametumia vidole au vihesabio**/ used fingers/counters, ☐ **Ametumia karatasi na penseli** / used paper & pencil, ☐ **Amejibu maswali kwa kichwa** /solved the problem(s) in his/her head		

SSME Student Questionnaire

1.	**[Je, mwanafunzi ni msichana?]** **[Is the student a girl?]**	Hapana / No.....0 Ndiyo / Yes.....1			
2.	Una umri gani? How old are you?	Range: 5-12 [Kati ya 5-12] / Years [Miaka] ☐ Hajui/hajajibu / Don't know/Refuse.....888			
3.	Ulikuwa darasa gani mwaka jana? **Usitake ufafanuzi zaidi kama mwanafunzi anarudia.** What class were you in last year? **Do <u>not</u> verify by asking if pupil is repeating.**	Darasa la 1 / Standard 1 .....1 Darasa la 2 / Standard 2 .....2 Hajui/hajajibu / Don't know/Refuse.....888			
4.	Je, umepitia elimu ya awali? Did you go to pre-primary, pre-school, kindergarten, or nursery school?	Hapana / No.....0 Ndiyo / Yes.....1 Hajui/hajajibu / Don't know/Refuse.....888			
5.	Umepata chakula kabla ya kuja shuleni leo? Did you eat any food before you arrived at school today?	Hapana / No.....0 Ndiyo / Yes.....1 Hajui/hajajibu / Don't know/Refuse.....888			
6.	Ningependa kuona ni vitabu gani unavyo leo. Tafadhali naomba unionyeshe. **Mtake mwanafunzi akuoneshe vitabu vyote na uoneshe kama wanaweza kufanya hivyo.** I would like to see what school books you have with you today. Please show me your [……]. **Ask the pupil to show you each item and indicate if they could do so.**		Hapana No	Ndiyo Yes	Hajui/hajajibu Do not know/No response
		Kitabu cha kiswahili cha hadithi Kiswahili reader	0	1	888
		Kitabu cha kiswahili Kiswahili textbook	0	1	888
		Daftari la mazoezi la kiswahili Kiswahili exercise book	0	1	888
		Kitabu cha kingereza cha hadithi English reader	0	1	888
		Kitabu cha English English textbook	0	1	888

		Daftari la mazoezi la English English exercise book	0	1	888
		Kitabu cha hisabati Mathematics textbook	0	1	888
		Daftari la mazoezi la hisabati Mathematics exercise book	0	1	888
7.	**[Rekodi ni kurasa ngapi zilizo andikwa kazi za mazoezi katika daftari la mwanafunzi la hisabati.]** **[Record how many pages have work on them in the pupil's mathematics exercise book]**	Hakuna daftari la mazoezi la hisabati / No mathematics exercise book available..... 9 Robo ya kurasa zina kazi / One quarter of pages have work..... 1 Nusu ya kurasa zina kazi / Half of pages have work.. 2 Robo tatu ya kurasa zina kazi / Three quarters of pages have work..... 3 Kurasa zote zina kazi / All pages have work 4			
8.	**[Rekodi ni kurasa ngapi mwalimu amesahihisha au kurekebisha makosa katika daftari la mazoezi la mwanafunzi.]** **[Record how many pages the teacher has marked or corrected mistakes on in the pupil's mathematics exercise book.]**	Hakuna daftari la mazoezi la hisabati / No mathematics exercise book available..... 9 None ..... 0 Hakuna Robo ya kurasa zimefanyiwa kazi / One quarter of the pages with working..... 1 Nusu ya kurasa zimefanyiwa kazi / Half of the pages with working ..... 2 Robo tatu ya kurasa zimefanyiwa kazi / Three quarters of pages with working..... 3 Kurasa zote zimefanyiwa kazi / All of the pages with working..... 4			
9.	Mwalimu hufanyaje unapofanya vizuri kwenye jaribio au wakati wa kujifunza? **USIMSOMEE mwanafunzi majibu. Weka tiki majibu YOTE yanayohusika.** What does the teacher do when you do well on a test or during a lesson? **Do NOT read the responses to the pupil. Tick ALL responses.**	Hafanyi kitu / Nothing ..... 0 Hunipongeza / Praises me..... 1 Hunipa zawadi / Gives me a prize ..... 1 Mengineyo / Other..... 1 Hajui/hajajibu / Don't know/Refuse..... 888			

10.	Mwalimu anafanyaje unapokuwa huwezi kujibu swali au unapokosea kujibu swali? **USIMSOMEE mwanafunzi majibu. Weka tiki majibu YOTE.** What does the teacher normally do when you are unable to answer a question or you answer a question incorrectly? **Do NOT read the responses to the pupil. Tick ALL responses.**	Mwalimu hurudia/hufafanua swali Teacher rephrases/explains the question ..... 1 Mwalimu humtaka mwanafunzi kujaribu tena Teacher encourages the student to try again ..... 1 Mwalimu humuuliza mwanafunzi mwingine/ Teacher asks another student ..... 1 Mwalimu huuliza tena / Teacher asks again ..... 1 Mwalimu humsahihisha tena /Teacher corrects the student ..... 1 Mwalimu humpiga mwanafunzi Teacher hits student ..... 1 Mengineyo / Other ..... 1 Hajui/hajajibu / Don't know/Refuse 888
11.	Je, mwalimu alikupa mazoezi ya kufanya nyumbani wiki iliyopita? Did you have any homework last week?	Hapana / No ..... 0 Ndiyo / Yes ..... 1 Hajui/hajajibu / Don't know/Refuse 888
12.	Je, kuna mtu anakusaidia kufanya mazoezi unapohitaji msaada ukiwa nyumbani? Does someone at home help you with your homework when you need it?	Hapana / No ..... 0 Ndiyo / Yes ..... 1 Hajui/hajajibu / Don't know/Refuse 888
13.	Je wiki iliyopita ulikosa shule siku yoyote? Were you absent from school any day last week?	Hapana / No ..... 0 Ndiyo / Yes ..... 1 Hajui/hajajibu / Don't know/Refuse 888
14.	Unaporejea nyumbani kutoka shule, je unajadiliana na wazazi au walezi wako kuhusiana na ulichofundishwa shuleni? Does your parent(s) or guardian discuss what you did at school when you come home from school?	Hapana / No ..... 0 Ndiyo / Yes ..... 1 Hajui/hajajibu / Don't know/Refuse 888

15.	Mara ya mwisho, ulipopata alama za juu kwenye jaribio au zoezi shuleni. Je wazazi au walezi wako waliwahi kufahamu hilo, kama walifahamu, je walifanya nini? **USIMSOMEE mwanafunzi majibu. weka tiki kwa majibu YOTE yanayohusika.** The last time you got a good grade on a test or assignment in school, did your parent(s) or guardian know that you did well? If yes, what did they do? **Do NOT read the responses to the pupil. Tick ALL responses.**	Hapana / No..... 0 Ndiyo, hawakufanya kitu / Yes, did nothing..... 1 Ndiyo, walinipongeza au kunipa moyo / Yes, congratulated or encouraged me..... 1 Ndiyo, walinizawadia / Yes, gave me a treat..... 1 Mengineyo / Other ..... 1 Hajui/hajajibu / Don't know/Refuse..... 888
16.	Je unapata muda wa kusoma vitabu darasani au kwenye maktaba ya shule kila siku? Do you have time to read books in your classroom or in your school library every day?	Hapana / No..... 0 Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse..... 888
17.	Je huwa unachukua vitabu vya kusoma kutoka darasani au maktaba ya shule unaporejea/ unapokwenda nyumbani? Do you bring home reading books from your classroom or from the school library?	Hapana / No..... 0 Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse..... 888
18.	Mbali na vitabu vya shule, je kuna vitabu, magazeti au machapisho mengine unayosoma ukiwa nyumbani? Apart from your school books, are there books, newspapers or other materials for you to read at your home?	Hapana / No..... 0 Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse..... 888
19.	Ni mara ngapi ukiwa nyumbani huwa unasoma kwa sauti mbele ya mtu? sijawahi, mara chache, au kila siku? **Msomee mwanafunzi majibu. weka tiki kwa jibu MOJA tu linalohusika.** How often do you read out loud to someone at home? Never, sometimes, or every day? **Read the responses to the pupil. Tick only ONE response.**	Sijawahi / Never..... 0 Mara chache / Sometimes..... 1 Kila siku / Every day ..... 2 Hajui/hajajibu / Don't know/Refuse..... 888

20.	Ni mara ngapi ukiwa nyumbani huwa mtu anakusomea kwa sauti? sijawahi, mara chache, au kila siku? **Msomee mwanafunzi majibu. weka tiki kwa jibu MOJA tu linalohusika.** How often does someone read to you at home? Never, sometimes, or every day? **Read the responses to the pupil.** **Tick only ONE response.**	Sijawahi / Never.....0 Mara chache / Sometimes.....1 Kila siku / Every day.....2 Hajui/hajajibu / Don't know/Refuse.....888
	Sasa ningependa nikuulize maswali kuhusu kaya ya familia yenu. **Now I would like to ask you some questions about your household.**	
21.	Je nyumbani kwenu mnatumia umeme? Does your family have electricity in your home?	Hapana / No.....0 Ndiyo / Yes.....1 Hajui/hajajibu / Don't know/Refuse.....888
22.	Je kwa kawaida nyumbani kwenu mnapata maji kutoka wapi? **Soma maelezo kwa sauti** **🕮 Onesha picha inayohusika** **Weka tiki kwenye jibu sahihi.** Where do you normally get your water from at home? **Read answer options aloud.** **🕮 Point to appropriate pictograms.** **Tick only ONE response.**	Mto, kijito au ziwa / River, stream or lake .....1 Kisima cha asili au kisima cha kuchimba / Well or borehole .....1 Bomba la jumuiya / Communal tap .....1 Maji ya bomba la ndani ya nyumba / Water pipe / tap in your home .....1 Gari la maji au tanki / Water truck or tank.....1 Mengineyo / Other.....1 Hajui/hajajibu / Don't know/Refuse.....888
23.	Je nyumbani kwenu kwa kawaida chakula kinapikwa kwa kutumia nini? **Soma maelezo kwa sauti** **Onesha picha inayohusika** **Weka tiki kwenye jibu sahihi.** How is food most often cooked at your home? **Read answer options aloud.** **🕮 Point to appropriate pictograms.** **Tick only ONE response.**	Kuni / Firewood .....1 Jiko la mkaa / A charcoal burner .....2 Jiko la mafuta ya taa / A kerosene stove.....3 Jiko la gesi / A gas stove .....4 Jiko la umeme / An electric stove/cooker.....5 Mengineyo / Other.....6 Hajui/hajajibu / Don't know/Refuse.....888

24.	Je nyumbani kwenu mnatumia choo cha aina gani? **Soma maelezo kwa sauti** **🕮 Onesha picha inayohusika** **Weka tiki kwenye jibu sahihi.** What type of toilet does your family use at your home? **Read answer options aloud.** **🕮 Point to appropriate pictograms.** **Tick only ONE response.**	Hakuna choo / No toilet ..... 0 Choo cha shimo (ikiwa ni pamoja na choo cha ushirika na familia nyingine au choo cha jumuiya) / Pit toilet (including shared and communal) ..... 1 Choo cha kuflashi nje ya nyumba / Flush/eastern toilet outside your home ..... 2 Choo cha kuflashi ndani ya nyumba / Flush/eastern toilet inside your home ..... 3 Mengineyo / Other ..... 4 Hajui/hajajibu / Don't know/Refuse..... 888

25. Je familia yenu ina vitu vifuatavyo nyumbani kwenu?

🕮 **Onyesha picha husika**.

Does your family have the following items in your home?

🕮 **Point to appropriate pictograms.**

	Hapana No	Ndiyo Yes	Hajui/hajajibu Do not know/No response
Redio / Radio	0	1	888
Simu ya kiganjani / Mobile phone	0	1	888
Televisheni / Television	0	1	888
Kompyuta / Computer	0	1	888
Jokofu / Refrigerator	0	1	888
Baiskeli / Bicycle	0	1	888
Pikipiki / Motorbike	0	1	888
Gari / Car/truck	0	1	888
Mifugo / Cattle/livestock	0	1	888

26.	Je mama yako /mlezi wako anajua kusoma? Does your mother know how to read?	Hapana / No..... 0 Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse..... 888
27.	Je baba yako / mlezi wako anajua kusoma? Does your father know how to read?	Hapana / No..... 0 Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse..... 888

SSME Teacher Questionnaire

1.	**[Je, mwalimu ni mwanamke]** **[Is the teacher female?]**	Hapana / No .....0 Ndiyo / Yes 1
A	Je unafundisha somo lipi / masomo yapi darasa la 2? Kiswahili, English, Hisabati **Soma majibu. Weka tiki katika majibu yote.** What subjects do you teach to the Standard 2 class? Kiswahili, English, Mathematics. **Read the responses.** **Tick ALL that apply.**	Kiswahili .....1 English .....1 Hisabati / Mathematics.....1
2.	Je, umefika kiwango gani cha juu cha elimu? **USIMSOMEE majibu.** **Weka tiki katika jibu moja linalohusika.** What is your highest level of academic education? **Do NOT READ the options.** **Tick only ONE response.**	Kidato cha sita / Form 6 .....1 Cheti / Certificate .....2 Stashahada / Diploma .....3 Stashahada ya Juu / Advanced diploma .....4 Shahada / Bachelor'sdegree .....5 Shahada ya Uzamili / Master's degree.....6 Shahada ya Uzamivu / PhD .....7 Mengineyo / Other .....8 Hajui/hajajibu / Don't know/Refuse 888
3.	Wakati ukiwa mafunzo ya walimu uliwahi kupata mafunzo rasmi ya kufundisha kusoma kuandika na kuhesabu katika darasa la kwanza na la pili? During your **pre-service** training, did you receive any specific training on how to teach **reading, writing and arithmetic** to early grade pupils?	Hapana / No .....0 Ndiyo / Yes .....1 Sijui/Hajajibu / Don't know/Refuse 888
4.	Je, wakati ukiwa kazini ulishawahi kupata mafunzo ya kuwafundisha kusoma kwandika na kuhesabu katika darasa la kwanza na la pili? Have you attended any **in-service** training on how to teach **reading, writing and arithmetic** to early grade pupils?	Hapana / No .....0 Ndiyo / Yes .....1 Hajui/Hajajibu / Don't know/Refuse.....888

5.	Umehudhuria mafunzo yapi kati ya haya? **Soma majibu. Weka vema kwa YOTE yanayohusika.** In which of the following trainings have you participated? EQUIP-T, BRN, SCHOOL BASED, TZ21, STEP, MUKA, CDP? **Read the responses.** **Tick ALL that apply.**	EQUIP-T .....1 MMS (Matokeo Makubwa Sasa) / BRN .....1 SCHOOL BASED .....1 TZ21 .....1 STEP .....1 MUKA .....1 CDP .....1 Meginyeo / Other .....1 Hakuna kati ya haya yote. / None of these .....1 Hajui/hajajibu / Don't know/Refuse 888
	Sasa ningependa kukuuliza maswali yanayohusiana na darasa lako na vile vile wanafunzi kwa mwaka huu. **Now I would like to ask you some questions about your class and pupils this school year.**	
6.	Je, unafundisha katika darasa mchanganyiko (la pili na la kwanza kwa pamoja)? Is the class that you teach a multi-grade class?	Hapana / No .....0 Ndiyo / Yes .....1 Hajui/Hakuna jibu / Don't know/Refuse.....888
7.	Je, unaweka mahudhurio ya wanafunzi katika daftari la mahudhurio? Do you keep a pupil attendance register?	Hapana / No .....0 ➔ **Kama Hapana, Nenda swali la 9 / If no, skip to 10** Ndiyo / Yes 1
8.	Tafadhali, ninaweza kuona daftari la Mahudhurio ya wanafunzi wako? **[Kama unatumia tablet piga picha ukurasa wa mahudhurio ya wiki ya hivi karibuni]** Could I please see your pupil attendance register? **[If using tablet, take a photo of the most recent week's attendance registered]**	Hakuna daftari la Mahudhurio / Register was not available to be examined .....0 ➔ **Kama Hakuna daftari la la Mahudhurio, Nenda swali la 9 / If no register available, skip to 10** Mahudhurio yanarekodiwa kila siku / Attendance records were completed daily .....1 Mahudhurio yanarekodiwa kila wiki / Attendance records were completed weekly.....2 Mahudhurio yanarekodiwa kila baada ya wiki mbili / Attendance records were completed biweekly.....3 Mahudhurio yanarekodiwa kwa mwezi / Attendance records were completed monthly.....4 Mengineyo / Other 5
9.	**[Andika tarehe ya hivi karibuni ya mahudhurio ya mwanafunzi kwa kufuata utaratibu ufuatao: (Siku/Mwezi/Mwaka)]** **[Record the date of the most recent attendance record entry. (DD/MM/YY)]**	Panda: tarehe ya kufunguliwa shule ([…]) hadi sasa. Range: date school opened ([-----])to current date ☐☐/☐☐/☐☐

10.	Kuna wanafunzi wangapi wavulana wameandikishwa kwenye darasa hili? How many boys are enrolled in this class?	Range: 3-digit number field in case class has more than 99. Range check: If >200, ask assessor to confirm number Wavulana / Boys ..... ☐ Hajui/hajajibu / Don't know/Refuse 888
11.	Kuna wanafunzi wangapi wasichana wameandikishwa kwenye darasa hili? How many girls are enrolled in this class?	Range: 3-digit number field in case class has more than 99. Range check: If >200, ask assessor to confirm number Wasichana / Girls ..... ☐ Hajui/hajajibu / Don't know/Refuse 888
12.	Kuna wanafunzi wangapi wavulana waliorudia katika darasa hili? How many boys in this class are repeaters?	Wavulana / Boys ..... ☐ Hajui/hajajibu / Don't know/Refuse 888
13.	Kuna wanafunzi wangapi wasichana waliorudia katika darasa hili? How many girls in this class are repeaters?	Wasichana / Girls ..... ☐ Hajui/hajajibu / Don't know/Refuse 888
14.	Kwa siku ya kawaida ni wanafunzi wangapi huwa hawahudhuri shuleni? On a typical day, how many pupils are absent?	☐ Hajui/hajajibu / Don't know/Refuse 888
15.	Katika siku ya kawaida,ni wanafunzi wangapi huchelewa darasani? Kuchelewa hapa ninamaanisha mwanafunzi kuchelewa kufika darasani baada ya dakika 15 ya kipindi cha kwanza kuanza. On a typical day, how many pupils are late? We define "late" to be arriving at least 15 minutes after the start of the first class.	☐ Hajui/hajajibu / Don't know/Refuse 888
Sasa napenda kukuuliza maswali yanayohusu usimamizi/ maelekezo unayopata kutoka kwa mwalimu mkuu au mwalimu mkuu msaidizi wa shule. **Now I would like to ask you some questions about the supervision you receive from the Head Teacher or Assistant Head Teacher.**		
16.	Mwalimu mkuu au mwalimu mkuu msaidizi amewahi kukagua andalio lako la somo? Does the Head Teacher or Assistant Head Teacher ever check your lesson plans?	Hapana / No .....0 ➔ **Kama hapana, endelea swali la 18 / If no, skip to 18** Ndiyo / Yes .....1 Hajui/hajajibu / Don't know/Refuse .....888 ➔ **Kama Hajui/hajajibu, endelea swali la 18 / If don't know/refuse, skip to 18**

17.	Kama ndiyo, ni mra ngapi kwa mwaka andalio lako limekaguliwa? **Soma majibu. Weka tiki katika jibu moja.** **If yes,** how often during the school year are lesson plans checked? **Read the responses.** **Tick only ONE response.**	Mara moja kwa mwaka / Once a year .....1 Mara moja kwa kila miezi sita / Once every six months .....2 Mara moja kwa kila miezi 2-3 / Once every 2-3 months .....3 Mara moja kwa mwezi / Once every month.....4 Mara moja kwa kila wiki mbili / Once every two weeks .....5 Mara moja kwa wiki / Once every week.....6 Kila siku / Daily .....7 Hajui/hajajibu / Don't know/Refuse 888
18.	Unapohitaji msaada wa ufundishaji unamwona nani? **Soma majibu. Weka tiki katika majibu yote.** When you need some help with your teaching, whom do you consult? **Read the responses.Tick ALL responses.**	Sijawahi kuhitaji msaada / Never need help.....1 Hakuna wa kumwomba msaada / There is no one to ask for help.....1 Jadiliana na walimu wengine / Discuss casually with other teachers.....1 Jadili katika vikao vya masomo na waalimu wengine / Discuss at subject meetings with other teachers .....1 Mwalimu wa taaluma / Academic teacher .....1 Mwalimu mkuu msaidizi / Assistant Head Teacher ...1 Mwalimu mkuu / Head Teacher .....1 Mratibu wa elimu kata / mkaguzi wa shule/Ward Education Coordinator or School Inspector.....1 Mengineyo / Other .....1 Hajui/hajajibu / Don't know/Refuse 888
19.	Katika kipindi cha mwaka, ni mara ngapi mwalimu mkuu au mwalimu mkuu msaidizi huangalia ufundishaji wako darasani? **Soma majibu. Weka tiki katika jibu MOJA.** During the school year, how frequently does the Head Teacher or Assistant Head Teacher observe your teaching? **Read the responses. Tick only ONE response.**	Hajawahi / Never .....0 Mara moja kwa mwaka / Once a year .....1 Mara mbili kwa mwaka / Twice a year .....2 Robo mwaka / Quarterly.....3 Kila mwezi / Monthly .....4 Kila wiki / Weekly .....5 Hajui/hajajibu / Don't know/Refuse 888

20.	Katika kipindi cha mwaka, ni mara ngapi mwalimu wa taaluma hujadiliana na wewe kuhusu ufundishaji wako? **Soma majibu. Weka tiki katika jibu MOJA.** During the school year, how frequently does the Academic Teacher discuss your teaching with you? **Read the responses.** **Tick only ONE response.**	Hajawahi / Never .....0 Mara moja kwa mwaka / Once a year .....1 Mara mbili kwa mwaka / Twice a year .....2 Robo mwaka / Quarterly.....3 Kila mwezi / Monthly .....4 Kila wiki / Weekly .....5 Hajui/hajajibu / Don't know/Refuse 888
21.	Katika kipindi cha mwaka, ni mara ngapi mratibu elimu kata hutembelea shule yako? **Soma majibu. Weka tiki katika jibu MOJA.** During the school year, how frequently does the Ward Education Coordinator visit you? **Read the responses.** **Tick only ONE response.**	Hajawahi / Never .....0 Mara moja kwa mwaka / Once a year .....1 Mara mbili kwa mwaka / Twice a year .....2 Robo mwaka / Quarterly.....3 Kila mwezi / Monthly .....4 Kila wiki / Weekly .....5 Hajui/hajajibu / Don't know/Refuse 888
22.	Katika kipindi cha mwaka ni mara ngapi mkaguzi wa shule hutembelea shule yako? **Soma majibu. Weka tiki katika jibu MOJA.** During the school year, how frequently does the School Inspector visit you? **Read the responses.** **Tick only ONE response.**	Hajawahi / Never .....0 Mara moja kwa mwaka / Once a year .....1 Mara mbili kwa mwaka / Twice a year .....2 Robo mwaka / Quarterly.....3 Kila mwezi / Monthly .....4 Kila wiki / Weekly .....5 Hajui/hajajibu / Don't know/Refuse 888
23.	Una vifaa vya kutosha vya kufundishia na kujifunzia Kiswahili katika darasa lako? Do you have adequate materials in your classroom for teaching and learning Kiswahili?	Hapana / No .....0 Ndiyo / Yes .....1 Haihusiki – hafundishi kiswahili / Not applicable – does not teach Kiswahili .....2 Hajui/hajajibu / Don't know/Refuse 888
24.	Una vifaa vya kutosha vya kufundishia na kujifunzia Kingereza katika darasa lako? Do you have adequate materials in your classroom for teaching and learning English?	Hapana / No .....0 Ndiyo / Yes .....1 Haihusiki – hafundishi kingereza / Not applicable – does not teach English .....2 Hajui/hajajibu / Don't know/Refuse 888

25.	Una vifaa vya kutosha vya kufundishia na kujifunzia hisabati katika darasa lako? Do you have adequate materials in your classroom for teaching and learning Mathematics?	Hapana / No .....0 Ndiyo / Yes .....1 Haihusiki – hafundishi hisabati / Not applicable – does not teach Mathematics .....2 Hajui/hajajibu / Don't know/Refuse 888
26.	Ni mara ngapi unachanganya lugha ya asili na Kiswahili katika mchakato wa ufundishaji na ujifunzaji? Kamwe, mara chache, mara kwa mara, muda wote **Soma majibu weka tiki katika jibu MOJA.** How frequently do you code-switch between Kiswahili and a vernacular language during the teaching and learning process? Never, occasionally, often, all of the time. **Read the responses.** **Tick only ONE response.**	Kamwe / Never .....0 Mara chache / Occasionally .....1 Mara kwa mara / Often.....2 Muda wote / All of the time.....3 Hajui/hajajibu / Don't know/Refuse 888
27.	Unapimaje stadi za **kusoma** kwa wanafunzi wako katika Kiswahili? Dhaifu, wastani, kiwango cha juu **Soma majibu. Weka tiki katika jibu MOJA.** How would you rate the **reading** skills of your pupils in KISWAHILI: Weak, Average or Strong? **Read the responses.** **Tick only ONE response.**	Dhaifu / Weak .....0 Wastani / Average.....1 kiwango cha juu / Strong .....2 Haihusiki – hafundishi kiswahili / Not applicable – does not teach Kiswahili .....3 Hajui/hajajibu / Don't know/Refuse 888
28.	Unapimaje stadi za **kuandika** kwa wanafunzi wako katika Kiswahili? Dhaifu, wastani, kiwango cha juu **Soma majibu. Weka tiki katika jibu MOJA.** How would you rate the **writing** skills of your pupils in KISWAHILI: Weak, Average or Strong? **Read the responses.** **Tick only ONE response.**	Dhaifu / Weak .....0 Wastani / Average.....1 Kiwango cha juu / Strong .....2 Haihusiki – hafundishi kiswahili / Not applicable – does not teach Kiswahili .....3 Hajui/hajajibu / Don't know/Refuse 888

29.	Unapimaje stadi za **kusoma** kwa wanafunzi wako katika Kingereza? Dhaifu, wastani, kiwango cha juu? **Soma majibu. Weka tiki katika jibu MOJA.** How would you rate the **reading** skills of your pupils in ENGLISH: Weak, Average or Strong? **Read the responses.** **Tick only ONE response.**	Dhaifu / Weak .....0 Wastani / Average.....1 Kiwango cha juu / Strong .....2 Haihusiki – hafundishi kingereza / Not applicable – does not teach English .....3 Hajui/hajajibu / Don't know/Refuse 888
30.	Unapimaje stadi za **kuandika** kwa wanafunzi wako katika Kingereza? Dhaifu, wastani, kiwango cha juu? **Soma majibu. Weka tiki katika jibu MOJA.** How would you rate the **writing** skills of your pupils in ENGLISH: Weak, Average or Strong? **Read the responses.** **Tick only ONE response.**	Dhaifu / Weak .....0 Wastani / Average.....1 Kiwango cha juu / Strong .....2 Haihusiki – hafundishi kingereza / Not applicable – does not teach English .....3 Hajui/hajajibu / Don't know/Refuse 888
31.	Unapimaje kiwango cha ujuzi cha wanafunzi wako katika somo la hisabati: dhaifu, wastani, au vizuri. **Soma majibu. Weka tiki katika jibu MOJA.** How would you rate the skills of your pupils in MATHEMATICS: Weak, Average or Strong? **Read the responses.** **Tick only ONE response.**	Dhaifu / Weak .....0 Wastani / Average.....1 Kiwango cha juu / Strong .....2 Haihusiki – hafundishi hesabu / Not applicable – does not teach Mathematics .....3 Hajui/hajajibu / Don't know/Refuse 888
Sasa napenda kukuuliza namna unavyopima na kufuatilia maendeleo ya mwanafunzi. **Now, I would like to ask you about how you assess and monitor pupil progress.**		
32.	Unapima namna gani maendeleo ya taaluma ya wanafunzi? **Usimsomee majibu.** **Weka tiki katika majibu yote aliyotoa.** How do you measure your pupils' academic progress? **Do NOT READ the options.** **Tick ALL that apply.**	Majaribio / Written tests .....1 Tathimini ya mazungumzo / Oral evaluations .....1 Uchunguzi / Observation .....1 Mkoba wa kazi na kazi mradi / Portfolios and other projects .....1 Kazi za Nyumbani / Homework.....1 Karatasi ya mazoezi / Worksheets.....1 Tathmini ya mwisho wa muhula / End-of-term evaluation .....1 Mengineyo / Other .....1 Hajui/hajajibu / Don't know/Refuse_____888

33.	Unatumiaje matokeo ya wanafunzi ya upimaji wa kuzungumza na kuandika kuboresha ufundishaji wako? **Usimsomee majibu.** **Weka tiki katika majibu yote aliyotoa.** How do you use the results of pupils' oral and written assessments in your teaching? **Do NOT READ the options.** **Tick ALL that apply.**	Kuwapanga wanafunzi kwa madaraja / Grade pupils 1 Kutathmini uelewa wa maudhui ya somo / Evaluate pupils' understanding of subject matter ..... 1 Kuandaa kazi za kufundishia na kujifunzia / Plan teaching and learning activities ..... 1 Kufundisha kwa kuzingatia mahitaji ya wanafunzi / Adapt teaching to better suit pupils' needs ..... 1 Kuwapanga wanafunzi katika makundi kulingana na uwezo / Arrange pupils in ability groups ..... 1 Mengineyo / Other ..... 1 Hajui/hajajibu / Don't know/Refuse 888
34.	Katika darasa lako, ni wazazi/walezi wangapi wanafuatilia mazoezi ya nyumbani ya watoto wao? Hakuna, baadhi, wengi, wote. **Soma majibu. Weka tiki katika jibu MOJA.** In your class, how many parents / guardians review pupils' homework? None, some, most or all? **Read the responses.** **Tick only ONE response.**	Hakuna / None ..... 0 Baadhi / Some ..... 1 Wengi / Most ..... 2 Wote / All ..... 3 Hajui/hajajibu / Don't know/refuse 888
35.	Je unaridhika kwa ujmla na ushiriki wa wazazi katika kazi za shule za watoto wao? Are you generally satisfied with parents' involvement in their children's schoolwork?	Hapana / No ..... 0 Ndiyo / Yes ..... 1 Hajui/hajajibu / Don't know/Refuse 888
36.	Ni katika darasa gani unategemea mwanafunzi aweze kusoma Kiswahili kwa ufasaha. **Usimsomee majibu.** **Weka tiki katika jibu moja tu.** At what class level do you expect children to be reading **Kiswahili** fluently? **Do NOT READ the options.** **Tick only ONE response.**	Darasa la 1 / Standard 1 ..... 1 Darasa la 2 / Standard 2 ..... 2 Darasa la 3 / Standard 3 ..... 3 Darasa la 4 au zaidi / Standard 4 or higher ..... 4 Hajui/hajajibu / Don't know/Refuse 888

37.	Ni katika darasa gani unategemea mwanafunzi aweze kuandika sentensi za Kiswahili. **Usimsomee majibu.** **Weka tiki katika jibu moja tu.** At what class level do you expect children to be writing **Kiswahili** sentences? **Do NOT READ the options.** **Tick only ONE response.**	Darasa la 1 / Standard 1.....1 Darasa la 2 / Standard 2.....2 Darasa la 3 / Standard 3.....3 Darasa la 4 au zaidi / Standard 4 or higher.....4 Hajui/hajajibu / Don't know/Refuse.....888
38.	Ni katika darasa gani unategemea mwanafunzi aweze kusoma English kwa ufasaha. **Usimsomee majibu.** **Weka tiki katika jibu moja tu.** At what class level do you expect children to be reading **English** fluently? **Do NOT READ the options.** **Tick only ONE response.**	Darasa la 1 / Standard 1.....1 Darasa la 2 / Standard 2.....2 Darasa la 3 / Standard 3.....3 Darasa la 4 au zaidi / Standard 4 or higher.....4 Hajui/hajajibu / Don't know/Refuse.....888
39.	Ni katika darasa gani unategemea mwanafunzi aweze kuandika sentensi za English? **Usimsomee majibu.** **Weka tiki katika jibu moja tu.** At what class level do you expect children to be writing **English** sentences? **Do NOT READ the options.** **Tick only ONE response.**	Darasa la 1 / Standard 1.....1 Darasa la 2 / Standard 2.....2 Darasa la 3 / Standard 3.....3 Darasa la 4 au zaidi / Standard 4 or higher.....4 Hajui/hajajibu / Don't know/Refuse.....888
Now I am going to ask you some questions about safety at your school. **Sasa nakuuliza maswali kuhusu usalama katika shule yako**		
40.	Je unahisi uko sala ma hapa shuleni? Do you feel safe at school?	Hapana / No.....0 Ndiyo / Yes.....1 ➔ **Kama ndiyo nenda swali la 42 / If yes, skip to 42** Hajui/hajajibu / Don't know/Refuse.....888
41.	Kama hapana, fafanua. **If no,** please explain.	_____
42.	Je unafikiri wanafunzi wako salama hapa shuleni? Do you feel your pupils are safe at school?	Hapana / No.....0 Ndiyo / Yes.....1 ➔ **Kama ndiyo nenda swali la 44 / If yes, skip to 44** Hajui/hajajibu / Don't know/Refuse.....888
43.	Kama hapana, fafanua**.** **If no,** please explain.	_____

44.	Je kuna siku hukuwepo shuleni wiki iliyopita? Kama ndiyo kwa nini? **Usimsomee majibu.** **Weka tiki katika jibu moja tu.** Were you absent from school any day last week? If yes, why were you absent? **Do NOT READ the options.** **Tick only ONE response.**	Hapana, nilikuwepo siku zote shuleni wiki iliyopita / No, was not absent from school last week.....0 Ndiyo, nilikuwa mgonjwa / Yes, illness.....1 Ndiyo, nilikuwa na kazi nyingine / Yes work on other jobs .....2 Ndiyo, sijalipwa/malipo ni madogo/silipwi kwa wakati / Yes, do not get paid/pay insufficient/pay irregular .....3 Ndiyo, hakuna motisha / Yes, lack motivation .....4 Ndiyo, majukumu ya kifamilia / Yes, family responsibility5 Ndiyo, tatizo la usafiri / Yes, no transportation.....6 Mengineyo / Other .....7 Hajui/hajajibu / Don't know/Refuse.....888
Thank you very much. Asante Sana.		

SSME Head Teacher Questionnaire

1.	Una wadhifa gani hapa shuleni? What is your position at the school?	Mwalimu mkuu / Head Teacher ..... 1 Mwalimu Mkuu msaidizi / Assistant Head Teacher .. 2 Mwalimu wa taaluma / Academic Teacher 3
2.	**[Je,Mwalimu mkuu/ mwalimu mkuu msaidizi/ mwalimu wa taaluma ni mwanamke?]** **[Is the Head Teacher/ Assistant Head Teacher /Academic Teacher female?]**	Hapana / No ..... 0 Ndiyo / Yes..... 1
3.	Umekuwa mwalimu mkuu kwa miaka mingapi?/ mwalimu mkuu msaidizi/ mwalimu wa taaluma kwa muda gani? How many years have you been Head Teacher / Assistant Head Teacher/ Academic Teacher in total?	Miaka / Years..... ☐ Hajui/hajajibu / Don't know/Refuse 888
4.	Umekuwa mwalimu mkuu /mwalimu mkuu msaidizi/ mwalimu wa taalum katika shule hii kwa muda gani? How many years have you been Head Teacher / Assistant Head Teacher / Academic Teacher of this school?	Miaka/ Years..... ☐ Sijui/hajajibu / Don't know/Refuse 888
5.	Kiwango chako cha juu cha elimu ni kipi? What is your highest level of academic education? **Usimsomee majibu.** **Weka tiki katika jibu moja tu.** **Do NOT READ the options.** **Tick only ONE response.**	Cheti / Certificate ..... 1 Stashahada / Diploma ..... 2 Stashahada ya juu / Advanced diploma ..... 3 Kidato cha sita / Form 6 ..... 4 Shahada / Bachelor's degree..... 5 Shahada ya Uzamili / Master's degree..... 6 Shahada ya Uzamilivu / PhD..... 7 Mengineyo / Other..... 8 Hajui/ hajajibu Don't know/Refuse 888
6.	Mwaka huu masomo yalianza tarehe ngapi? **[tarehe/ mwezi/ mwaka]** What date did classes start this year? **[DD/MM/YY]**	Zingatia tarehe zilizopo kwenye kalenda ya shule Range: Dates must be within stated school calendar ☐☐/☐☐/☐☐

7.	Tangu mwaka huu wa masomo kuanza. Je shule imewahi kufungwa au wanafunzi kutofundishwa katika ratiba ya kawaida ya shule? (tofauti na likizo ya kawaida)? Since the start of the current school year, was this school closed or were there days when classes were not being taught during the regular school calendar (other than holidays)?	Hapana / No ..... 0 ➔ **Kama hapana, nenda namba 9 / If no, skip to 9** Ndiyo / Yes..... 1 Hajui/ hajajibu / Don't know/Refuse..... 888
8.	Kama ndiyo, mwezi uliopita shule ilifungwa au wanafunzi hawakufundiswha kwa siku ngapi? **If yes**, in the past month, how many days was school closed or were classes not being taught?	Range: Zipo siku kati ya 23 na 31 kwa mwezi / 23 days (max. number of days in 31-day month) Namba ya siku / Number of days ..... ☐☐ Hajui/hajajibu / Don't know/Refuse 888
9.	Shule yako ni ya awamu moja au mbili? Is your school a single or double shift school?	Awamu moja / Single shift..... 0 Awamu mbili / Double shift..... 1 Hajui/ hajajibu / Don't know/Refuse..... 888
10.	Ratiba ya shule yako huanza saa ngapi? Endapo shule ni ya awamu mbili huanza saa ngapi? **[Tumia mtindo wa saa 24: saa: dakika]** At what time does your school day begin? If a double shift school: At what time does the first shift begin? **[Use 24-hour time HH:MM]**	☐☐:☐☐ Hajui/ hajajibu / Don't know/Refuse..... 888
11.	Ratiba ya shule yako huishia saa ngapi? Endapo ina awamu mbili. Awamu ya kwanza huishia saa ngapi? (Tumia mtindo wa saa 24 saa: dakika) **[Tumia mtindo wa saa 24: dakika]** At what time does your school day end? If a double shift school: At what time does the first shift end? **[Use 24-hour time HH:MM]**	☐☐:☐☐ Hajui/ hajajibu / Don't know/Refuse..... 888

12.	**Tafuta muda wa masomo kwa kila awamu na hakiki kwa kuwasiliana na mwalimu mkuu/ mwalimu mkuu msaidizi.** Ina maana kwamba ratiba yako ya shule huchukua masaa “x” na dakika “y” ni sahihi? **[Calculate duration of school shift/day and then verify with Head Teacher / Assistant Head Teacher:]** This means that your school day lasts“x” hours and “y” minutes. Is that correct?	Saa / Hours ☐ Dakika / Minutes ☐ Hajui/ hajajibu / Don’t know/Refuse..... 888
13.	Siku ambazo shule ina kusanyiko au mapumziko, muda gani umepangwa kwa mapumziko na mkusanyiko? On the days when your school has assemblies or breaks, how much time is allocated for each?	
A		Muda wa mkusanyiko/ Time for assembly ☐ Hajui/ hajajibu / Don’t know/Refuse 888
B		Muda wa mapumziko / Time for break ☐ Hajui/ hajajibu / Don’t know/Refuse 888
14.	Je kwa sasa kuna wanafunzi wangapi , wavulana walioandikishwa katika shule hii? How many boys are currently enrolled in this school?	Kama ni zaidi ya 200 hakikisha idadi hiyo. / Range check: if >200, ask assessor to confirm number Idadi ya wavulana / Number of boys..... ☐ Hajui/hajajibu / Don’t know/Refuse 888
15.	Je kwa sasa kuna wanafunzi wangapi wasichana walioandikishwa katika shule hii? How many girls are currently enrolled in this school?	Kama ni zaidi ya 200 hakikisha idadi hiyo. / Range check: if >200, ask assessor to confirm number Idadi ya wasichana / Number of girls..... ☐ Hajui/ hajajibu / Don’t know/Refuse..... 888
16.	Je kwa sasa wapo walimu wangapi wa kiume wameajiriwa katika shule hii? How many male teachers are currently employed at this school?	Idadi ya walimu wa kiume / Number of male teachers ..... ☐ Hajui/ hajajibu / Don’t know/Refuse 888
17.	Je kwa sasa kuna walimu wangapi wa kike wameajiriwa katika shule hii? How many female teachers are currently employed at this school?	Idadi ya walimu wa kike / Number of female teachers ..... ☐ Hajui/ hajajibu / Don’t know/Refuse 888

18.	Kuna walimu wangapi ambao hawakufika shuleni jana (au siku ya mwisho kulipokuwa na masomo) kwa shule nzima. How many teachers were absent yesterday (or on the last day school was in session) across the school?	Idadi ya walimu wasiokuwepo / Number of absent teachers..... ☐ Hakuna kumbukumbu / Record unavailable..... 0 Hajui/ hajajibu / Don't know/Refuse..... 888
19.	Kuna walimu wangapi waliopo likizo au, wanaudhuru wa kutokuwepo shuleni? How many teachers are currently on leave or have an excused absence across the school?	Idadi ya walimu waliolikizo au wenye udhuru / Number of teachers on leave or with excused absence ☐ Hajui/Hajajibu / Don't know/Refuse 888
20.	Ni walimu wangapi waliochelewa leo dakika 15 baada ya kengele kugongwa? How many teachers arrived <u>after</u> the start of classes today, at least15 minutes after the school bell rang?	Idadi ya walimu waliochelewa / Number of tardy teachers..... ☐ Hajui/hajajibu / Don't know/Refuse 888
21.	Mwaka huu kuna madarasa mangapi ya Darasa la 2 hapa shuleni During this school year, how many **Standard 2** classes are there at this school?	Iadadi ya madarasa ya 2/ Number of **Standard 2** classes ..... ☐ Hajui/ hajajibu / Don't know/Refuse..... 888
22.	Katika mwaka huu wa masomo kuna walimu wangapi wanaofundisha darasa la 2 katika shule hii? During this school year, how many **Standard 2** teachers are there at this school?	Idadi ya walimu wa darasa la 2 / Number of **Standard 2** teachers..... ☐ Hajui/ hajajibu / Don't know/Refuse..... 888
23.	Kuna walimu wangapi wa darasa la 2 ambao hawakufika shuleni leo? How many **Standard 2** teachers are absent **today** across the school?	Idadi ya walimu wa darasa la 2 wasiokuwepo / Number of absent **Standard 2** teachers..... ☐ Hakuna kumbukumbu / Record unavailable..... 0 Hajui/ hajajibu / Don't know/Refuse..... 888

24.	Iwapo mwalimu wa darasa hayupo unafanyaje? **Usimsomee majibu yaliyotajwa weka tiki kwenye majibu yote yaliyotajwa.** What do you do with a class whose teacher is absent? **Do NOT READ the options.** **Tick ALL that apply.**	Huwa darasa linabaki bila mwalimu / Let the class proceed without a teacher ..... 1 Mwalimu mwingine hupangwa darasa hilo / Allocate that class to another teacher ..... 1 Wanafunzi huunganishwa katika darasa moja / Join all students in one class ..... 1 Hutafutwa mwalimu mwingine nje ya shule / Bring in a teacher from outside ..... 1 Wanafunzi huruhusiwa kurudi nyumbani / Dismiss pupils for the day..... 1 Wanafunzi hupelekwa uwanjani / Send pupils to the playground ..... 1 Wanafunzi hutawanywa katika madarasa mengineyo / Distribute pupils among other classrooms ..... 1 Mengineyo / Other..... 1 Hajui/ hajajibu / Don't know/Refuse..... 888
25.	Ninaweza kuona daftari la mahudhirio ya walimu. Could I please see your teacher attendance register?	Hakuna daftari la mahudhurio. / Register was not available to be examined ..... 0 ➔ **Kama hakuna daftari la mahudhurio la mwalimu nenda 27 / If no register available, skip to 27** Kumbukumbu za mahudhurio hukamilishwa kila siku / Attendance records were completed daily ..... 1 Kumbukumbu za mahudhurio hukamilishwa kila wiki / Attendance records were completed weekly ..... 2 Kumbukumbu za mahudhurio hukamilishwa wiki mbili / Attendance records were completed biweekly ..... 3 Kumbukumbu za mahudhurio hukamilishwa kila mwezi / Attendance records were completed monthly..... 4 Mengineyo / Other..... 5
26.	**[Andika tarehe ya mahudhurio ya hivi karibuni. (tarehe/ mwezi/ mwaka)]** **[Record the date of the most recent attendance record entry. (DD/MM/YY)]**	Kuanzia: tarehe ya kufungua shule ([----]) hadi tarehe ya leo Range: date school opened ([-----])to current date ☐☐/☐☐/☐☐
27.	Je umepata mafunzo yeyote ya namna ya kufundisha kusoma, kuandika na kuhesabu kwa darasa la 1 na 2. Do you have any specific training on how to teach **reading, writing and arithmetic** to early grade pupils?	Hapana / No ..... 0 Ndiyo / Yes..... 1 Hajui/ hajajibu / Don't know/Refuse..... 888

28.	Utajuaje maendeleo ya wanafunzi kitaaluma? **Usisome majibu. Weka tiki jibu moja yote yaliyotojwa.** How do you know whether pupils are progressing academically? **Do NOT READ the options.** **Tick ALL that apply.**	Uchunguzi darasani Classroom observation ..... 1 Kwa kufuatilia matokeo ya majaribio mwanafunzi aliyopewa na mwalimu.Monitor pupil results on tests given by teachers..... 1 Tathmini kwa kuwauliza wanafunzi maswali ya mdomo. Evaluate pupils orally myself ..... 1 Kwa kuhakiki mazoezi na kazi za nyumbani za wanafunzi Check pupil's assignments or homework 1 Walimu hunipa repoti ya maendeleo / Teachers provide me progress reports..... 1 Tathmini za mwisho wa mihula End-of-term evaluations ..... 1 Mrejesho toka kwa wazazi/mlezi / Feedback from parents..... 1 Mrejesho toka kwa washauri nasaha / Feedback from school counselors ..... 1 Mrejesho toka kwa kamati ya shule Feedback from school committees ..... 1 Meginyeo / Other..... 1 Hajui/ hajajibu / Don't know/Refuse..... 888
29.	Unawapangaje wanafunzi wako kulingana na uwezo wao katika stadi za kusoma kuandika katika **soma la Kiswahili**? (Dhaifu, Wastani, au vizuri) **Usisome majibu. Weka tiki jibu moja tu.** How would you rate the **reading and writing** skills of the pupils in your schools in KISWAHILI: Weak, Average or Strong? **Read the responses.** **Tick only ONE response.**	Dhaifu / Weak..... 0 Wastani / Average ..... 1 Vizuri / Strong..... 2 Hajui/ hajajibu / Don't know/Refuse..... 888
30.	Unawapangaje wanafunzi wako kulingana na uwezo wao katika stadi za kusoma na kuandika English (Dhaifu, Wastani, Vizuri)? **Usisome majibu. Weka tiki jibu moja tu.** How would you rate the **reading and writing** skills of the pupils in your schools in ENGLISH: Weak, Average or Strong? **Read the responses.** **Tick only ONE response.**	Dhaifu / Weak..... 0 Wastani / Average ..... 1 Vizuri / Strong..... 2 Hajui / hajajibu / Don't know/Refuse..... 888

31.	Unawapangaje wanafunzi wako kulingana na uwezo wao katika stadi za HISABATI (Dhaifu, Wastani au Vizuri)? **Usisome majibu. Weka tiki jibu moja tu.** How would you rate the skills of the pupils in your school in MATHEMATICS: Weak, Average or Strong? **Read the responses.** **Tick only ONE response.**	Dhaifu / Weak ..... 0 Wastani / Average ..... 1 Vizuri / Strong ..... 2 Hajui/hajajibu / Don't know/Refuse 888
32.	Ni walimu wangapi hapa shuleni wamehudhuria mafunzo yafuatayoIn: EQUIP-T, MMS (Matokeo Makubwa Sasa), SCHOOL BASED, TZ21, STEP? **Soma majibu. Weka vema kwa YOTE yanayohusika.** In which of the following trainings have the teachers at this school participated? EQUIP-T, BRN, SCHOOL BASED, TZ21, STEP, MUKA, CDP? **Read the responses.** **Tick ALL that apply.**	EQUIP-T ..... 1 MMS (Matokeo Makubwa Sasa) / BRN ..... 1 SCHOOL BASED ..... 1 TZ21 ..... 1 STEP ..... 1 MUKA ..... 1 CDP ..... 1 Meginyeo / Other ..... 1 Hakuna kati ya haya yote / None of these ..... 1 Hajui/hajajibu / Don't know/Refuse 888
33.	Je,mwanzo mwa mwaka wa masomo ulipo anza shule yako ilikuwa na idadi ya vitabu vinavyotosheleza kulingana na mwongozo na sera za Elimu? At the beginning of this school year, did your school have the appropriate number of textbooks for your pupils, according to current Ministry policy?	Hapana / No ..... 0 Ndiyo / Yes ..... 1 ➔ **Kama ndiyo, nenda namba 35 / If yes, skip to 35** Hajui/hajajibu Don't know/Refuse 888
34.	**Kama hapana**,ulipata baada ya muda gani? **If no,** how long after the beginning of the school year did you receive the missing books?	Sikupata kabisa / Never received them ..... 0 Miezi 9-12 / 9-12 months ..... 1 Miezi 6-9 / 6-9 months ..... 2 Miezi 3-6 / 3-6 months ..... 3 Miezi 2-3 / 2-3 months ..... 4 Chini ya mwezi mmoja / Less than one month ..... 5 Hajui/hajajibu / Don't know/Refuse 888

35.	Je shule ina maktaba? Does the school have a central library?	Hapana / No ..... 0 ➔ **Kama hapana endelea na swali la 37 / If no, skip to 37** Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse 888
36.	Je wanafunzi wanapata fursa ya kutumia vitabu kutoka maktaba? Do pupils have access to the books from the library?	Hapana / No ..... 0 Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse 888
37.	Kwa kiwango cha darsa gani unategemea wanafunzi wajue kusoma Kiswahili kwa mfululizo? **Usisome majibu. Weka tiki jibu moja tu.** At what class level do you expect children to be reading **Kiswahili** fluently? **Do NOT READ the options.** **Tick only ONE response.**	Darasa la 1 / Standard 1 ..... 1 Darasa la 2 / Standard 2 ..... 2 Darasa la 3 / Standard 3 ..... 3 Darasa la 4 au la juu zaidi / Standard 4 or higher..... 4 Hajui/hajajibu / Don't know/Refuse 888
38.	Kwa kiwango gani cha darasa unategemea wanafunzi waandike sentensi za Kiswahili? **Usisome majibu. Weka tiki jibu moja tu.** At what class level do you expect children to be writing **Kiswahili** sentences? **Do NOT READ the options.** **Tick only ONE response.**	Darasa 1 / Standard 1..... 1 Darasa la 2 / Standard 2 ..... 2 Darasa la 3 / Standard 3 ..... 3 Darasa la 4 au la juu zaidi / Standard 4 or higher..... 4 Hajui/hajajibu / Don't know/Refuse 888
39.	Unategemea wanafunzi watakuwa na uwezo wa kusoma English kwa ufasaha akiwa darasa la ngapi? **Usisome majibu. Weka tiki jibu moja tu**. At what class level do you expect children to be reading **English** fluently? **Do NOT READ the options.** **Tick only ONE response.**	Darasa la 1 / Standard 1 ..... 1 Darasa la 2 / Standard 2 ..... 2 Darasa la 3 / Standard 3 ..... 3 Darasa la 4 au la juu zaidi / Standard 4 or higher..... 4 Hajui/hajajibu / Don't know/Refuse 888

40.	Unategemea mwanafunzi anakuwa na uwezo wa kuandika sentensi za English akiwa darasa la ngapi? **Usisome majibu. Weka tiki jibu moja tu.** At what class level do you expect children to be writing **English** sentences? **Do NOT READ the options.** **Tick only ONE response.**	Darasa la 1 / Standard 1 ..... 1 Darasa la 2 / Standard 2 ..... 2 Darasa la 3 / Standard 3 ..... 3 Darasa la 4 au la juu zaidi / Standard 4 or higher..... 4 Hajui/hajajibu / Don't know/Refuse 888
41.	Kuna kamati ya shule katika shule hii? *Kamati ya shule – ni kamati inayojumuisha wazazi pia. Is there a School Committee* at this school? *School Committee – the committee that includes parents.	Hapana / No ..... 0 ➔ **Kama hapa, nenda swali namba 44/ If no, skip to 44** Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse 888
42.	**Kama jibu ndiyo**, mara ya mwisho kamati imekutana lini? **[tarehe/ mwezi/ mwaka]** **If yes,** when did the School Committee last meet? **[DD/MM/YY]**	☐☐/☐☐/☐☐ Hajui/hajajibu / Don't know/Refuse 888
43.	Kwa ujumla huwa unaridhishwa na kiwango cha msaada kutoka kwenye kamati ya shule kinochotolewa shuleni. Are you generally satisfied with the level of support the School Committee provides to the school?	Hapana / No ..... 0 Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse 888
44.	Unaridhika na ushiriki wa wazazi katika kazi za shuleni za wanafunzi? Are you generally satisfied with parents' involvement in their children's schoolwork?	Hapana / No ..... 0 Ndio / Yes ..... 1 Hajui/hajajibu / Don't know/Refuse 888

45.	Kwa mwaka uliopita ni mara ngapi umepata ukaguzi wa shule au kutembelewa na mratibu elimu kata? Within this past year, how many times did your school receive an inspection or support visit from the **Ward Education Coordinator**?	Kamwe hawajawahi kufika / Never ..... 0 Mara moja kwa mwaka / Once in the year ..... 1 Kwa kipindi cha robo / Once a quarter ..... 2 Mara moja kwa mwezi / Once a month ..... 3 Zaidi ya mara moja kwa mwezi / More than once a month ..... 4 Hajui/hajajibu / Don't know/Refuse 888
46.	Kwa mwaka uliopita ni mara ngapi umepata ukaguzi wa shule au kutembelewa na wakaguzi wa shule? Within this year, how many times did your school receive an inspection or support visit from the **School Inspector**?	Kamwe sijawahi **/** Never ..... 0 Mara moja kwa mwaka / Once in the year ..... 1 Mara moja kwa robo mwaka / Once a quarter ..... 2 Mara moja kwa mwezi / Once a month ..... 3 Zaidi ya mara moja kwa mwezi /More than once a month ..... 4 Hajui/hajajibu / Don't know/Refuse 888
Sasa ningependa kukuuliza maswali kuhusu usalama katika shule yako. **Now I would like to ask you some questions about safety at your school.**		
47.	Je usalama ni tatizo katika shule yako? Is safety a problem in your school?	Hapana / No ..... 0 ➔ **Kama hapana, nenda namba 49 / If no, skip to 49** Ndiyo / Yes ..... 1 Hajui/hajajibu / Don't know/Refuse 888
48.	**Kama ndiyo**: Eleza **If yes,** please explain.	_____
49.	Unajisikia upo usalama uwapo shuleni? Do you feel safe in your school?	Hapana / No ..... 0 Ndio / Yes ..... 1 ➔ **Kama ndiyo, nenda namba 51 / If yes, skip to 51** Hajui/hajajibu / Don't know/Refuse 888
50.	**Kama hapana**: Tafadhali elezea **If no,** please explain.	_____

51.	Unadhani wanafunzi wako wapo salama shuleni? Do you feel your pupils are safe in school?	Hapana / No ..... 0 Ndiyo / Yes..... 1 ➔ **Kama ndiyo, nenda namba 53 / If yes, skip to 53** Hajui/hajajibu / Don't know/Refuse 888
52.	**Kama hapana**: Tafadhali elezea **If no,** please explain.	_____
53.	Kwa ujumla halmashauri ya Wilaya/ Mji/ Jiji inakusaidia unapohitaji msaada. Hapana/ mara chache/ mara zote? **Soma majibu na weka tiki jibu moja tu.** In general, is the District Council responsive to requests for support? No, sometimes, always? **READ the options.** **Tick only ONE response.**	Hapana / No ..... 0 Mara chache / Sometimes ..... 1 Mara zote / Always..... 2 Hajui/hajajibu / Don't know/Refuse 888

SSME Classroom Inventory

1.	Wavulana wangapi wapo darasani ? [Wasimamishe na wahesabu] How many boys are present in this class at the time of the observation? [Have all the boys stand and count them.]	Panga: Kama >200, mwambie msimamizi ahakikishe idadi Range check: If >200, ask assessor to confirm number Idadi ya wavulana / Number of boys .....
2.	Wasichana wangapi wapo darasani? [Wasimamishe na wahesabu] How many girls are present in this class at the time of the observation? [Have all the girls stand and count them.]	Panga: Kama >200,mwambie msimamizi ahakikishe idadi Range check: If >200, ask assessor to confirm number Idadi ya wasichana / Number of girls .....
3.	Ili kujua idadi ya vitabu vya Kiswahili darasani,wavinyanyue juu uvihesabu.[Kama kuna vitabu vingine vya Kiswahili kabatini vitoe na wagawie wanafunzi.] To determine the number of children with Kiswahili language textbooks, please ask the children to hold their Kiswahili language textbook up in the air. [If necessary, ask that language textbooks be removed from cupboard and distributed "as usual" to children.]	Idadi ya wanafunzi wenye vitabu vya Kiswahili Number of children with Kiswahili language textbooks .....
4.	Ili kujua idadi ya vitabu vya English darasani,wavinyanyue juu uvihesabu.[Kama kuna vitabu vingine vya English kabatini vitoe na wagawie wanafunzi.] To determine the number of children with English language textbooks, please ask the children to hold their English language textbook up in the air. [If necessary, ask that language textbooks be removed from cupboard and distributed "as usual" to children.]	Idadi ya wanafunzi wenye vitabu vya English Number of children with English language textbook .....
5.	Ili kujua idadi ya vitabu vya hisabati darasani,wavinyanyue juu uvihesabu.[Kama kuna vitabu vingine vya hisabati kabatini vitoe na wagawie wanafunzi.] To determine the number of children with mathematics textbooks, please ask the children to hold their mathematics textbook up in the air.	Idadi ya wanafunzi wenye vitabu vya hisabati Number of children with mathematics textbook .....

	[If necessary, ask that language textbooks be removed from cupboard and	
Je wanafunzi wana vifaa vifuatavyo? [Wanafunzi wanyanyue vifaa hivyo na uviandike kimojakimoja] / Do students have the following materials? [Name each type of material one by one, asking children to raise each type in air.]		
6.	Idadi ya wanafunzi wenye madaftari ya lugha Kiswahili Number of students with Kiswahili exercise book	Panga:Kama >200, mwambie msimamizi ahakikishe idadi Range check: If >200, ask assessor to confirm number ☐
7.	Idadi ya wanafunzi wenye madaftari ya lugha English Number of students with English exercise book	Panga:Kama >200, mwambie msimamizi ahakikishe idadi Range check: If >200, ask assessor to confirm number ☐
8.	Idadi ya wanafunzi wenye daftari za hisabati Number of students with mathematics exercise book	Panga: Kama >200,mwambie msimamizi ahakikishe idadi. Range check: If >200, ask assessor to confirm number ☐
9.	Idadi ya wanafunzi wenye penseli Number of students with pencil	Panga: Kama > 200,mwambie msimamizi ahakikishe idadi. Range check: If >200, ask assessor to confirm number ☐
Uchunguzi ufuatao unahusu mazingira ya darasa na mwalimu. / The following observations relate to the classroom environment and the teacher.		
10.	Ni vitabu vingapi/vijitabu ambavyo vipo (visivyofungiwa kabatini)na wanafunzi wanavisoma? How many books/booklets other than textbooks are available and accessible (not locked away) for children to read?	Hakuna / None.....0 1-4.....1 5-9.....2 10-19.....3 20-39.....4 40+.....5

11.	Je kuna kazi za wanafunzi ukutani? Is student work displayed on the walls?	Hapana / No.....0 Ndiyo / Yes.....1
12.	Je kuna zana za kufundishia ukutani? Are instructional materials displayed on the walls?	Hapana / No.....0 Ndiyo / Yes.....1
13.	Je idadi ya viti inatosha darasani kulingana na idadi ya wanafunzi waliopo? [Angalia kama wapo walio kaa chini. Ona kama viti vinawafaa wenye mahitaji maalum] Is the number of seats sufficient for the students who are present? [Check to see if students are sitting on the floor or if multiple students are in a seat designed for one.]	Hapana / No.....0 Ndiyo / Yes.....1
14.	Je mwalimu ana vifaa vifuatavyo?[Zungushia inayohusika] Does the teacher have the following materials? [Circle all that apply.]	Ubao / Blackboard/whiteboard.....1 Chaki za ubao/kalamu za ubao mweupe / Chalk for blackboard/markers for whiteboard.....1 Kalamu ya wino/penseli / Pen/pencil.....1 Daftari / Notebook.....1 Vitabu vya lugha vya rejea/kiongozi cha mwalimu / Language reference book/teacher manual.....1 Kitabu cha hisabati cha rejea/kiongozi cha mwalimu Math reference book / teacher manual.....1
15.	Je mwalimu ana daftari la maandalio? Does the teacher have a lesson plan book?	Kataa/Hana daftari la maandalio / Refuse/Does not have a lesson plan book .....0 ➔ Kama amekataa kujibu/hana daftari, nenda swali la 18 ➔ If refuse/Does not have, skip to 18 Ndiyo / Yes.....1

16.	[Chunguza daftari la maandalio la mwalimu]. Je daftari lina maandalio ya mwalimu? [Ask to look in the teacher's lesson plan book.] Does the lesson plan book have lesson plans prepared by the teacher?	Hapana / No.....0 ➔ Kama hana nenda 18 ➔ If no, skip to 18 Ndiyo / Yes.....1
17.	Je mwalimu mkuu ametia saini kwenye andalio la hivi karibuni la mwalimu? Is the most recent lesson plan entry signed by the Head Teacher?	Hapana / No.....0 Ndiyo / Yes.....1
18.	Je chumba cha darasa kina mwanga wa kutosha kwa wanafunzi na mwalimu kuona ubao na vifaa vyao? Does the classroom have adequate lighting for students and teacher to see the blackboard and their materials?	Hapana / No.....0 Ndiyo / Yes.....1
19.	Mwisho. [Tumia muda wa saa 24 HH:MM] Ending time [Use 24-hour time HH:MM]	☐☐:☐☐

Kiswahili Classroom Observation

Kiswahili Classroom Observation		3	6	9	12	15	18	21	24	27	30
Maudhui ya somo / Lesson Content (only one X)											
Kusoma/Reading	Kujadili misamiati / Discussing Vocabulary										
	Kuangalia Herufi / Focus on Letters										
	Kuangalia maneno na sentensi ngazi ya: ufasaha, alama za uandishi / Word and Sentence Level: fluency, punctuation										
	Kusoma kwa sauti (kifungu cha habari) / Reading aloud (texts)										
	Kusoma kimya (kifungu cha habari) /Reading silently (texts)										
	Kupima ufahamu wa kifungu cha habari / Checking comprehension of the text										
Kuandika / Writing	Uumbaji wa Herufi,maneno, na sentensi / Mechanical production of letters, words, sentences										
	Kuandika utungaji / Creative writing										
	Kunakili / Copying										
	Kuchora / Drawing										
	Imla / Dictation										
Kusikiliza / Listening	Kusikiliza hadithi na maelezo / Listening to stories and descriptions										
	Kusikiliza sauti na maneno / Listening to sounds and words										
	Kupima ufahamu wa kifungu cha habari / Checking comprehension of the text										
	Imla / Dictation										
Kuzungumza / Speaking	Kusimulia Hadithi / Telling / Retelling stories										
	Igizo dhima/igizo / Role play / drama										
	Kuimba / Singing										
	Michezo / Games										
Sarufi / Grammar	Kuelezea kanuni za lugha / Presenting the rules of the language										
	Kufanya mazoezi ya kanuni za lugha (mazoezi ya sarufi)/ Practicing the rules (grammar exercises)										
Vitendo vya ufundishaji / Teacher Action (only one X)											
Kuelezea / Talking/explaining	Darasa zima kurudia maelezo ya mwalimu / Whole class repetition / recitation										
	Kuandika ubaoni / Writing on the board										
	Onesho mbinu / Demonstrating										
	Vielelezo na maelezo, marudio / Modeling and recitation, revision										
	Kutoa kazi / Setting a task										
Maswali na majibu / Asking/answering questions	Darasa zima / Whole class										
	Vikundi vidogo vidogo / Small group										
	Mmoja mmoja / Individual										
Kusaidia wanafunzi / Assisting pupils	Vikundi vidogo vidogo / Small group										
	Mmoja mmoja / Individual										
Monitoring pupils and assessments	Darasa zima / Whole class										
	Vikundi vidogo vidogo / Small group										
	Mmoja mmoja / Individual										

1.	Je ni vipi mwalimu ameweza kufuatilia uelewa wa wanafunzi? How well did the teacher monitor the pupils'understanding?		
	Mwalimu hakuuliza swali lolote kwa wanafunzi / Teacher does not ask the pupils any questions.		
	Mwalimu aliuliza maswali ya kukumbuka na sio maswali ya kupima uelewa / Teacher asks pupils recall or repetition questions, but not questions that check for the pupils understanding (e.g. recall or repetition questions only).		
	Mwalimu aliuliza maswali ya kupima uelewa, lakini hakutoa msaada zaidi / Teacher asks pupils questions to check for pupil understanding, but does not provide further assistance.		
	Mwalimu aliuliza maswali ya kupima uelewa na alitoa msaada/ maelezo zaidi / Teacher asks pupils questions to check for pupil understanding and provides assistance/further explanation.		
2.	Je ni kwa kiasi gani mwalimu aliwasaidia wanafunzi kuelewa? How well did the teacher support the pupils'understanding?		
	Mwanafunzi alipotoa jibu ambalo si sahihi, mwalimu alimkaripia au kumuadhibu / When a pupil responds incorrectly, the teacher scolds or punishes the pupil.		
	Mwanafunzi alipotoa jibu ambalo si sahihi, mwalimu alimtaka kujaribu tena au alimwendea mwanafunzi mwingine / When a pupil responds incorrectly, the teacher tells the pupil to try again or she moves on to another pupil.		
	Mwanafunzi alipotoa jibu ambalo si sahihi, mwalimu alifafanua zaidi, alitoa vidokezo au alinyumbulisha swali katika lugha nyepesi zaidi. / When a pupil responds incorrectly, the teacher asks a clarifying question, cues the pupil, or breaks down the task as appropriate.		
	Hakuna jibu sahihi lililotolewa au halihusiki / No correct response given or not applicable		
3.	Ushiriki wa wanafunzi Pupil participation		
	Wanafunzi wanashiriki pale wanapotakiwa kufanya hivyo lakini si kwa kujitolea / Pupils participate when called on to do so but do not volunteer.		
	Wanafunzi wanashiriki pale wanapotakiwa kufanya hivyo na wengine kwa kujitolea / Pupils participate when called on to do so and some pupils volunteer.		
	Wanafunzi nashiriki kwa bidii (pamoja na kuonesha utayari wa kuuliza na kujibu maswali, kubuni) / Pupils participate actively (including showing a willingness to ask and answer questions, make guesses.)		
4.	Majadiliano ya wanafunzi Pupil discussion		
	Wanafunzi hawashiriki katika majadiliano / Pupils do not engage in discussions.		
	Ushiriki wa wanafunzi umejikita katika kujibu maswali wanapoulizwa / Pupil engagement in discussions is limited to responding to questions when called on.		
	Ushiriki wa wanafunzi umejikita kwa baadhi ya wanafunzi kuanzisha mada, kuuliza na kujibu maswali wanapoulizwa / Pupils' engagement in discussion is limited to some pupils initiating topics, posing and responding to questions.		
	Wanafunzi kueleza maoni yao na kutetea hoja zao. Wanafunzi kutumia mjadala unaofaa katika kukubaliana au kutokukubaliana / Pupils state their opinions and defend them. Pupils use appropriate interaction patterns to agree or disagree.		
5.	Je ni kwa kiasi gani wanafunzi wameweza kujibu maswali kwa usahihi? Pamoja na: kusoma kwa ufasaha wanapotakiwa kufanya hivyo. What proportion of pupils are able to respond correctly to questions? Including: Reading with fluency when asked to read.	Hakuna maswali yaliyoulizwa / No questions were asked.	
		Hakuna / None (0%)	
		Chini ya nusu (<50%) / Less than half (<50%)	
		Zaidi ya nusu (>50%) / More than half (>50%)	
		Wote (100%) / All (100%)	

Mathematics Classroom Observation

Mathematics Classroom Observation		3	6	9	12	15	18	21	24	27	30
Maudhui ya somo / Lesson Content (only one X)											
Namba Nzima / Whole numbers	**Utambuzi, kusoma na kuandika** / Identification, reading and writing										
	Kuhesabu- mamoja / Counting – ones										
	Kuhesabu- katika makundi / Counting – groups										
	Kulinganisha / Comparing										
	Kukokotoa- kujumlisha / Calculation – addition										
	Kukokotoa- kutoa / Calculation – subtraction										
	Kukokotoa- kuzidisha / Calculation – multiplication										
	Mafumbo / Word problems										
Sehemu / Fractions	**Kuelezea sehemu ya kitu kizima** / Describing parts of whole										
	Kulinganisha / Comparing										
Jiometri / Geometry	**Kutaja majina ya maumbo bapa** / Naming shapes										
	Kuchagua na kupanga / Classifying and sorting										
	Kuchora maumbo bapa / Drawing plain figures										
Fedha / Money	**Utambuzi wa sarafu na noti za Tanzania** / Identifying notes and coins										
	Kukokotoa (kujumlisha na kutoa) fedha / Calculating with money (additions & subtraction)										
Vitendo vya ufundishaji / Teacher Action (only one X)											
Kuelezea / Talking/explaining	Darasa zima kurudia maelezo ya mwalimu / Whole class repetition / recitation										
	Kuandika ubaoni / Writing on the board										
	Onesho mbinu / Demonstrating										
	Vielelezo na maelezo, marudio / Modeling and recitation, revision										
	Kutoa kazi / Setting a task										
Maswali na majibu / Asking/answering questions	Darasa zima / Whole class										
	Vikundi vidogo vidogo / Small group										
	Mmoja mmoja / Individual										
Kusaidia wanafunzi / Assisting pupils	Vikundi vidogo vidogo / Small group										
	Mmoja mmoja / Individual										
Monitoring pupils and assessments	Darasa zima / Whole class										
	Vikundi vidogo vidogo / Small group										
	Mmoja mmoja / Individual										

- Mwisho wa uchunguzi jibu maswali haya kwa kuzingatia ulichoona darasani. At the end of the observation period complete the following questions based on your general impression of the lesson.

1.	Je ni vipi mwalimu ameweza kufuatilia uelewa wa wanafunzi? How well did the teacher monitor the pupils'understanding?	
	Mwalimu hakuuliza swali lolote kwa wanafunzi / Teacher does not ask the pupils any questions.	
	Mwalimu aliuliza maswali ya kukumbuka na sio maswali ya kupima uelewa / Teacher asks pupils recall or repetition questions, but not questions that check for the pupils understanding (e.g. recall or repetition questions only).	
	Mwalimu aliuliza maswali ya kupima uelewa, lakini hakutoa msaada zaidi / Teacher asks pupils questions to check for pupil understanding, but does not provide further assistance.	
	Mwalimu aliuliza maswali ya kupima uelewa na alitoa msaada/ maelezo zaidi / Teacher asks pupils questions to check for pupil understanding and provides assistance/further explanation.	
2.	Je ni kwa kiasi gani mwalimu aliwasaidia wanafunzi kuelewa? How well did the teacher support the pupils'understanding?	
	Mwanafunzi alipotoa jibu ambalo si sahihi, mwalimu alimkaripia au kumuadhibu / When a pupil responds incorrectly, the teacher scolds or punishes the pupil.	
	Mwanafunzi alipotoa jibu ambalo si sahihi, mwalimu alimtaka kujaribu tena au alimwendea mwanafunzi mwingine / When a pupil responds incorrectly, the teacher tells the pupil to try again or she moves on to another pupil.	
	Mwanafunzi alipotoa jibu ambalo si sahihi, mwalimu alifafanua zaidi, alitoa vidokezo au alinyumbulisha swali katika lugha nyepesi zaidi. / When a pupil responds incorrectly, the teacher asks a clarifying question, cues the pupil, or breaks down the task as appropriate.	
	Hakuna jibu sahihi lililotolewa au halihusiki / No correct response given or not applicable	
3.	Ushiriki wa wanafunzi Pupil participation	
	Wanafunzi wanashiriki pale wanapotakiwa kufanya hivyo lakini si kwa kujitolea / Pupils participate when called on to do so but do not volunteer.	
	Wanafunzi wanashiriki pale wanapotakiwa kufanya hivyo na wengine kwa kujitolea / Pupils participate when called on to do so and some pupils volunteer.	
	Wanafunzi nashiriki kwa bidii (pamoja na kuonesha utayari wa kuuliza na kujibu maswali, kubuni) / Pupils participate actively (including showing a willingness to ask and answer questions, make guesses.)	
4.	Majadiliano ya wanafunzi Pupil discussion	
	Wanafunzi hawashiriki katika majadiliano / Pupils do not engage in discussions.	
	Ushiriki wa wanafunzi umejikita katika kujibu maswali wanapoulizwa / Pupil engagement in discussions is limited to responding to questions when called on.	
	Ushiriki wa wanafunzi umejikita kwa baadhi ya wanafunzi kuanzisha mada, kuuliza na kujibu maswali wanapoulizwa / Pupils' engagement in discussion is limited to some pupils initiating topics, posing and responding to questions.	
	Wanafunzi kueleza maoni yao na kutetea hoja zao. Wanafunzi kutumia mjadala unaofaa katika kukubaliana au kutokukubaliana / Pupils state their opinions and defend them. Pupils use appropriate interaction patterns to agree or disagree.	

5.	**Je ni kwa kiasi gani wanafunzi wameweza kujibu maswali kwa usahihi?** Pamoja na: kusoma kwa ufasaha wanapotakiwa kufanya hivyo. **What proportion of pupils are able to respond correctly to questions?** Including: Reading with fluency when asked to read.	Hakuna maswali yaliyoulizwa / No questions were asked.	
		Hakuna / None (0%)	
		Chini ya nusu (<50%) / Less than half (<50%)	
		Zaidi ya nusu (>50%) / More than half (>50%)	
		Wote (100%) / All (100%)	

SSME School Inventory

1.	Je majengo ya shule na mazingira ni safi? Are the school buildings and surroundings clean and neat?	Hapana / No .....0 Ndiyo / Yes 1
2.	Je majengo yanahitaji ukarabati mkubwa? Are major repairs needed?	Hapana / No .....0 ➔ **Kama hapana nenda swali la 7 / If no, skip to 4** Ndiyo / Yes 1
3.	**Kama ndiyo**, eleza aina ya matengenezo yanayohitajika **[Zungushia yanayohusika]** **If yes,** indicate all the types of repairs needed. **[Circle all that apply.]**	Madirisha yamebomoka / Broken windows .....1 Paa au dari / Roof or ceiling .....1 Kuta za madarasa / Walls of classroom .....1 Kuta za nje za shule zisizokarabatiwa / Outside school walls in disrepair .....1 Viwanja vya michezo / Playgrounds .....1 Samani / Furniture .....1 Mengineyo / Other 1
4.	Je shule ina umeme? Kama ndio, je unawaka leo? Does the school have a source of electricity? **If yes,** is it functioning today?	Hakuna / No .....0 ➔ **Kama hakuna nenda swali la 5 / If no, go on to 5** Ndiyo, lakini leo hauwaki / Yes, but not functioning today .....1 Ndiyo, na unawaka leo / Yes, and functioning today 2
5.	Je shule ina chanzo gani cha maji ya kunywa? What drinking water source does the school have?	Hakuna / None .....0 ➔ **Kama hakuna nenda swali la 7 If none, skip to 7** Kisima / Well .....1 Chujio la maji/kipozaji / Filter/Cooler .....2 Mengineyo / Other 3
6.	Je maji yanatoka bombani/kisimani leo? Is the drinking water source working? [**i.e., Is water available during your visit today?]**	Hapana / No .....0 Ndiyo / Yes 1
7.	Je vipo vyoo vingapi vinvyotumika?**[Kama vinatumia maji, je vinafanya kazi**] How many functional toilets / latrines are there? **[A functioning toilet is one that can be used; if a flush**	Panga: 1-99 [kama >20, mwambie mpimaji ahakikishe idadi] Range: 1-99 [if >20, ask assessor to confirm number] Vyoo / Toilets ☐

	toilet, the flush mechanism is working.]	➔ **Kama hakuna nenda swali la 10 / If zero, skip to 10**
8.	Vyoo au matundu mangapi ni kwa ajili ya wasichana tu ? Of the functional toilets / latrines, how many (if any) are for girl students only?	Panga: 1-99 [kama >20, mwulize mpimajii ahakikishe idadi] Range: 1-99 [if >20, ask assessor to confirm number] Vyoo / Toilets ☐☐
9.	Je vyoo au matundu hayo ni safi? Are toilets / latrines clean?	Si safi kabisa / Not at all clean .....0 Visafi kidogo / Somewhat clean.....1 Visafi sana / Very clean 2
10.	Shule ina simu inayotumika?[Zungushia inayohusika] Is there a functioning telephone? **[Circle all that apply.]**	Hakuna / None .....0 Ndiyo ipo simu ya mezani / Yes, there is a land line..1 Ndiyo mwalimu mkuu ana simu ya kiganjani / Yes, the head teacher has a cell phone .....1 Mengineyo / Other 1
11.	Je shule ina maktaba? Kama **ndiyo,** wanafunzi walikuwa wanaitumia wakati mlipoitembelea? Is there a school library? **If yes,** are students using the library at the time of the visit?	Hapana, hakuna maktaba / No, there is not a library0 ➔ **Kama hapana nenda swali la 12 / If no, go on to 12** Ndiyo, lakini wanafunzi hawaitumii / Yes, but no students are using it.....1 Ndiyo, na wanafunzi wanaitumia / Yes, and students are using it 2
12.	Je kuna viwanja vya michezo? Is there a playground?	Hapana / No .....0 Ndiyo / Yes 1
13.	Je shule imezungushiwa ukuta? Is there a wall around the school?	Hapana / No .....0 Ndiyo / Yes 1
14.	Je shule ina mlinzi? Is there a security guard?	Hapana / No .....0 Ndiyo / Yes 1
15.	Muda wa kumaliza **[Tumia muda wa sa** **HH: MM]** Ending time **[Use 24-hour time HH:MM**	☐☐:☐☐

Annex B. Summary of Responses by Participants in the Policy Dialogue Workshop

On February 26–28, 2014, the Ministry of Education and Vocational Training (MoEVT) hosted a Policy Dialogue Workshop in Dar es Salaam. The purpose of this workshop was to review the findings of the National Assessment of the 3Rs in Tanzania, examine the implications arising from those findings, make recommendations for this report, and set benchmarks and targets for reading, writing, and arithmetic in Tanzania.

On the second day of the workshop, there were approximately 50 to 60 participants representing the various ministries, regions, and districts, and a few representatives from the donor community and nongovernmental organizations working in the field of early grade education. The focus of the second day of the workshop was to generate recommendations for this report.

In creating the recommendations in the report, the participants were organized into groups that covered five key issues emerging from the report. Initially, two groups discussed each topic independently and produced a newsprint report with recommendations—these were transcribed and are reported as the *Group 1* and *Group 2* recommendations below. The two groups then worked together to combine their ideas and produce a consolidated newsprint report with recommendations—transcribed and reported as *Consolidated Recommendations* below. The consolidated recommendations were presented in plenary and some additional notes were recorded—these are reported as the *Notes from the presentation* below.

Topic 1: What do children need to learn to become fluent readers, and how should these skills be taught?

The survey has shown that children are not learning to decode words effectively and efficiently. They can read some familiar words because they have probably memorized them rather than learned the letter sounds for decoding the words. Because children are not learning to decode effectively, they are not comprehending what they attempt to read as well as they should.

Teaching needs to focus on learning a scope and sequence of skills and how to teach the skills that children need to become fluent readers. Teachers also need to learn how to use formative assessment to guide instructional decisions.

The skills teachers need to be effective must be addressed through both in-service and pre-service programs, with courses that focus on "reading methods" that include content that is aligned with the science of how children learn to read and evidence-based teaching methods.

1. Agree or disagree—justify
2. Short-term (easily implementable) actions
3. Long-term actions

Notes from the Presentation

1. Short-Term:
   - The MoEVT should identify and harmonize good, existing, reading programs. There are seven programs that are practicing the 3Rs TZ21m school-based inset (UNICEF) Children Book Project (CBP; local organization subcontractor to TZ21), AKF, EQUIP are all piloting programs.
   - There should be a review and evaluation to determine what is relevant, and then to reactivate the dialogue structure (it is a technical working group that is currently not functional). There is the quality improvement technical working group that needs to be reactivated around thematic areas. This is a ministry program.

2. Long-Term:
    - The curriculum should be reviewed and harmonized at all levels (sometimes TTCs have their own way of teaching their own curricula).
    - In-service, pre-service, and preschool teachers should receive training. Again, this training should be uniform.
    - There should be a sensitization program for the community and parents so they can support the schools and children to help their children in reading. They could go through the school committees.
    - Teacher resource centers should be reactivated and equipped so that they can help and support reading programs—"We are good at starting programs, but are not good at maintaining them."
    - The textbook policy should be refined to include appropriately leveled and age-appropriate reading materials.
    - Regarding infrastructure and the learning environment, reading corners should be created in the school and materials, posters, and charts should be posted on the walls.
    - There should be quality control of schools through the use of inspectors, mentors, and coaches.

Consolidated Recommendations

1. Short-Term:
    - Identify and harmonize through the existing reading "MoEVT/PMO/RG" programs and good practice
    - Review what is relevant and ….
        - Reactivate the dialog structure "(QI-TWG)" "MoEVT"
2. Long-Term:
    - Curriculum review and harmonization at all levels ("MoEVT/PMORALG")
    - Training of in-service, pre-service, and preschool teachers
    - Sensitization of the community to support their school and children on reading
    - Reactivate and equip TRCs
    - To refine the textbook politely to include age-appropriate and level-appropriate reading materials
    - PMORALG/MoEVT to address infrastructure and improve the learning environment for example:
        - Reading corners
        - Charts and posters
        - Students per class
        - Structure for quality assurance
        - School inspectors—mentoring and coaching

Group 1

1. Short-Term:
    - Identify, appraise, and harmonize existing reading programs and good practices. (e.g., TZ21, EQUIPT, school-based INSET, CBF, AKF program). Who should do this: MoEVT and responsible organizations
    - MoEVT and PMORALAG to issue a circular on teaching reading
2. Long-Term:
    - Review preschool reading programs (MoEVT)

- Reactivate the dialogue structure (QI [e.g., TWG], MoEVT)
- Preparation for assessment on reading (built in assessment) (PMO/RG [classroom activity])
- Curriculum review and harmonization at all levels (e.g., TTC, MoEVT)
- Training of in-service, pre-service, and preschool teachers on reading (MoEVT/PMO/RG)
- Reactivate and equip TRCs (MoEVT/PMO/RG)
- Review textbook policy (MoEVT)

Group 2

1. Short-Term:
   - MoEVT should identify effective evidence-based methodologies for teaching reading and select projects that have the relevant methodologies.
2. Long-Term:
   - MoEVT/PMORALG should coordinate training of trainers on the teaching of reading in collaboration with literacy institutions.
   - PMORALG should coordinate in-service training to teaching methodologies.
   - PMORALG should sensitize the community to support their schools and their children in the learning of reading through school communities.
   - Gov (TIE) should review the primary school curriculum to accommodate literacy issues.
   - The government should accommodate effective reading methodologies in the curriculum.
   - The MoEVT should review the Grade "A" teacher curriculum.
   - The MoEVT must improve the school infrastructure.

Topic 2: MATHEMATICS: How children learn versus what children learn?

The survey has shown that students "know" their basic addition and subtraction facts. Yet they seem unable to use these facts to solve related addition and subtraction problems, even at the two-digit level. There needs to be a shift in the focus of teaching from teaching for memorization to teaching for understanding.

Teaching needs to focus on presenting mathematics as a meaningful, sense-making, problem solving activity. Teachers also need to learn how to use formative assessment to guide instructional decisions.

The skills that teachers need to be effective must be addressed through in-service and pre-service programs, with courses that focus on teaching mathematics for meaning and understanding. These courses must include content that is aligned with the science of how children learn mathematics in the early graded and evidence-based teaching methods.

1. Agree/disagree—justify
2. Short-term (easily implementable) actions
3. Long-term actions

Notes from the Presentation

1. Short-Term:
   - PMORALAG, in collaboration with the MoEVT, to plan teacher training programs that support concept formation while implanting the competency based curriculum in the early years.
   - Plan teacher training programs that would support concept performance that would improve conceptual learning. They lack conceptual knowledge.
   - Design resources and materials to support teachers in making/using low-cost materials for concept formation and embed math in all teaching and experience.
   - Providing teachers with guidance in how to use local materials to help children gain conceptual competency.
   - Why do we shut off mathematics brain when we go to language lessons? Can't mathematics learning be taking place during language lesson, during science lessons, etc.
   - Plan to sensitize parents and teachers to use live experiences to support math concept formation. How can we make the walls between school and home fluid, so that there is always a learning. For example, talk about realities in our culture of what and how we can teach mathematical concepts to children at home. Everyone sent their kids out to buy a loaf a bread, and they come back with change, so they understand the concept of subtraction. Another example was crossing the street, which covers, distance, speed, etc. At the moment, there is a mismatch with the curriculum.
   - PMORALG to conduct training for teachers to improve their competencies in teaching early grade mathematics and effective communication in mathematics.
   - MoEVT to design training package which focuses on teaching for understanding mathematics in early grades.

2. Long-Term:
    - Integrate the existing and implement the designed package in pre-service and in-service teacher training programs
    - Provide harmonized pre-service and in-service training to handle conceptual knowledge
    - Make pre-school mandatory for all (re-enforce)
    - Ensure teachers are placed in their trained levels and fields
    - Need materials (more than textbooks) and other materials
    - Integration of the training package in the training curriculum for teachers
    - Continuing training
    - Continuing monitoring and evaluation (of schools)

Topic 3: Opportunity to Learn—Materials/Time

Research tells us that in addition to strong instruction, in order to learn, students need learning materials, time to learn, and then time to practice the newly acquired skills. The data from this study showed that the opportunity to learn in Tanzania is not what it could be. Textbooks arrive late at most schools, and when they arrive, insufficient quantities are provided. Only a small minority of students had access to textbooks in schools. Only 1 out of 10 schools had a library that students could use. Very little time was spent reading in school. Student and teacher absenteeism further reduces instructional time in school.

Specific steps can be taken to increase the opportunity to learn in Tanzanian schools.

1. Agree/disagree—justify
2. Short-term (easily implementable) actions
3. Long-term actions

Notes from the Presentation

No matter what short-term goals we set, we always have to work within the bureaucracy to get things accomplished, so this limits what can be done.

- In the Short-Term, develop learning corners that provide learning materials. Teachers should improvise with materials to which they have access.
- There are teachers that are experts in teaching the 3Rs (e.g., veteran teachers within the schools or are within the wards). Bring these teachers immediately to provide teacher training in the 3Rs.
- Start developing materials (e.g., textbooks, readers, reference books, charts, posters, manipulatives [gadgets for mathematics]) within the budget which exists. Seventy percent should go to textbooks, and the remainder should go to the other learning materials.
- In time, you find that teachers are absent from schools because they are chasing their allowances or salaries, so they aren't in school. Students are also absent because they are walking from far away; the pastoralists are working, they are hungry, so you need to improve teacher motivation. Teachers are under paid, so they are forced to work second jobs to earn money. If a teacher is demotivated and they must work another job, then they are less available for school.
- Revise the curriculum to incorporate the 3Rs specifically, but curriculum revision isn't sufficient unless you train teachers in the new curriculum materials.
- Would like to reduce the number of subjects (too many demands on teachers): Kiswahili, mathematics, English, and science (for Standards 1 and 2).
- Empower Head Teachers on management (empowering includes the ability to promote teachers and includes making them feel as if they are at a higher level [supervision and salary than other teachers]).
- Improve the teaching and learning environment (e.g., bathrooms, libraries, feeding program).
- Encourage parental involvement.
- Re-open Teacher Resource Centers, which is where teachers can meet discuss ideas and access resources (these centers are everywhere).

Consolidated Recommendations

1. Short-Term:
   - Improvisation of T&L aids
   - In-service training on 3Rs
   - Develop 3Rs Teaching Guide
   - Community mobilization
   - Establish
     - Reading clubs and competitions
     - Science and reading corners
     - Word banks
   - Ring fence budget for books
   - School management training
2. Long-Term:
   - Establishment of libraries
   - Curriculum revision to incorporate 3Rs
   - Centralize textbook publication for quality purposes
   - Improve teacher payment systems
   - Improve T&L environment
   - School meals
   - Sports

Group 1

1. Short-Term:
   - Establish learning corners by using improvised materials
   - Provide indoor training on 3Rs by using existing expert teachers
   - Develop guidelines and materials for 3Rs (varieties)
2. Long-Term:
   - Teacher motivation
   - In-service training
   - Revise curriculum to incorporate 3Rs
   - Reduce number of subjects
   - Empower Head Teachers on management
   - Improve teacher and learning environment
   - Parents and community involvement
   - School committees and home involvement, Parent/Teacher Association
   - Revive Teacher Resource Centers

Group 2

1. Short-Term:
   - Subject panel meeting of teachers in schools
   - Indoor training
   - Enhancement of Teacher Resource Centers
   - Improvisation of T&L materials
   - Motivation of teachers; teachers' allowance
   - Provide meals to students (porridge)
   - Reduce number of subjects for a short time: Teach 3Rs for 6 months

- Have learning corners in lower classes
- Have double sessions for congested classrooms
- Have "variety" in materials
- Textbooks
- Readers
- Charts, posters, and cards
- Improve the quality of textbooks

2. Long-Term:
   - Reduce the number of subjects from 7 to 4
   - Train more teachers
   - Allocate sufficient funds
   - To buy textbooks, use a ratio of 1:1 (PBR) for other instructional materials, readers, etc.
   - Improve infrastructure (e.g., buildings, libraries, sports grounds)
   - Better pay for teachers
   - Encourage parent and community involvement

Topic 4: Assessment: Shifting from action to purpose

The survey has shown that teachers have different assessment tools, but that the vast majority of teachers rely on written assessments. Research shows that it is better for teachers to rely on a number of different approaches to evaluate students' progress. In addition, most teachers used assessment results to provide their students with marks. Very few teachers claimed to use the results of the assessment to adapt their teaching approach or lesson content to respond to their students' needs.

There needs to be a shift in the focus of assessment as the only way to evaluate student performance (something that is performed to put a mark in the book) to assessment as a teaching and learning resource. Teachers need to learn how to use assessment results to both evaluate whether students have or have not mastered curricular content and to adapt their teaching approaches to more closely match students' needs. Teachers need to understand the value of formative assessment.

1. Agree/disagree—justify
2. Short-term (easily implementable) actions
3. Long-term actions

Notes from the presentation

1. Short-Term
   - Design a diagnostic tool to measure teacher performance for teacher use (MoEVT will use this)
   - Provide training for teachers on how to use assessment to adapt their teaching approaches
   - Provide Head Teacher training (Aarnout said that you should help Head Teachers to see his or her role in assessment in their schools)
2. Long-Term
   - Reduce the number of subjects from 7 to 3 in Standard 1
   - Conduct formative assessments
   - Study why teachers are not using assessment data
   - Re-allocate teachers to schools to reduce teacher load
   - Improve teaching

Consolidated recommendations

1. Short-Term
   - Design a diagnostic tool to assess student performance and for teachers to adapt teaching methods (MoEVT)
   - Provide in-house training to in-service teachers on how to use assessment results to vary teaching methods (PMORALG/MoEVT)
   - Send circulars to schools to instruct Head Teachers to undertake assessment/vary assessment "methods" (MoEVT/ PMORALG)
2. Long-Term
   - Reduce the number of subjects in Standards 1 and 2 from 7 to 3 (MoEVT)
   - Prepare pre-service teacher for formative assessments (MoEVT)
   - Undertake a study to assess why teachers do not vary their assessment methods and techniques (MoEVT)

- Improve the teaching and learning environment (PMORALG)
- Re-allocate teachers to schools with deficits to reduce teaching load (PMORALG)

Group 1

1. Short-Term
   - Enhance diagnostic teaching to improve the teaching and learning processes (PMORALG)
   - Strengthen in-service training focusing on innovation and creativity methodologies (PMORALG)
   - Conduct a needs assessment on the teaching and learning processes (MoEVT)
   - Conduct an in-depth assessment on writing skills for students (MoEVT)
2. Long-Term
   - Improve the teaching and learning environment, focusing on the student–teacher ratio and teaching resources (PMORALG)
   - Strengthen 3Rs training in teacher colleges (MoEVT)

Group 2

1. Short-Term
   - In-service training should be provided on assessments.
   - The PMORALG should conduct it on how to assess, use a variety of assessments, and the importance of them.
   - Head Teachers and Academic Teachers should be trained on how to help teachers in different methods and assessments (PMORALG).
   - During their daily routines, inspectors and Ward Education Coordinators must make sure that assessments are included in their terms of reference.
2. Long-Term
   - Pre-service training should emphasize the use of formative assessment in the curriculum (MoEVT).
   - Class size should be reduced to 1:40 (1 teacher per 40 students) by constructing more classrooms to facilitate teaching and assessment (PMORALG).
   - To reduce the teaching load, teachers should be re-allocated to schools with deficits (PMORALG).

Topic 5: Mitigating the barriers caused by poverty

Children from the lowest wealth group tend to have lower performance levels at school. The following bullets provide just a few examples of why this linkage between wealth and poverty may exist. Least wealthy students are less likely to report if they are

- Getting help with homework at home
- Have appropriate reading materials at home
- Reading at home every day
- Being read to everyday

In addition, Head Teachers whose students are poorer are likely to have lower expectations about students' performance. For example, when Head Teachers were asked when they believed that students should be able to write in Kiswahili, the most common answer given among the teachers at the poorer schools was by Standard 3. Among the richest schools, the most common answer to this question was Standard 2.

Although the impact of wealth on student performance is real, there are equally real steps that can be taken to help students overcome the performance barriers associated with poverty.

1. Agree/disagree—justify
2. Short-term (easily implementable) actions
3. Long-term actions

Notes from the Presentation

1. Short-Term
   - Parents or guardians and the community should be sensitized on the importance of education and encouraging their children to have a reading culture (e.g., do they really value their education? Change their mindset).
   - Schools should establish a book borrowing system to read books at schools. (Do not know if the school has books.)
   - Teachers should use locally available materials such as reading cards for children to read at home.
   - Schools should establish peer reading groups, subject groups, cooperative learning communities (in the neighborhood, children could improve learning; parents could be involved in this).
   - Books could be donated from the community (people could have readers; provide newspapers; have stories printed on the back of calendars).
2. Long-Term
   - Schools should develop materials.
   - School feeding programs should be established (comment: "The program is there perhaps it needs to be strengthen. WFP is supporting that. The MoEVT is asking parents to contribute porridge so schools can provide porridge to kids.").
   - School libraries should be established.
   - Different sectors must come together to address poverty issues (parents are suffering; there is a special fund that provides agricultural equipment to help those in need).

- Conditional cash transfers could be employed (TASIF III; poor or vulnerable families are given cash under certain conditions; this money can be used to convince parents to get their children to school).
- More funds could be available at schools to provide books.
- School leaders and councilors should help children at school.
- To change the mindset of parents, provide adult education (they can provide a campaign for parents on the importance of education and creating a culture of reading).

Consolidated recommendations

1. Short-Term
   - Parents or guardians and community should be sensitized on the importance of education and encouraging their children to have reaching culture.
   - Schools should establish a book borrowing system for children to read at home.
   - Teachers should use locally learning materials such as reading cards for children to use when they are at home.
   - Schools should establish peer reading groups, clubs for school subjects (reading, mathematics), and cooperative learning strategies.
   - Village government should enforce bylaws to ensure that all children attend schools.
   - Communities could donate books, including locally available learning materials.
2. Long-Term
   - Government, policy makers, and educational stakeholders should be involved.
   - School libraries with relevant materials should be established in every school.
   - A school feeding program should be established in every school.
   - Modern agriculture and other productive activities could generate more income.
   - Conditional cash transfer scheme (e.g., TASAF III) should be pro-poor focused and monitored to benefit the most vulnerable children.
   - Village government should establish bylaws (if these are not available) to ensure that all children attend schools.
   - More funds should be made available at the school level to buy enough books and other learning materials.
   - When school guidance and counseling services exist in the schools, these should be strengthened. When these do not exist, they should be established.
   - Adult education should be instituted to organize a mass education campaign for parents or guardians and community to sensitize them on the importance of education and to promote a culture of reading.

Group 1

1. Short-Term
   - School clubs should be established to help each other (reading, homework, mathematics).
   - Parents meetings should be held, so they can learn what they can do to help their children.
   - Teachers should identify children with special needs.
   - Community should provide food for the children.
   - Books should be donated by the community.
   - Reading cards, word cards, and stories should be used.
   - Community should provide locally available learning materials.

- Teachers should be oriented to inclusive and participatory teaching and learning methodologies.
- Ward Education Coordinators should provide supervision and inspection (after special training).
- Short stories from newspapers and calendars should be provided for beginners.

2. Long-Term
   - School feeding program should be established.
   - More funds should be provided at the school level to purchase learning materials.
   - Radio programs for reading should be on the air.
   - Schools and community libraries should provide enough books.
   - Specific training on the 3Rs should be provided at colleges and universities.
   - Book authors and publishers should be oriented on how to write books focusing on 3Rs.
   - Guidance and counselling units in all primary schools must be strengthened.
   - Special training should be provided to school inspectors on the 3Rs to support and inspect teachers.

Some Other Notes from the Follow-Up Discussion

- "Even if assessment is used in a formative manner, we need to emphasize the use of assessment for learning."
- "My remarks go to #5: we should not view the establishment—there are some schools that have the book borrowing systems, but there is a lot on the ground—we just need to strengthen it.
- "Teacher competencies—at the pre-service level we need to think about what type of competencies we want teachers to have when they come out of the TTC. Above, we talked about in-service training but haven't really talked about pre-service level."
- "How do you attract the right kind of people to teaching—how do you make teaching 'sexy'."
- "Assessment needs to be continuous—exam should not be the final and only word in a child's grade if you ignore all the other work that the child has done."
- "My concern is it's who will support the children at home if the parents are completely illiterate? Maybe the teachers are not strong. We need to have a promotion of literacy at the parent level. There are 22% of illiteracy." In South Africa there is a family maths program.
- "Need to distinguish between what is a goal and what is an action—we do have a wide range of suggestions but we should be guided by what evidence has shown us. There are lots of good options but are these effective? What is it that can be done, done well, and can make the biggest impact in the shortest amount of time. That doesn't mean that we should ignore long-term goals. I really want a system of continuous assessment. How can we have children learn on his or her own pace? I haven't heard the public voice—what does the public think is 'quality education.' What are the standards—what is quality."
- "I don't accept the idea that there are too many subjects—Children need to have outdoor time—time to play etc."