



Government
of Canada

Gouvernement
du Canada



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

Final Findings Report, Tanzania National
Early Grade Reading Assessment (EGRA)

July 2016

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

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

Final Findings Report, Tanzania National Early Grade Reading Assessment (EGRA)

Contract No.: AID-621-T0-15-00007

Order No.: AID-OAA-I-14-00044

Prepared for
USAID/Tanzania Education Office
686 Old Bagamoyo Road, Msasani
P.O. Box 9123
Dar es Salaam, Tanzania
E-mail: usaidtco@usaid.gov

Prepared by
RTI International
3040 Cornwallis Road
Post Office Box 12194
Research Triangle Park, NC 27709-2194

The authors' views expressed in this report do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Acknowledgments

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

- The Ministry of Education, Science, and Technology (MoEST) 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 design, assessor training, conduct of the survey, and the presentation of the results, the MoEST has “owned” this study, and the results are all the more authentic and worthwhile for that.
- The National Examinations Council of Tanzania (NECTA) and, in particular Dr. Charles Msonde our most direct point of contact, for their continuous involvement, support, and ongoing cooperation. Without their tireless efforts and involvement, this study would not have been possible. From the review of the process and design, to the careful and thorough review of the instruments and findings, NECTA has been a great support of the study, and the findings and results are all the more robust for that.
- Abbas Nsanzugwanko, Laura Kikuli, and David Bruns (U.S. Agency for International Development [USAID], Tanzania), who not only made the study possible, but have also shown interest in and commitment to the process throughout the study.
- Alice Birnbaum (Global Affairs Canada) and her team who made the Early Grade Mathematics Assessment possible, and have shown great support, involvement, and commitment to the study.
- Anna Smeby and Cecilia Baldeh (the United Nations Children’s Fund [UNICEF]) and their team who made the Life Skills study possible, and have given great interest, commitment, and support of 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, Marissa Gargano, and Tracy Kline all from RTI International for the sampling, data cleaning, data processing, analysis, and psychometrics needed to create and manage the vast data set associated with this study.
- Scott Kipp and Lauren Edwards of RTI for creating the assessment tools on Tangerine[®] and assistance in training the assessors in the effective use of the tablets and Tangerine.
- Margaret (Peggy) Dubeck, Karon Harden, Aarnout Brombacher, Lee Nordstrom, Amy Mulcahy-Dunn, Kate Batchelder, Maria Dzula, and Ana Robledo all from RTI, and Lily Piper, RTI consultant, for their contributions to the assessor training, report writing, and the presentation of the results.

- Amy Mulcahy-Dunn, Keely Alexander, and Kate Batchelder, all from RTI, for the general guidance, oversight, and management of the study.
- Vera John in the RTI Dar es Salaam office for her local attention and support.
- Heather Farr and Gail Hayes, both from 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.

Table of Contents

	Page
Acknowledgments	iii
List of Figures.....	viii
List of Tables	ix
List of Abbreviations	x
Executive Summary Sections.....	1
1 Introduction.....	9
1.1 Country Background	9
1.2 Education Context	10
2 Evaluation Approach	12
2.1 Research Questions and Assessment Design.....	12
2.2 Overview of SSME.....	13
2.3 Overview of EGRA.....	14
2.3.1 Why Test Early Grade Reading?.....	14
2.3.2 Purpose of EGRA.....	14
2.3.3 What EGRA Measures	15
2.3.4 EGRA in Tanzania	15
2.4 Overview of EGMA	16
2.4.1 Why Test Early Grade Mathematics?.....	16
2.4.2 Purpose of EGMA	17
2.4.3 What EGMA Measures	17
2.4.4 EGMA Instrument for Tanzania.....	17
3 Overview and Purpose of Life Skills	19
3.1 The Life Skills as Assessed in Tanzania 2016.....	19
3.1.1 Academic Grit.....	19
3.1.2 Self-Control	19
3.1.3 Problem Solving.....	20
3.2 Instrument Adaptation Process for Tanzania: EGRA, EGMA, and SSME.....	20
3.3 Instrument Adaptation Process for Life Skills.....	21
3.3.1 Previous Adaptations of Life Skills in Tanzania.....	21
3.3.2 Life Skills in the Current Study	22

4	Sample	23
4.1	Population and List Frame	23
4.2	Sample Methodology	23
4.3	Verification of Sampled Schools	25
4.4	Final Sample Counts.....	25
5	Results and Findings	25
5.1	EGRA Results.....	25
5.1.1	Tanzania National Benchmarks for Reading and Mathematics.....	25
5.1.2	Kiswahili EGRA Performance	26
5.1.3	Summary of Scores by Region, Gender, and Home Language	34
5.1.4	Kiswahili EGRA Subtask Analysis.....	37
5.2	EGMA Results	40
5.2.1	Subtask Analysis.....	48
5.2.2	EGMA Conclusions.....	55
5.3	Life Skills Findings	56
5.3.1	Performance of Instruments.....	56
5.4	Life Skills by Student Demographics	58
5.5	Academic Grit and Student Performance.....	59
5.6	Self-Control and Student Performance	62
5.6.1	Problem Solving (Word Problems) and Student Performance	64
6	Life Skills Conclusions.....	66
6.1	3Rs Reforms and School Context.....	67
6.1.1	Basic School Inputs.....	67
6.1.2	Classroom Teaching and Learning Process	68
6.1.3	Time on Task	73
6.1.4	Pedagogical Oversight and Management	74
6.1.5	School Safety	75
7	Conclusions and Recommendations	75
7.1	Progress Since the 2014 Survey	76
7.2	2016 Recommendations	78
	References.....	82
	Annexes	85

Annex A: National Benchmarks and Targets for the 3Rs (Reading, Writing, and Arithmetic) in Tanzania	85
Annex B: Final, Validated Instruments.....	87
Annex C: Technical Details About Instrument Reliability and Validity Testing.....	156
Annex D: Sample Sizes	158
Annex E: Inter-Rater Reliability Results.....	159
Annex F. Revised Life Skills Instrument	160
Annex G. Regional Reports	164

List of Figures

Figure 1.	The percentages of students scoring at the Tanzanian benchmarks for three EGRA benchmark subtasks.	27
Figure 2.	The percentages of zero scores for the three EGRA benchmark subtasks.....	29
Figure 3.	The distribution of students' scores on Kiswahili EGRA subtasks, by year.....	30
Figure 4.	Performance on the EGRA subtasks during 2013 and 2016.	31
Figure 5.	Proportions of categories of readers, by year.	32
Figure 6.	Regional performance in terms of the percentages of students meeting the Tanzanian benchmarks for reading.....	35
Figure 7.	Performance on the Kiswahili ORF subtask.....	39
Figure 8.	Performance on the Kiswahili Dictation subtask.	40
Figure 9.	Percentage of students scoring at the Tanzanian benchmarks for the two EGMA benchmark subtasks.	41
Figure 10.	Percentage of zero scores for the two EGMA benchmark subtasks.....	42
Figure 11.	Distribution of students by the EGMA performance category.	43
Figure 12.	Performance on the EGMA subtasks during 2013 and 2016.	43
Figure 13.	Regional performance in terms of percentage of students meeting the Tanzanian benchmarks for mathematics.	46
Figure 14.	Performance of students by gender in terms of the mathematics performance categories.	47
Figure 15.	Percentage of students by gender in achieving benchmarks in mathematics.	47
Figure 16.	Item-level performance on the Addition (Level 1) subtask.	49
Figure 17.	Item-level performance on the Subtraction (Level 1) subtask.	50
Figure 18.	Item-level performance on the Missing Number subtask.	52
Figure 19.	Item-level performance on the Addition and Subtraction (Level 2) subtasks.....	53
Figure 20.	Item-level performance on the Word Problems subtask (English version).....	55
Figure 21.	The distribution of students by academic grit.....	57
Figure 22.	The distribution of students by self-control.....	58
Figure 23.	Mean Oral Reading Comprehension scores by academic grit.....	59
Figure 24.	Percentages of students with 80 per cent or higher Oral Reading Comprehension subtask scores by academic grit.....	60
Figure 25.	Percentage of students with zero Oral Reading Comprehension scores by academic grit.	60
Figure 26.	Mean Missing Number scores by academic grit.	61

Figure 27.	Mean Oral Reading Comprehension scores by self-control.....	62
Figure 28.	Percentage of students with zero Oral Reading Comprehension scores by self-control.....	63
Figure 29.	Mean Missing Number scores by self-control.....	63
Figure 30.	Percentage of students with 50 percent or more correct Missing Number scores by self-control.....	64
Figure 31.	Percentage of students by number of problem-solving strategies applied.....	65

List of Tables

Table 1.	EGRA Instrument Subtasks in Tanzania.....	16
Table 2.	EGMA Instrument Subtasks in Tanzania.....	18
Table 3.	Examples of Final Life Skills Questions and Response Options.....	22
Table 4.	Sample Methodology Summary.....	24
Table 5.	National Benchmarks and Annual Targets in Reading and Mathematics for Standard 2 Students.....	26
Table 6.	Proportion of Students at the Tanzanian Benchmarks on EGRA Subtasks.....	27
Table 7.	Annual Target and Actual Results for Kiswahili EGRA Subtask Zero Scores.....	28
Table 8.	Mean Number and Percentage of Kiswahili EGRA Items Correct, by Subtask and Year.....	31
Table 9.	Categories of Readers.....	32
Table 10.	Mean Number and Percentage of EGRA Items Correct, by Subtask and Category of Reader.....	33
Table 11.	Categories of Readers, by Gender.....	36
Table 12.	Categories of Readers, by Home Language.....	37
Table 13.	Proportion of Students at the Tanzanian Benchmarks on EGMA Subtasks.....	41
Table 14.	Student Performance on EGMA Subtasks.....	44
Table 15.	Proportion of Students at Each Level for Three Key Life Skills.....	58
Table 16.	Percentage of Students who Attempted to Solve the Problem in Their Heads by the Number of Correct Word Problems.....	65
Table 17.	Mean Score on Subtraction 2 Problems by Number of Problem-Solving Resources Applied.....	66
Table 18.	Teachers' Instructional Responses to Student Error.....	69
Table 19.	Teacher Assessment Methods.....	72

List of Abbreviations

3Rs	reading, writing, and arithmetic
ABE-ACR	Access to Basic Education, All Children Reading
BRN	Big Results Now
cnwpm	correct non-words per minute
cwpm	correct words per minute
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
EQUIP-T	Education Quality Improvement Programme in Tanzania
ICC	intraclass correlation coefficient
MoEST	Ministry of Education, Science, and Technology
NECTA	National Examinations Council of Tanzania
ORF	Oral Reading Fluency
PEDP	Primary Education Development Plan
	Southern and Eastern Africa Consortium for Monitoring Educational
SACMEQ	Quality
SES	socio-economic status
SSME	Snapshot for School Management Effectiveness
TIMSS	Trends in International Mathematics and Science Study
UNICEF	United Nations Children’s Fund
USAID	U.S. Agency for International Development
WASH	water, sanitation, and hygiene

Executive Summary Sections

Study Background

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. The enrollment rates in Tanzanian schools are relatively high, and although performance scores such as the Southern and Eastern African Consortium for Monitoring Education Quality 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.

In 2013, a national baseline assessment was conducted in Tanzania to establish an understanding of early grade student performance, as well as contextual school information about teachers and classrooms that would inform the BRN initiatives, and specifically the 3Rs reforms and activities. The results from the 2013 National Baseline Assessment for 3Rs (Reading, Writing, and Arithmetic) using Early Grade Reading Assessment (EGRA), Early Grade Mathematics Assessment (EGMA), and Snapshot for School Management Effectiveness (SSME) (henceforth referred to as the National 3Rs Baseline Study) were disseminated at a national level in Dar es Salaam in 2014. These results established a validated understanding of early grade student performance in the 3Rs across Tanzania. The nationally representative results were translated into national benchmarks set in 2014 for key skills for Standard 2 students in Tanzania. The benchmarks established five-year targets in foundational reading and mathematics skills, which gave a structure and focus to the 3Rs reforms introduced and implemented by the Ministry of Education, Science, and Technology (MoEST) starting in 2015. These benchmarks also formed a cohesive structure against which results from various donor-funded programs could be measured.

Stemming from the BRN initiative and findings from the National 3Rs Baseline Study, the education sector in Tanzania focused its attention on reforms to streamline the primary education curriculum and specialized in-service teacher training to focus on the fundamentals of primary school education—reading, writing, and arithmetic. In October 2015, the U.S. Agency for International Development (USAID) awarded the Tanzania National EGRA under the Access to Basic Education, All Children Reading (ABE-ACR) mechanism to discern progress toward the established benchmarks following the baseline assessment in 2013 and to evaluate teacher participation in and engagement with the 3Rs reforms. The Tanzania National EGRA uses the EGRA, EGMA¹, and SSME instruments to provide data that can be used to monitor progress and effectiveness of the 3Rs initiatives and reforms.

In addition, the United Nations Children’s Fund (UNICEF) funded the Tanzania National Life Skills assessment, which was conducted alongside the EGRA, EGMA, and SSME in February of 2016. In 2014 to 2015, the School Quality Assessment for Education and Water, Sanitation, and Hygiene (WASH) in Three UNICEF–Supported Regions established the

¹ Funding for the EGMA activities was provided by Global Affairs Canada.

baseline data to understand how students in Tanzania were developing life skills in three regions of Tanzania (i.e., Iringa, Mbeya, and Njombe). The National Life Skills assessment further explores how well students are progressing toward the development and achievement of the life skills that they need to succeed in school and beyond. These elements will be explored with student data at the national level during the 2016 round of data collection. The Life Skills Questionnaire was administered to a subsample of the students participating in the EGRAs and EGMAs.

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. In the case of Tanzania, the information from the EGRA and EGMA also provides important insights regarding whether students are progressing toward the 3Rs benchmarks. This is vital information for the MoEST and other stakeholders that are working to improve the quality of education in Tanzanian primary schools. Additionally, the Life Skills Questionnaire assesses a student's knowledge of and proficiency in applying life skills concepts such as academic grit, self-control, and problem solving. A growing body of research has shown that acquiring life skills can play a large role in determining a student's success in school and, more broadly, in life (Heckman and Kautz, 2012). Academic grit and self-control have been shown to be strong predictors of a student's future success in life (Bandura et al., 2001; Duckworth et al., 2007; Tsukayama et al., 2013). Problem solving is central to performing mathematics and to identifying and overcoming challenges in extracurricular contexts.

When conducting the Tanzania National EGRA, we are also curious to determine the answers to the following questions: Are teachers and schools able to effectively implement the 3Rs curricular and teaching reforms? Have teachers participated in 3Rs training? What was or was not effective about the training, and how could trainings be made more effective? Do Standard 2 students have access to reading materials at home and at school? The SSME includes instruments that capture insights regarding these questions through a Teacher Questionnaire, Classroom Inventory, and Observations of Kiswahili Reading and Mathematics Lessons.

These questions about student performance and 3Rs implementation will be answered with data at both the national and regional levels, and student data will also be disaggregated by gender. The Tanzania National EGRA takes place across the following two rounds of data collection: one in early 2016 and another in early 2018. The 2016 data will provide evidence of student performance and initial teacher and school engagement with the 3Rs reforms. The 2018 data will show what changes have been made over time during multiple years of 3Rs initiatives. The student assessment, questionnaire, and observation instruments used for the study are based on the instruments developed for the 2013 National 3Rs Baseline Study. The instruments were updated and tailored specifically to the 3Rs context during a set of design meetings in November 2015. The Life Skills Questionnaire is based on the instrument developed for the 2015 School Quality and WASH study. The questionnaire was revised and updated based on lessons learned from that study.

The EGRA and EGMA instruments were administered to a total of 7,765 Standard 3 students randomly selected from within 650 schools. The Life Skills Questionnaire was administered to a subsample of 1,418 students. The 650 participating schools were also randomly selected to create a sample that would provide data at the national level and for the 25 regions of Tanzania, as well as Zanzibar. In addition to the student assessments, Head Teachers, teachers, and students were interviewed, classroom inventories were conducted, and Kiswahili and mathematics lessons were observed. The assessors conducted the field work in February 2016 (at the beginning of the year) after attending training on how to properly administer the instruments in schools.

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

Data were collected for the national Kiswahili EGRA in Tanzania in February 2016 to monitor the progress toward meeting the national benchmarks for reading established in 2014. The national Kiswahili EGRA consisted of the following six subtasks: Syllable Sounds, Non-Word Reading Fluency, Connected Text Oral Reading Fluency (ORF), Reading Comprehension, and Dictation.

The percentage of students meeting the reading benchmarks increased slightly for two subtasks: ORF and Reading Comprehension. However, none of the 2015 targets for the percentage of students meeting the three reading benchmarks were met. For Non-Word Reading Fluency, 1.3 percent of the students met the benchmark of 40 correct non-words per minute (the 2015 target was 3 percent). For ORF, 6.5 percent of the students met the benchmark of 50 correct words per minute (cwpm; the target was 17 percent). Note, however, that the benchmark for ORF should be revised to reflect the correctly weighted 2013 rate of 4.7 percent. When keeping this correction in mind, the increase in student performance may in fact meet or be close to meeting the benchmark once it has been revised. Regarding the Reading Comprehension subtask, 12.1 percent answered 80 percent or more of the questions correctly (the target was 13 percent).

In addition, the results showed a consistent shift in the distribution of scores in every subtask away from zero scores toward a higher mean compared to the 2013 baseline. With regard to the percentage of students scoring zero, all of the 2015 targets were met and were surpassed—only 17.9 percent of students scored zero on the Non-Word Reading subtask (the 2015 target was 26 percent), 16.1 percent on ORF (the target was 26 percent), and 25.9 percent on Reading Comprehension (the target was 37 percent). Correspondingly, all of the mean scores on every subtask increased from 2013 to 2016. However, it should be noted that overlapping confidence intervals make it impossible to claim that changes in means are statistically meaningful. The shift in distribution, however, is positive and clear.

Research has consistently demonstrated a strong linkage between reading fluency and reading comprehension. Both in 2013 and in 2016, the students who could read with 80 percent comprehension or more were reading on average 47 cwpm. For the 2016 ORF subtask, students read, on average, only 23.6 cwpm. Although this finding represents an increase of 5.7 cwpm from the 2013 baseline of 17.9 cwpm, many children need more practice to advance from laborious, word-by-word reading to reading in meaningful phrases.

Nationally, 5.3 percent of the students met the benchmarks for both the ORF and Reading Comprehension subtasks. These students can be called “Proficient Readers.” The largest

percentage of students (47.8 percent) can be categorized as “Beginning Readers” based on an ORF of between 1 and 29 cwpm. The Proficient Readers read three times as fast as the Beginning Readers (57.9 versus 18.8 cwpm) and answered comprehension questions with 98 percent accuracy compared to only 63.7 percent by the Beginning Readers.

In general, girls scored higher than boys on all subtasks, and 6.3 percent of girls are Proficient Readers versus 4.2 percent of boys. In addition, the students who report speaking Kiswahili at home show a consistent advantage over those who report speaking another language at home; 7 percent of the Kiswahili home language speakers are Proficient Readers versus only 3.1 percent of the other home language speakers. All of the differences in mean scores between the genders and between language groups were statistically significant, even when controlling for other factors such as SES and region.

Students’ writing in Kiswahili was assessed by means of a sentence Dictation subtask. On average, the students wrote 64.3 percent of the sentence correctly, up from 46.9 percent in 2013; however, they performed considerably better in the writing of words (ranging from 55.2 percent to 88.3 percent) than they did with capitalization (33.9 percent) or punctuation (5.6 percent). The performance on this subtask suggests that the majority of students are at least spelling at an age-appropriate level.

How Well Are Students Learning to Perform Basic Mathematics?

Students’ understanding of foundational mathematics skills was orally evaluated by using EGMA, which consisted of the following 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.

When compared with the performance of the students on the 2013 USAID–funded National 3Rs Baseline Study, there is no evidence that students performed better in 2016 than they did on 2013. Of course, there may not have been an expectation that there should have been an improvement in performance over the time between the two surveys. That said, the larger sample of the 2016 Tanzanian EGMA survey has led to narrower confidence intervals, which is pleasing because this will allow for better impact assessment by future surveys.

In terms of the percentage of students scoring at the Tanzanian benchmarks established after the 2013 National 3Rs Baseline Study: nearly 8 percent of them are meeting the expectations of the Addition and Subtraction Level 2 benchmark, and nearly 12 percent of them are meeting the Missing Number benchmark.

The EGMA showed that the students performed reasonably well on the more procedural items (i.e., Addition and Subtraction Level 1 subtasks), with students scoring, on average, more than 60 percent on these subtasks. That said, the students performed better on Addition Level 1 than they did on Subtraction Level 1, and nearly 16 percent of the students were unable to correctly answer a single Subtraction Level 1 item, the easiest of these items being $4 - 1 = \square$. When it came to the more conceptual items, the students still performed reasonably well on the Quantity Discrimination subtask. Student performance on the Word Problems subtask increased significantly and substantively. Significant changes in Missing

Number and in Addition Level 2 subtask problems were also detected, though these changes were not substantive. More than half (52 percent) of the students were unable to correctly answer a single Subtraction Level 2 item, the easiest of these being $18 - 4 = \square$. Although there has been some change detected on the more conceptual items as reflected in the Word Problems and Missing Number subtasks, more progress is still needed in these areas. This difference in performance between the procedural and conceptual subtasks may suggest 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.

What Is the Link Between Student Performance in School and Life Skills?

Life skills was first introduced as an area of exploration in primary schools in Tanzania as part of UNICEF's 2014 School Quality Assessment for Education and WASH in Mbeya, Iringa, and Njombe study. Based on existing literature,² the RTI Technical Team developed a student-level Life Skills Questionnaire that focused primarily on the following skills: academic grit (i.e., perseverance and passion for long-term goals), self-confidence (i.e., an individual's overall evaluation or self-appraisal, whether the students approve or disapprove of themselves and whether they like or dislike themselves), and problem solving. The questionnaire also focused on self-control (i.e., the capacity to regulate attention, emotion and behavior in the presence of temptation) and empathy (i.e., the ability to understand and share the feelings of another). Such skills have been shown to affect and predict students' success in school and life.

UNICEF sponsored the inclusion of Life skills as part of this current national study. The Research Team, in conjunction with USAID and UNICEF, selected to include measurement of three of these skills in the present national study. Two of the previously mentioned life skills, academic grit and self-control, were selected as literature indicates they are strong predictors of students' future success. The 2014 study had, similarly, found a strong correlation between academic grit and student performance. In addition, the previous study had shown that further refinement of the self-control questions was warranted. The third skill, valuable in the school setting as well as the work setting, is problem solving.

Problem-solving skills were assessed through an analysis of the strategies that students developed to solve the Word Problems subtask in EGMA. Both academic grit and self-control were measured via a series of self-report questions. The assessors described a series of situations or behaviors and subsequently asked students to indicate how frequently they exhibited these behaviors. Both academic grit and self-control were found to be significantly correlated with stronger student performance in reading and mathematics. This linkage was particularly strong for reading comprehension: students with high levels of academic grit and students with high levels of self-control were more likely to read with comprehension. Students reporting high academic grit had a 16.6 percent higher mean score than those reporting low academic grit ($p = .000$). Similarly, students who reported high self-control received, on average, 15.9 percent ($p = .000$) greater scores than those with low self-control.

² Experts cited in this research include A.L. Duckworth, M.H. Davis, E. Tsukayama, J.P. Rojas, J.A. Reser, E.L. Usher, and M.D. Toland.

At the opposite end of the spectrum, students reporting low levels of self-control or academic grit were more likely to perform less well on the reading and mathematics assessments. Reading comprehension provides a striking example. Among students reporting low self-control, 68 percent received a zero score, whereas only 20 percent of students reporting high self-control received a zero score.

When examining problem solving, we noted that students who performed better on the Word Problems subtask drew from a wider range of strategies than students who performed less well on this subtask. A larger proportion of students who received zero scores attempted to solve problems in their head without attempting to apply any other problem-solving strategy such as counting fingers or counters or availing themselves of paper and pencil.

Though once considered innate skills, more recent research has shown that life skills such as academic grit, self-control, and problem solving are in fact teachable skills. Although additional research and refinement of instruments is needed, these findings indicate that the integration of life skills instruction in the classroom setting could potentially help to make instruction more effective and could increase students' potential for success.

3Rs Reforms and Context

Several instruments (i.e., Student Questionnaire, Teacher Questionnaire, Head Teacher Questionnaire, Classroom Inventory, and a Classroom Observation) collected data about the teaching and learning environments where students learn and where teachers provide instruction in Tanzanian schools. Specifically, these tools attempted to gather evidence of basic school inputs (i.e., people, resources, and infrastructure necessary for proper functioning of schools) and classroom teaching and learning processes (how basic inputs are translated into actions and interactions around curricular content). These tools also attempted to collect evidence of time spent on task (structured time during the school day spent on the 3Rs), pedagogical oversight and management (Head Teachers' instructional leadership), and school safety. These data also provide a background for the findings of EGRAs and EGMAs.

It is evident that implementation of the 3Rs curriculum necessitates the accessibility and the equal distribution of relevant teaching and learning materials. This study found, however, an unequal distribution of various instructional resources: some were commonly found in schools and classrooms whereas others were not. It was known that at the time of the study that the textbooks that aligned with the 3Rs curriculum were not available³; thus, it is not surprising that these materials were not found in schools. Students were more likely to have exercise books (77 percent had Kiswahili books and 71 percent had mathematics books) than textbooks. For their part, most teachers had access to the 3Rs syllabus (90 percent) and teacher's guides for reading⁴ (94 percent) and for mathematics⁵ (91 percent). However, 91 percent of the teachers reported that they did not have adequate materials in their classrooms for teaching and learning of the 3Rs, with 70 percent of them stating that they had zero books registered for their classes. More variations in teaching and learning materials were also

³ We understand that these books have been procured since the survey was conducted in February 2016.

⁴ The 3Rs Teacher Guide for Reading and Writing (*Mwongozo wa mwalimu wa kufundishia stadi za kusoma na kuandika*).

⁵ The 3Rs Teacher Guide for Mathematics (*Mwongozo wa mwalimu wa kufundishia Kuhesabu Darasa la I na la II*)

discovered during the Classroom Inventory subtask, which found varying levels of pedagogical aides—sometimes these were provided to the teachers; other times these were created by the teachers. For example, letter cards (observed in 62 percent of classes), number cards (55 percent), and word cards (52 percent) were much more common than word charts (40 percent) or manipulatives for mathematics (21 percent). Overall, an unequal distribution of materials was found.

We found that although many teachers reported having attended the provided 3Rs training, teachers who did attend the training were not found to be more likely to exhibit behavior that is considered good pedagogy and, more aptly, a part of the 3Rs implementation. We found that completing the 3Rs training was not associated with most measures—either observed or reported—of good teaching. Generally speaking, teachers who completed the 3Rs training were no more likely to engage in the most of the tested behaviors, even allocating the appropriate amount of time for lessons and reading, writing, and mathematics (as stipulated by the 3Rs curriculum) than their colleagues who were not trained. However, teachers who attended the training were found to be 2.2 times more likely than non-trained teachers to use the results of student assessments to plan teaching and learning materials. Although this analysis is not causal (we cannot rule out other mitigating factors) and this behavioral measure was in fact self-reported by teachers, it is nevertheless significant that the 3Rs training is associated with this particular measure of good pedagogy and instructional planning.

Students were asked about regular classroom interactions with their teachers, whether their teachers tended to respond to challenging situations (student error) in constructive (promotive student engagement and learning) or destructive ways. It was clear that destructive pedagogical practices—in particular, hitting students—are more commonly employed by teachers than are constructive practices during challenging instructional situations. Such classroom situations are important because they present teachers with difficult, but important, choices in keeping their students motivated to learn and continuously engaged with lesson content.

During classroom observations, a significant minority of lessons ended before 30 minutes, which is the length suggested by the 3Rs curriculum. Although it was unclear precisely why lessons were ending early, this finding suggests that the time teachers and students spend on task might be somewhat reduced than what is reported (e.g., time tables showed that most teachers allocated appropriate time for reading, writing, and mathematics).

Profiles of Kiswahili and mathematics lessons were markedly similar. For instance, many teachers tended to begin lessons by talking or speaking to students (observed 38 percent of the time for Kiswahili lessons and 36 percent for mathematics lessons). In addition, some the teachers posed questions to their students (23 percent of the time for Kiswahili lessons and 21 percent for mathematics lessons). Lastly, most teachers gave their students work to complete and tended to spend the final 10 minutes of the lessons monitoring their students' work. These patterns appear to make pedagogical sense and could describe an “ideal” lesson structure. However, there also appears to be a high degree of variation between classrooms in terms of teacher actions, and not all teachers change from one section of the lesson (e.g., introduction) to the next (e.g., asking questions) at the same time. This latter inconsistency, in

turn, suggests variation in terms of the amount of time allocated to students to engage with lesson content (e.g., not all students are able to read the same amount of time during lessons).

Conclusions and Recommendations

The MoEST hosted a Policy Dialogue Workshop in Dar es Salaam at the National Museum of Tanzania on June 14 and 15, 2016. The purpose of this workshop was to present the findings of the 2016 3Rs National Survey, discuss the results, examine progress towards the recommendations made at the 2014 workshop, and suggest recommendations for further progress in reading, writing, and arithmetic.

To ensure that the 2016 Dissemination Workshop was a continuation of the 2014 workshop, Day 2 was structured to give participants a chance to review and reflect upon the efforts of the past two years. Small groups reviewed the written recommendations for one topic, and the results emerged from the small groups related to progress and outstanding issues related to access, assessment, instructional materials, and teacher training. Thereafter, the workshop was structured to make recommendations based on results provided in the report and discussions at the workshop.

Recommendations are provided in four key areas. First, more reading outside of the classroom needs to be provided to promote a culture of reading and ultimately increase achievement. Second, teachers need training to practice and develop skills to use more constructive responses to student' answers and ideas. Third, recommendations are made to support language development of the nearly half of the students who speak a language other than Kiswahili at home. Fourth, and finally, recommendations are made to increase the communication between teachers and families so that families can support their children's reading, writing, and mathematics achievement.

With regard to life skills, data from the self-report questionnaires allowed us to detect differences in students' skill levels. Although the introduction of frequency-of-event options increased the variability in student responses (as compared with previous results), the results remained fairly heavily skewed. Nevertheless, academic grit, self-control, and socio-economic status (SES) were shown to be significantly and positively associated with student performance on Reading Comprehension and Missing Number subtasks. Linear regression models indicated that the association between academic grit and self-control remained even when student's age, sex, and SES were considered. In fact, the only demographic characteristic that was a strongly associated with student performance was the highest SES quintile. Though further refinements (e.g., positive rephrasing of the self-control sub-scale to correct for response bias) and additional research are needed, these results indicate that increasing students' academic grit and self-control may be a way to increase the effectiveness of instruction while simultaneously helping to mitigate some of the performance barriers challenging economically disadvantaged students.

1 Introduction

1.1 Country Background

An East African republic of an estimated 51.8 million people (World Bank, 2016a), the United Republic of Tanzania is a diverse nation with a steadily growing economy. The current gross domestic product at market prices of \$46.9 billion (in U.S. dollars) places Tanzania in 10th place out of 53 African economies, according to the 2015 International Monetary Fund's World Economic Outlook Database (International Monetary Fund, 2016). 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. Agriculture comprises more than 25 percent of the Tanzanian economy (National Bureau of Statistics, 2014). Another contributing factor for the steady and positive economic increase—in spite of the recent global economic crisis—comes from the growing construction, transportation, and financial services markets (World Bank, 2016a).

Tanzania's Human Development Index is currently ranked 151 out of 188 countries and over the past couple of decades has improved from 0.37 in 1990 to 0.52 in 2014 (on a scale from 0–1) (UNDP, 2016). Tanzania's recognition as a contributor to the East African regional economy is a further reflection of the economic progress that this country has made. Despite this progress, Tanzania is consistently challenged with many issues that are common in low-income countries; therefore, progress on the international Millennium Development Goals has been erratic. Tanzania has made considerable progress in addressing Millennium Development Goal targets by increasing primary school enrollment and equity, improving access to safe drinking water, and reducing child mortality. However, other targets such as reducing maternal mortality, combatting HIV/AIDS, promoting gender equality, and reducing poverty still demand attention. The majority of the Tanzanian population lives in rural areas, and most of this population relies on subsistence agriculture for their livelihoods. Despite overall economic growth, poverty is prevalent and stagnant, with the poverty headcount ratio at national poverty lines reaching 28.2 percent according to the most recent data from 2011 (World Bank, 2016b).

The population of Tanzania has been progressively increasing, with an average annual increase of 3.2 percent per annum between 2010 and 2014 (World Bank, 2016c). The population structure of Tanzania is pyramid shaped. At the base of the pyramid and comprising 44 percent of the population are those aged 15 years and younger. At the peak of the age structure pyramid, and comprising 2.9 percent of the population, are those aged 65 years and older (CIA, 2012). The average life expectancy of people in Tanzania is 64.9 years, according to the most recent data from 2014 (World Bank, 2016a). 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 (CIA, 2012). On average, the population is 70.6 percent literate with boys and men (75.9 percent) more literate than girls and women (65.4 percent) (CIA, 2015).

As a former British protectorate from 1918 to 1960, Tanzania gained its independence in 1961. Since then, five 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, John Magufuli, took office in November 2015 as the fifth president since independence. Since taking office, Magufuli has demonstrated a strong stance on austerity and a move toward reducing corruption and wasteful government spending. The administration has outlined other priorities to include investment in health care systems, improving quality of education, and increasing access to water and electricity. The previous administration of former President Jakaya Kikwete centered much of its 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. 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. Stemming from the BRN initiative, the education sector focused its attention on reforms to streamline the primary education curriculum to focus on the fundamentals of primary school education—the 3Rs (reading, writing, and arithmetic). The 3Rs reforms and their implications for this study are discussed further in Section 2, Evaluation Approach, of this 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. In Tanzania, there are more than 120 tribes, and each one has its own language, which means that many Tanzanians speak their tribal language at home, use Kiswahili for official and public 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 most recent World Bank statistics from 2012, 93 percent of school-aged children were enrolled in primary school in Tanzania (World Bank, 2012). However, primary school completion remains a challenge. As previously mentioned, 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. One contributing factor to the low retention rate 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, 2006). This relatively high child labor rate may lead to the low school completion rates.

The Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) studies provide insight regarding regional 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 (i.e., 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). Tanzania spends a relatively high portion of its gross domestic product 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 socio-economic status (SES) 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 solid foundation 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 2016 Tanzania National Early Grade Reading Assessment (EGRA) monitors the achievement levels of students in the early grades with regard to progress toward achieving 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, in 1995, Tanzania created the Education Sector Development Plan, which 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 III 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, revitalizes interest in the 3Rs in early primary school grades.

Recent 3Rs reforms flowing from the BRN education initiatives streamlined the curriculum content to focus on the foundations of reading, writing, and arithmetic and reduce the number of subjects taught in a day to devote more time to these critical topics. The curriculum and syllabi for Standards 1 and 2 were updated and finalized in 2015. Teacher training events were organized around the country in March 2015. One teacher from each school was appointed to attend the training to learn about the new curriculum and syllabus and about teaching and learning approaches. Teachers were informed of teaching and learning concepts such as student-centered and competency-based learning. In addition, there was a focus on teaching content areas, such as speaking, reading, writing, and counting, and practical explanations of the new 3Rs lesson plan and scheme of work formats. Those teachers who attended brought lessons learned back to their schools so they could share this information

with the teachers who did not attend the training. Section 2, Evaluation Approach, of this report presents more information about the 3Rs as it pertains to this study.

2 Evaluation Approach

2.1 Research Questions and Assessment Design

In 2013, a national baseline assessment was conducted in Tanzania to establish an understanding of early grade student performance, as well as contextual school information on teachers and classrooms that would inform the BRN initiatives, and specifically the 3Rs reforms and activities. The results from the 2013 *National Baseline Assessment for 3Rs Using EGRA, Early Grade Mathematics Assessment (EGMA), and Snapshot for School Management Effectiveness (SSME)* (henceforth referred to as the National 3Rs Baseline Study) were disseminated at a national level in Dar es Salaam in 2014. These results established a validated understanding of early grade student performance in the 3Rs across Tanzania. The nationally representative results were translated into national benchmarks for Standard 2 students in Tanzania. The benchmarks established five-year targets in foundational reading and mathematics skills, which gave a structure and focus to the 3Rs reforms introduced and implemented by the Ministry of Education, Science, and Technology (MoEST) starting in 2015. These benchmarks also formed a cohesive structure against which results from various donor-funded programs could be measured. **Annex A** outlines the benchmarks established in 2014. Additionally in 2014 to 2015, the School Quality Assessment for Education and Water, Sanitation, and Hygiene (WASH) in Three United Nations Children’s Fund (UNICEF)–Supported Regions established the baseline data to understand how students in Tanzania were developing life skills in three regions of Tanzania (i.e., Iringa, Mbeya, and Njombe).

In October 2015, the U.S. Agency for International Development (USAID) awarded the Tanzania National EGRA under the Access to Basic Education, All Children Reading (ABE-ACR) mechanism to discern progress toward the established benchmarks following the baseline assessment in 2013 and to evaluate teacher participation in and engagement with the 3Rs reforms. The theory of change, which is under investigation, is that the effective implementation of the curricular and teacher training reforms as defined by the 3Rs program would improve student performance and, therefore, benchmarks would be met. The three primary questions to be answered through this activity are as follows: Are teachers able to effectively implement the 3Rs program? Is student performance improving? Are students progressing toward and achieving the established benchmarks? At the same time, UNICEF funded the Tanzania National Life Skills assessment, which was conducted alongside the EGRA, EGMA, and SSME. The National Life Skills assessment further explores how well students are progressing toward the development and achievement of the life skills that they need to succeed in school and beyond. The Life Skills Questionnaire was administered to a subsample of the students participating in the EGRAs and EGMA. These questions will be answered with data at both the national and regional levels, and student data will also be disaggregated by gender. The instruments and methods used to gather these data are described in Section 2 of this report.

Data to respond to the core research questions are gathered during two rounds of data collection in early 2016 and the USAID–funded activities will take place again in early 2018. The 2016 round of data collection described in this report will describe the current status for teachers starting to implement the 3Rs reforms and curricular changes. The 2018 data will reveal what progress has been made during two years of the reforms.

The national baseline data were collected at the end of the 2013 school year with Standard 2 students. However, due to the national election cycle, which precluded visiting schools in late 2015, schools were visited in early 2016. To preserve comparability with the National 3Rs Baseline Study and subsequent 2014 benchmarks, the study assessed students who were starting Standard 3 in 2016 as opposed to the 2013 study where students were assessed at the end of Standard 2. This was the best possible proxy, given the election circumstances. Standard 2 teachers were the focus of the teacher interview, classroom inventory, and classroom observation (as was the case in the National 3Rs Baseline Study) in order to gain an understanding of the context in which Standard 2 students learn. Unlike the National 3Rs Baseline Study, however, the results between a specific teacher or classroom and the students cannot be linked because it is impossible to know whether the Standard 3 students who were randomly sampled for the assessment were in the classroom of the randomly sampled Standard 2 teacher during the students' Standard 2 studies. Students were asked a small number of questions regarding the student teacher interactions that they experience with their current teacher. Then, that information can be linked to student performance. More information about the sample of students and teachers is presented in the Sample Methodology subsection of this report.

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. Some of the 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 2016 Tanzania National EGRA study provide information about the achievement of learning outcomes in the 3Rs.

A four-person team of assessors administers the EGRA, EGMA, and SSME instruments during a single school day. Each of the SSME's components is designed to obtain information from a different perspective. The SSME's components are the Student Questionnaire, the Head Teacher Questionnaire, the Teacher Questionnaire, 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 undistruptive 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. It is important to note that for the 2016 Tanzania National EGRA, the SSME instruments were carefully revised to reflect indicators of interest from the 3Rs reforms and initiatives. The assessment tools are presented in **Annex B**. The six SSME components are briefly discussed as follows:

- Student Questionnaire: Administered to each Standard 3 student randomly selected for assessment
- Head Teacher Questionnaire: Administered to the Head Teacher in each school visited
- Teacher Questionnaire: Administered to Standard 2 teachers in the classrooms randomly selected for observation
- 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 EGRA and EGMA are somewhat less intuitive than for SSME, the next two subsections (i.e., 2.3 and 2.4) of this report present additional background about 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 text is one of the most fundamental skills that a child can learn. Basic literacy is the foundation that children need to be successful in all other areas of education. Children first need to “learn to read” so that they can “read to learn.” Low levels of literacy constrains a child’s ability to acquire academic knowledge, which helps to promote self-guided and lifelong learning beyond the classroom. Without basic literacy, there is little chance that a child can escape the intergenerational cycles 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 age. Children who do not learn to read during 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. Timely screening, intervention, and remediation are necessary to prevent this gap from becoming impossible to bridge.

2.3.2 Purpose of EGRA

Historically, there had been very little information about student learning in the early grades in low-income countries. EGRA was originally designed as a quick and reliable method to

inform ministries and the donor community about the quality of reading acquisition in the early grades. EGRA was designed to assess a range of early skills known to be fundamental to learning to read fluently with comprehension. As such, EGRA can inform Ministries of Education, donors, teachers, and parents about students' reading acquisition progress in the early grades. EGRA can also assist education officials in setting standards and benchmarks for reading, as well as in planning curriculum and teacher training to best facilitate children's reading achievement. However, EGRA is not intended to be a high-stakes accountability measure to determine whether a student should advance to the next grade or to evaluate individual teachers.

2.3.3 What EGRA Measures

The ultimate goal of learning to read is comprehension. Competent readers read and understand text with such speed and ease that they are not conscious of the process of comprehension itself. However, comprehension is actually a complex skill or a composite behavior (Snow and the RAND Reading Study Group, 2002) made possible from the mastery and simultaneous use of a wide array of subskills.

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. These skills include letter sound knowledge, decoding, fluency, and reading comprehension, which are each further described in the remainder of this subsection. The higher order skills (e.g., fluency and comprehension) build on lower order skills (e.g., letter sound knowledge, decoding), and the lower order skills have been shown to be predictive of later reading achievement. Therefore, even if children cannot yet read a passage with comprehension, EGRA can nonetheless measure their progress toward acquiring the lower order skills that are steps along the path to that end.

Letter sound knowledge and decoding is the most efficient way for beginning readers to learn to read words. Children learn the letters of the alphabet, learn the sounds associated with each letter, and then apply this knowledge to decode (or “sound out”) new words. Over time, decoding leads to automatic word recognition manifested by fluent reading of connected text.

Fluency is often defined as the ability to read with speed, accuracy, and understanding. ORF is a common way to assess whether an individual is a fluent reader. Fluency is considered to be 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.

2.3.4 EGRA in Tanzania

In 2016, the Tanzania National EGRA was conducted to examine the progress made toward the established benchmarks following the National 3Rs Baseline Study in 2013 and to evaluate teacher participation in and engagement with the 3Rs reforms. The EGRA instrument used consisted of a variety of subtasks, as summarized in **Table 1**, that were

designed to assess beginning skills fundamental to becoming a proficient reader. The EGRA instrument was individually and orally administered in Kiswahili. Administering the instrument to each student takes approximately 10 to 15 minutes.

Table 1. EGRA Instrument Subtasks in Tanzania

Subtask	Skill	Description The child is asked to ...
Syllable Reading	Letter sound knowledge and decoding	... read aloud a list of 100 legitimate syllables presented in random order on a page. (<i>Timed subtask</i>)
Non-word Reading	Letter sound knowledge and decoding	... read aloud a list of 50 non-words presented in random order on a page. Words were constructed from legitimate Kiswahili letter combinations but were nonsensical. (<i>Timed subtask</i>)
Oral Reading Fluency	Fluency (automatic word recognition) and accuracy in context	... read aloud a grade-level short story printed on a page. (<i>Timed subtask</i>)
Reading Comprehension	Comprehension	... verbally respond to five oral questions (four literal and one inferential) that the assessor asks about the short story. (<i>Untimed subtask</i>)
Sentence Dictation	Spelling, orthographic/phonological knowledge, language knowledge, and grammar skills	... write, spell, and use grammar properly through a dictation exercise. (<i>Untimed subtask</i>)

Most of the EGRA subtasks included 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 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 allotted time. All of the children attempted all of the words in the dictated sentence.

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 the Trends in International Mathematics and Science Study (TIMSS). Most countries’ mathematics

curricula for the early grades now coincide in terms of the skills that children should possess. For example, goals such as knowing and using number names, learning and understanding the values of numbers, knowing key symbols, and comparing and ordering sets of objects are skills found in many curricula, including curricula in developing countries.

2.4.2 Purpose of EGMA

Similar to EGRA, EGMA was designed to provide ministries and donors with information regarding the general quality of mathematics instruction in the early grades. EGMA gathers information about basic competencies—those competencies which should typically be mastered during the very early grades, and without which students will struggle or will 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; Clements and Samara, 2007; Chard et al., 2005). 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 (e.g., Baroody et al. 2006; Clements and Samara, 2007; Foegen et al., 2007).

2.4.3 What EGMA Measures

Many criteria were defined for subtasks to be included in the instrument 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. The criteria are presented as follows:

- Represent skills that 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 both 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 being confounded by problems with language or writing that might otherwise impede performance. By administering the test orally, administrators can better ensure that students understand the instructions because they are provided in a language that they know.

2.4.4 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 of 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. (<i>Timed subtask</i>)
Subtasks that assess more conceptual (application) type of 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. (<i>Untimed subtask</i>)
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. (<i>Untimed subtask</i>)
Addition and Subtraction (Level 2)^a	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. (<i>Untimed subtask</i>).
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' abilities 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. (<i>Untimed subtask</i>).

^a The Addition and Subtraction (Level 2) subtasks are more conceptual than the Addition and Subtraction (Level 1) subtasks because a student must understand what he or she is doing when 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.

3 Overview and Purpose of Life Skills

The Life Skills Questionnaire was designed to assess a student’s knowledge of and proficiency in applying life skills concepts such as academic grit, self-control and problem solving. A growing body of research has shown that acquiring life skills can play a large role in determining a student’s success in school and, more broadly, in life (Heckman and Kautz, 2012). Academic grit and self-control have been shown to be strong predictors of a student’s future success in life (Bandura et al., 2001; Duckworth et al., 2007; Tsukayama et al., 2013). Problem solving is central to performing mathematics and to identifying and overcoming challenges in extracurricular contexts.

Derived from well-established tools and protocols, the questions in the student-level Life Skills Questionnaire were all adapted from existing Life Skills Questionnaire instruments. By and large, the original assessments would use a description of a person exhibiting a skill in a given situation to introduce the life skill and pose questions to students. This report describes how each of the life skills components was assessed for this study and presents findings. The actual instruments are found in *Annex B*. Life skills data were collected by assessors during the data collection activities of the USAID–, Global Affairs Canada–, and UNICEF–funded national assessment of EGRA, EGMA, SSME, and Life Skills in early 2016. The assessors used Tangerine software on tablet devices to administer the assessment and questionnaire instruments.

3.1 The Life Skills as Assessed in Tanzania 2016

3.1.1 Academic Grit

For our purposes, “grit” is defined as “perseverance and passion for long-term goals” (Duckworth et al., 2007). The academic grit questions were adapted from the “Academic Grit Scale” developed by Rojas et al. (2013) at the University of Kentucky. The Rojas questions, in turn, were derived from Duckworth’s “Short Grit Scale” (2009).

These original questions were grouped into two categories: Perseverance of Effort and Consistency of Interest (Duckworth, 2009). Given the age of the children being evaluated (Standard 3 students early in the academic year), the Research Team focused just on the Perseverance of Effort questions. The Consistency of Interest questions focused on long-term, multi-year interests and projects. The team believed that this time reference might not be appropriate for Standard 3 students; therefore, the team omitted these from the final instrument. The Research Team included eight adapted questions—some phrased positively and some negatively—that explored how hard the students believed that they had worked, whether they tended to complete all of their tasks or chores and whether they persevered and continued working on a task when facing challenges and/or previous failures (see *Annex B* for the life skills questions).

3.1.2 Self-Control

“Self-control” is defined by Duckworth and Gross (2014) as “the capacity to regulate attention, emotion and behavior in the presence of temptation.” For this instrument, the Research Team adapted the language and the response options from the Domain-Specific Impulsivity Scale for Children (DSIS-C) developed by Tsukayama et al. (2013). For this

instrument, students are asked questions that are designed to measure self-control and/or a lack of impulsivity as it relates to interpersonal interactions and schoolwork (Duckworth and Gross, 2014). Although the original measure asked students about the frequency of the occurrence of specific impulsive behaviors (i.e., lack of self-control), which led to respondent bias in previous instantiations, for this study the RTI Research Team asked the students whether they related to these situations (e.g., “Doto got upset and lost her temper at school. How often do you behave like Doto?”).

3.1.3 Problem Solving

A separate task was not developed to assess problem solving. Instead, the team members used the Word Problems subtask of the group-based EGMA to gauge the problem-solving capabilities of students in the study. The focus of this subtask is on assessing the students’ ability to interpret a situation, make a plan and solve a problem. The six problem situations used in this subtask are designed to provoke the students to make different, progressively more complex plan and to conduct different mathematical operations. In addition to evaluating the responses of students to the Word Problems subtask items, the assessors described the problem-solving strategies used by students to complete the Word Problems subtask. Assessors observed students as they completed the problems and noted which resources they used (i.e., solving the problem in their heads; and/or using fingers, counters, or tallies; and/or using paper and pencil calculations). The expectation was that better problem solvers would use a wider range of different strategies that were most appropriate for the problem.

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

The EGRA, EGMA, and SSME instruments developed for the 2013 National 3Rs Baseline Study were adapted for Tanzania to address the research questions posed and to ensure comparability of findings across the 2013 and 2016 assessments. To ensure comparability of the 2013 and 2016 student performance measurements while taking steps to mitigate potential test leakage, slightly modified versions of the 2013 EGRA and EGMA were developed for use in 2016.⁶ Comparable tests are essential in measuring the progress that students are making toward reaching the established benchmarks. In addition, some of the contextual questions in the SSME instruments were added or modified to address the newly implemented 3Rs program. Additional questions were added to both the classroom observation and the Teacher Questionnaire to evaluate how effectively teachers were implementing the program.

A team of technical experts met with representatives from the MoEST, the National Examinations Council of Tanzania (NECTA), the Tanzania Institute of Education, and other counterparts during a set of design meetings in November 2015. The purpose of the meetings was to review the instruments to be used during the 2016 round of data collection to ensure that the instruments reflected the changes implemented in the 3Rs reforms. After the

⁶ The 2013 instruments used as a basis for the 2016 instruments were developed during an Adaptation Workshop in September 2013 during which the instruments were developed and vetted by national experts from the education community in Tanzania (representatives from branches of MoEST, teacher training institutions, curriculum development units, and other stakeholder entities) based on an analysis of Standard 2 curriculum and textbooks.

meetings, the team made further adjustments to the instruments before the January 2016 pilot study. NECTA reviewed and approved the EGRA and EGMA instruments prior to conducting the pilot study. (Note: NECTA indicated that the questionnaires, inventories, and observations did not need to be submitted for review).

Following the pilot study, the data were analyzed to inform any final adjustments to the suite of instruments used during the study. The major pilot analysis of the EGRA and EGMA data is the psychometric measure of Cronbach's alpha, as detected through Rasch analysis. This analysis provides insight regarding the internal consistency or reliability of each subtask in the EGRA and EGMA instruments, as well as the difficulty of the items within the subtask as they compare to the other items in the subtask. Overall, the items showed high internal consistency. Generally, a Chronbach's alpha of 0.7 is considered minimally acceptable, 0.8 is good, and 0.9 or above is excellent. The Chronbach's alpha was 0.97 for EGRA, 0.85 for EGMA, and 0.94 for EGRA and EGMA combined. The itemized Cronbach's alpha for each EGRA and EGMA subtask can be found in **Annex C**.

During the design meetings in November 2015, a decision was made to develop and pilot two new reading passages for EGRA. The reading passage from the 2013 EGRA instrument would be retained, and for the full data collection in 2016, one new passage would be selected for a total of two reading passages in the EGRA. The pilot Rasch analysis provided insights for passage selection.

Refinements and final revisions were made to the instruments after the pilot data analysis. The revisions were communicated and explained to the appointed NECTA review team, and the team subsequently provided formal approval of the instruments and noted their appreciation for the responses to NECTA's questions and comments. The final, validated instruments used for the 2016 round of data collection are presented in **Annex B**.

3.3 Instrument Adaptation Process for Life Skills

3.3.1 Previous Adaptations of Life Skills in Tanzania

Life skills was first introduced as an area of exploration during a study conducted in Tanzania in 2015 with support from UNICEF. Based on existing literature,⁷ the RTI Technical Team developed a student-level Life Skills Questionnaire that focused primarily on the following skills: academic grit (i.e., perseverance and passion for long-term goals), self-confidence (i.e., an individual's overall evaluation or self-appraisal, whether the students approve or disapprove of themselves and whether they like or dislike themselves) and problem solving. The questionnaire also focused on self-control (i.e., the capacity to regulate attention, emotion and behavior in the presence of temptation) and empathy (i.e., the ability to understand and share the feelings of another). Such skills have been shown to affect and predict students' success in school and life.

Given the age of the children involved (students were assessed at the end of Standard 2 during the 2015 study), the Research Team used a three-point Likert scale, with the response options being "Not like me," "Sort of like me" and "Like me." Findings showed significant correlations between self-confidence and academic grit and student performance. The

⁷ Experts cited in this research include A.L. Duckworth, M.H. Davis, E. Tsukayama, J.P. Rojas, J.A. Reser, E.L. Usher, and M.D. Toland.

findings also indicated that the self-control measure required additional development because it was unable to capture sufficient variance in self-control levels among students.

3.3.2 Life Skills in the Current Study

The current study focuses on academic grit, self-control, and problem solving because of the previously mentioned robust findings linking student achievement and academic grit, as well as the recommendations for further development and testing of the self-control items. In terms of the robust findings, academic grit was found to predict student achievement as previously discussed, particularly among students in lower socioeconomic households. These significant findings could have implications for educational programming; therefore, it was important to attempt to replicate them in the current study. Regarding the current study, the skewed results discussed in the previous study (Brombacher et al., 2015; Mulcahy-Dunn et al., 2016) may have indicated that students were reluctant to report a lack of self-control and that a change in response options might have helped to mitigate this issue. Brombacher et al. (2015) conjectured that students who may be reluctant to say that they are “like” students who lose their temper in class may be more comfortable with admitting that sometimes they lose their temper in class. Following this thinking and guidance in existing literature regarding using frequency of incidence (rather than identity) might prompt more sincere responses from students (Tsukayama et al., 2013).

Thus, although the life skills questions remained by and large the same as instances previously discussed, there were some adaptations. First, to introduce the question to the student, the previous questions all began with the phrase, “Let me tell you about a child named _____.” For this study, this introductory phrase was only used for the first question in a series (e.g., the first of eight questions about academic grit). Second, the response options were changed from a three-point Likert scale (consisting of the following options: “No,” “Sort of,” and “Yes”) based on the student identifying with a particular skill or behavior to a four-point scale (consisting of the following options: “Never,” “Sometimes,” “Often,” and “Every day”) based on the reported frequency of the displayed behavior. *Table 3* provides two examples of the life skills questions for this study.

Table 3. Examples of Final Life Skills Questions and Response Options

Final Life Skills Questions (2016)	Response Options
Let me tell you about a child called Bakari/Amina. He/She always works very hard. How often do you behave like Bakari/Amina?	Never 0
	Sometimes..... 1
	Often 2
	Every day..... 3
	Don't know/refuse 888
Musa/Rosi often interrupts other children when they are talking. How often do you behave like Musa/Rosi?	Never 0
	Sometimes..... 1
	Often 2
	Every day..... 3
	Don't know/refuse 888

Note: One name from the question is selected and read by the assessor based on the sex of the student.

The full collection of the final, validated instruments consists of the following instruments and the subtasks within the instruments:

- **EGRA**: Syllable Names, Non-word Reading, Oral Reading Passage x 2, Oral Reading Comprehension x 2, and Dictation Sentences
- **EGMA**⁸: Number Discrimination, Missing Number, Addition, Subtraction, and Word Problems
- **SSME**: Student Questionnaire, Teacher Questionnaire, Head Teacher Questionnaire, Classroom Inventory, Classroom Observation (Kiswahili), and Classroom Observation (Mathematics)
- **Life Skills**⁹: Student Life Skills Questionnaire (administered to a subset of students).

4 Sample

4.1 Population and List Frame

The population of interest is all Standard 3 students attending non-special needs public schools within the country¹⁰. The list of schools found in the 2014 NECTA Primary School Leaving Certificate Examination was used as the sampling frame for the schools in mainland Tanzania. The 2014 census list of schools collected by the Zanzibar Ministry of Education was used for the islands of Tanzania. After making the appropriate exclusions,¹¹ a total of 15,704 schools were found in the list from which the schools were to be sampled.

4.2 Sample Methodology

The sample methodology calls for two, two-stage samples of schools-teachers and schools-students. *Table 4* summarizes the sample methodology used.

Schools were stratified by 26 regions,¹² and 25 schools were randomly sampled from each region for a total of 650 schools. Schools within each region were then sorted by district, ward, enrollment, and school code. Sorting the schools in this manner helped to ensure that the sampled schools represented all portions of the region. Finally, schools were sampled with a probability proportional to enrollment within each region. For each originally sampled school, the two schools that most resembled the originally sampled school (by district, ward, and enrollment) were automatically sampled. These schools served as possible replacement schools in case the original school was deemed to be unfit for assessment (for more information, see the following subsection, Verification of Sampled Schools).

Once the Assessment Team visited the verified sampled school, one Standard 2 teacher was sampled with equal probability within the selected school. The assessors collected

⁸ Funded by Global Affairs Canada/High Commission of Canada in Tanzania.

⁹ Funded by UNICEF.

¹⁰ All public schools with the exception of 66 schools that were visited by NECTA in November 2015 for the NECTA Standard 2 pilot study.

¹¹ Exclusions were made for the following reasons: (1) n = 371 non-government schools, and (2) n = 66 schools because they were visited in November 2015 for the NECTA Standard 2 pilot study.

¹² The 26 regions include the 25 mainland regions and combining the islands of Zanzibar as one region.

information from the sampled teacher that included a Teacher Questionnaire and a Kiswahili and for Mathematics lesson were observed.

Completely independent of the Standard 2 teacher selection, 12 Standard 3 students were sampled within the selected schools for the EGRA, EGMA, and the Student Questionnaire. Students were stratified by gender, so approximately six girls and six boys were sampled from each school. This number of students yielded a sample of almost 7,800 Standard 3 students sampled for the EGRA, EGMA, and Student Questionnaire. Table 4 summarizes this sampling methodology. It is important to note that our original target population was end-of-year Standard 2 students; however, elections in October 2015 caused the data collection to be postponed until early 2016. Beginning-of-the-year Standard 3 students were considered to be a close approximation to end-of-year Standard 2 students. For this reason, Standard 3 students were sampled in 2016 rather than those in Standard 2 included in the 2013 EGRA.

Table 4. Sample Methodology Summary.

Stage Number	Item Sampled	Stratified by	Probability of Selection
1	Schools (650)	Region (26) 25 schools per region	Proportion proportional to enrollment ^a
2 (Classrooms)	Standard 2 classrooms (650)	<none> 1 Standard 2 classroom per selected school	Equal
2 (Students)	Standard 3 students (almost 7,800)	<none> 12 Standard-3 students	Equal

^a Proportional to enrollment: For the mainland data, enrollment was the total number of students who sat for the Primary School Leaving Certificate Examination in 2014. For the island data, enrollment was the number of Standard 2 students for the 2014 census data.

Unless explicitly stated, all reported estimates were calculated by using the appropriate sample weights because the sample weights adjust for any under or over representation in the sample, thereby making the estimates representative of the specified population. For further clarification about why using systematic random sampling is an efficient and valid method of ensuring that a sample is representative of its population, please refer to **Annex D**.

The proposed sample was derived to provide nationally representative estimates of student performance at the national level. Smaller sample sizes at the regional level would result in less precise estimates, and for this reason, this report discusses only whether a region is meeting the benchmark. The sample was designed to be able to report the estimated percentage of Standard 3 students reaching the benchmark within each region with a 95 percent confidence interval band of approximately ± 6.5 percent of students reaching the benchmark, and an even tighter 95 percent confidence interval band of approximately ± 2.0 percent of students reaching benchmark at the national level. The confidence intervals for the percentage of students reaching the benchmark among the regions ranged from ± 1.3 percent to ± 6.6 percent, with only one region having a confidence interval greater than expected. Nationally, the confidence interval for the percentage of students reaching the benchmark was ± 0.8 percent.

The sample for the life skills component of the study involved a subsample of two out of the 12 students sampled at each of the 650 schools. This number yielded a total sample of 1,418 students sampled for the Life Skills component.

4.3 Verification of Sampled Schools

After schools were sampled and before the actual data collection, the schools were verified to ensure that they met the appropriate requirements for assessment. If a school did not meet *all* of these criteria, then it was removed from the sample, and the first replacement school was contacted. After the Assessment Team verified that the school met all of the requirements, the team members visited that school. The requirements for the 2015 survey are that the school must

- Be open at some point during the data collection time period
- Be located in the appropriate region
- Be public or government
- Have a Standard 3 enrollment.

During data collection, two schools that were originally sampled in the Lindi region became inaccessible because of flooding in the area. Because the replacement schools also became inaccessible, two new schools were chosen as replacements.

4.4 Final Sample Counts

Data collection occurred across all regions in Tanzania from February 15, 2016 to March 4, 2016. A total of 7,765 Standard 3 students were assessed in EGRA, EGMA, and the Student Questionnaire, and 1,418 students were administered the Life Skills Questionnaire in 650 schools overall, 25 schools from each region. One Standard 2 teacher was also selected from each of these 650 schools; the selected teacher was interviewed, a classroom inventory was observed, and the mathematics and Kiswahili lessons were observed. Information about the inter-rater reliability practices conducted by the assessors during data collection can be found in **Annex E**.

5 Results and Findings

5.1 EGRA Results

5.1.1 Tanzania National Benchmarks for Reading and Mathematics

The National 3Rs Baseline Study conducted in Tanzania in 2013 used EGRA and EGMA to establish an understanding of early grade student performance in reading, writing, and arithmetic across Tanzania. In 2014, the nationally representative results from these assessments were translated into national benchmarks for foundational skills in reading and mathematics for Standard 2 students, as well as five annual targets for the percentage of students meeting each benchmark and the percentage of students scoring zero on each indicator. These benchmarks and targets gave structure and focus to the 3Rs reforms introduced and implemented by the MoEST starting in 2015. These benchmarks also formed

a cohesive structure against which results from various donor-funded programs could be measured.

The benchmarks and annual targets are in *Table 5*.

Table 5. National Benchmarks and Annual Targets in Reading and Mathematics for Standard 2 Students

Kiswahili EGRA Subtask	Benchmark	Percentage of Standard 2 Students at Benchmark						
		2013 Actual	2014 Target	2015 Target	2016 Target	2017 Target	2018 Target	5-Year Target
Non-word Reading	40 Correct words per minute	1.5%	2%	3%	5%	8%	15%	15%
Oral Reading Fluency	50 Correct words per minute	4.7% ^a	14%	17%	21%	28%	45%	45%
Oral Comprehension	80%	8.1%	10%	13%	17%	24%	40%	40%
Kiswahili EGRA Subtask		Percentage of Standard 2 Students Scoring Zero						
		2013 Actual	2014 Target	2015 Target	2016 Target	2017 Target	2018 Target	5-Year Target
Non-word Reading		28%	27%	26%	24%	21%	14%	14%
Oral Reading Fluency		28%	27%	26%	24%	21%	14%	14%
Oral Comprehension		40%	39%	37%	35%	31%	21%	20%
EGMA Subtask	Benchmark	Percentage of Standard 2 Students at Benchmark						
		2013 Actual	2014 Target	2015 Target	2016 Target	2017 Target	2018 Target	5-Year Target
Addition and Subtraction Level 2	80%	8%	10%	13%	16%	22%	36%	35%
Missing Number	60%	8%	10%	13%	16%	22%	36%	35%
EGMA Subtask		Percentage of Standard 2 Students Scoring Zero						
		2013 Actual	2014 Target	2015 Target	2016 Target	2017 Target	2018 Target	5-Year Target
Addition and Subtraction Level 2		43%	42%	40%	37%	32%	21%	20%
Missing Number		10%	10%	10%	9%	8%	6%	5%

^a The original report on the 2013 National 3Rs Baseline Study reported the unweighted value for the percentage of students reading at 50 correct words per minute. This report uses the weighted value for all subtasks. New intermediary targets for the correctly weighted Oral Reading Fluency benchmark will be developed.

5.1.2 Kiswahili EGRA Performance

The Kiswahili EGRA results section begins with a discussion of the change in the percentage of students meeting the reading benchmarks and in zero scores from 2013 to 2016 and compares the results to the 2015 annual target for each indicator. The section then follows with a comparison of mean scores and a description of four categories of readers. Lastly, the section examines the 2016 results by gender, home language, and subtask.

The 2013 National 3Rs Study was administered to students in October 2013 at the end of their Standard 2 school year. As previously noted, because of national election-related logistical constraints, the 2016 Tanzania National EGRA was administered to students in

February 2016 during the second month of Standard 3. Given that school is not in session for most of December and part of January in Tanzania and that learning levels are known to experience a decline over school breaks, in theory, the early Standard 3 students should not be substantially ahead of the late Standard 2 students. However, the possibility cannot be ruled out that some differences in the results between the years may be attributable to these differences in the timing of the assessment with regard to the school year.

Overall, it appears that student performance in reading improved from 2013 to 2016, especially among the lowest performers, as evidenced by a decrease in zero scores and an increase in mean scores. As a result, nationally, the percentages of students meeting the reading benchmarks increased slightly for the ORF and Reading Comprehension subtasks. The percentage of students meeting the benchmark for the Non-word Reading subtask stayed essentially the same. *Table 6* and *Figure 1* summarize the EGRA results of this survey in terms of the percentage of students scoring at the benchmarks for three EGRA subtasks.

Table 6. Proportion of Students at the Tanzanian Benchmarks on EGRA Subtasks

EGRA Subtask	Benchmark	2013 National 3Rs Study	2016 Tanzania National EGRA	2015 Target
Oral Reading Fluency	50 Correct words per minute	4.7% (± 2.4)	6.5% (± 0.8)	17%
Reading Comprehension	80% Correct	8.1% (± 3.3)	12.1% (± 1.1)	13%
Non-word Reading	40 Correct words per minute	1.4% (± 0.8)	1.3% (± 0.3)	3%

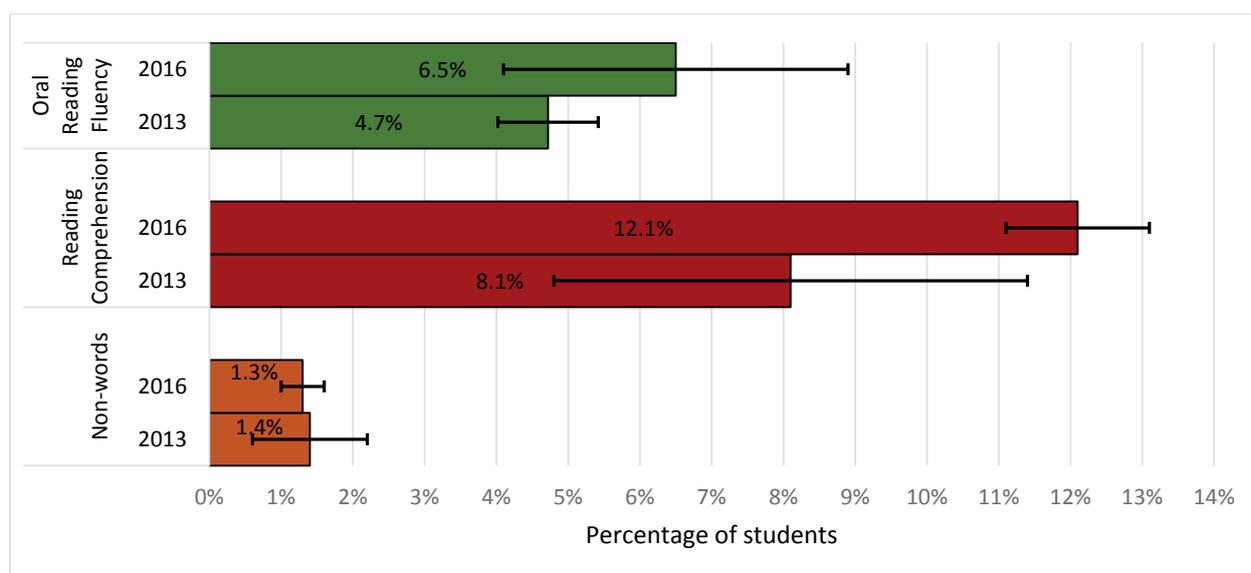


Figure 1. The percentages of students scoring at the Tanzanian benchmarks for three EGRA benchmark subtasks.

Nonetheless, the 2016 results for percentage of students achieving each benchmark fell short of the 2015 targets for all but the Reading Comprehension subtask, where there is evidence that students are reaching the 2015 benchmark of 13 percent because 12.1 percent falls within

the tight 95 percent confidence interval estimates of 11 percent and 13.2 percent. In fact, none of the regions met the 2015 target (17.0 percent) for the percentage of students achieving the benchmark for the ORF subtask. Note however that the benchmark for ORF should be revised to reflect the correctly weighted 2013 rate of 4.7 percent when keeping this correction in mind, the increase in student performance may in fact meet or be close to meeting the benchmark once it has been revised. The region that was closest in achieving the target was Dar es Salaam, at 15.9 percent. Dar es Salaam was also the only region to meet the 2015 target (3.0 percent) for the Non-word Reading subtask. However, 10 regions met or surpassed the 2015 target (13.0 percent) for the percentage of students reading with 80 percent comprehension or more. The regional results are detailed in **Annex G**.

The rise in mean ORF scores is fueled by the decrease in Oral Reading zero scores. **Table 7** and **Figure 2** present the 2013 and 2016 results alongside the 2015 targets for the percentage of Standard 2 students scoring zero on each Kiswahili EGRA subtask. In four out of the five subtasks, the percentage of students scoring zero fell by more than 10 percentage points from the 2013 baseline, meeting and surpassing all of the 2015 targets. (Zero scores for the Syllable Reading subtask were the lowest to begin with, and fell by approximately 4 percentage points; there are no benchmark targets for this subtask.) The decrease in zero scores was greatest for the Reading Comprehension subtask with a drop of 14.4 percentage points. Although the 95 percent confidence bands for the 2013 zero scores are relatively wide, the 2016 zero scores still fall well below them, indicating that there has been a definite shift in the population from non-readers to beginning readers. This is an encouraging trend.

Table 7. Annual Target and Actual Results for Kiswahili EGRA Subtask Zero Scores

EGRA Subtask	2013 National 3Rs Study	2016 Tanzania National EGRA	2015 Target
Syllable Reading	13.2% (±4.6)	8.9% (±1.3)	Not applicable
Non-word Reading	28.0% (±7.0)	17.9% (±1.9)	26%
Oral Reading Fluency	27.7% (±7.3)	16.1% (±1.9)	26%
Reading Comprehension	40.3% (±7.6)	25.9% (±2.2)	37%
Sentence Dictation	17.7% (±4.9)	6.3% (±1.1)	Not applicable

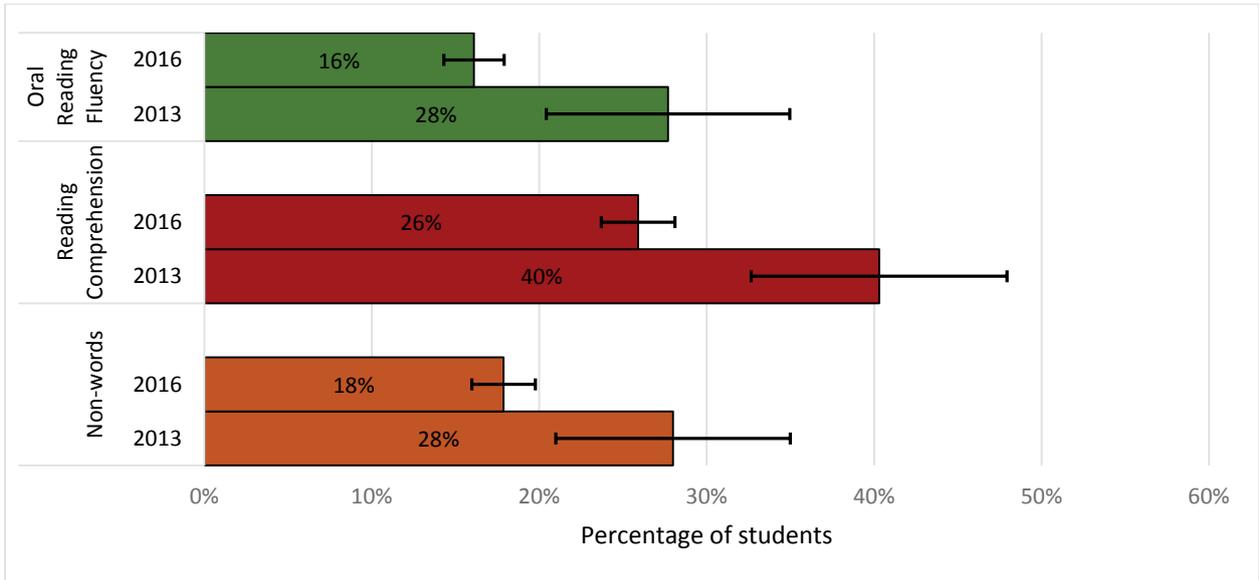
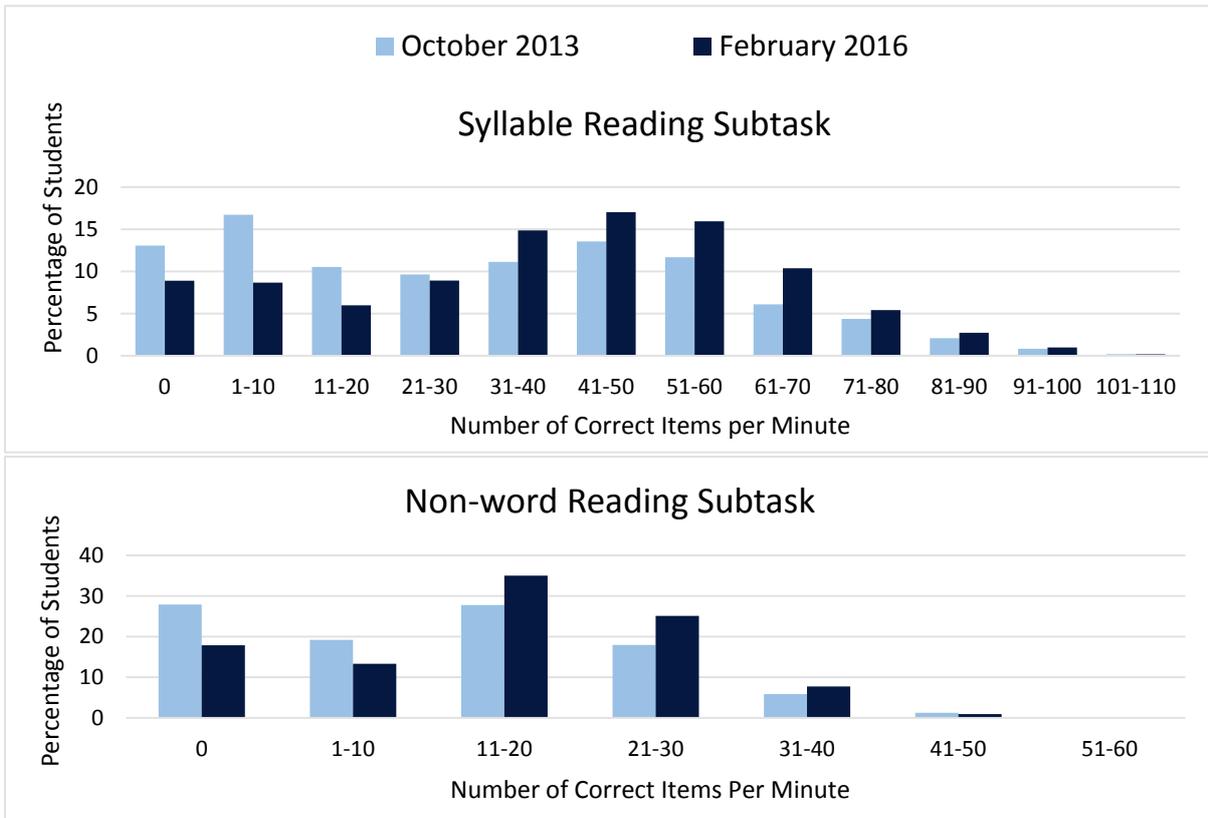


Figure 2. The percentages of zero scores for the three EGRA benchmark subtasks.

Figure 3 illuminates the general shift in the distribution of scores away from zero and lower end scores toward higher scores from 2013 (in light blue) to 2016 (in dark blue). A similar shift is evident across all subtasks.



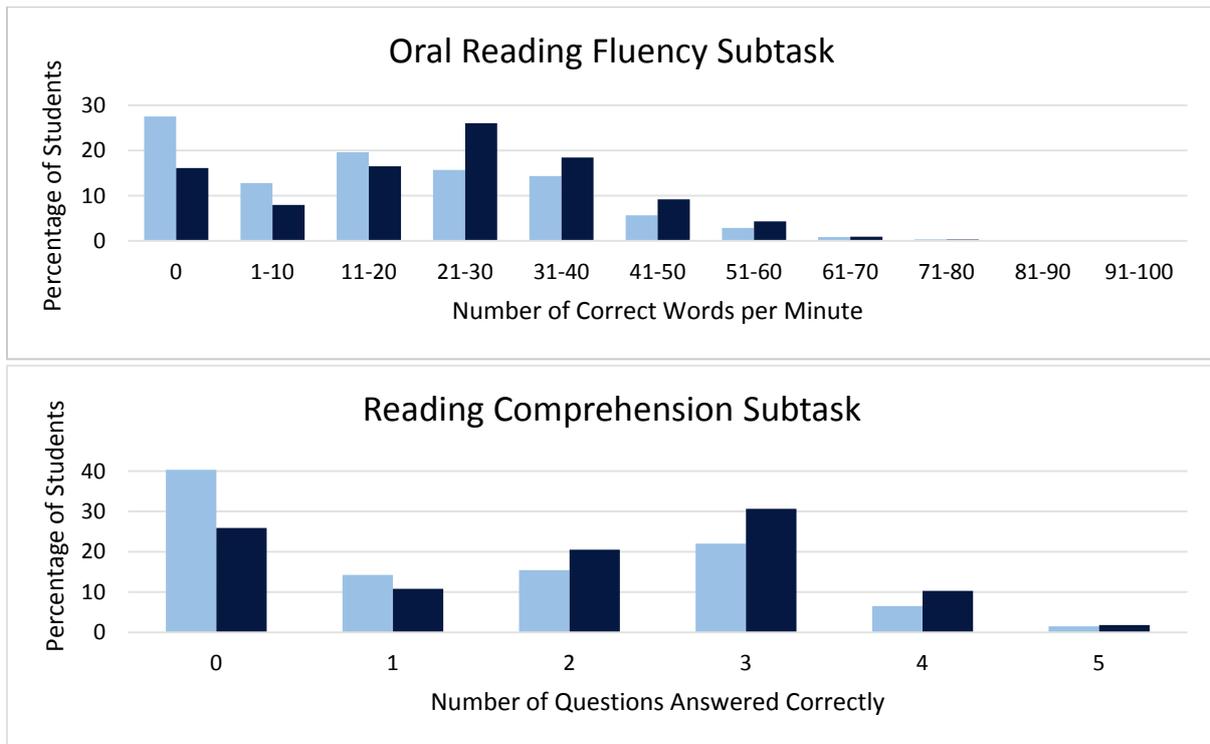


Figure 3. The distribution of students’ scores on Kiswahili EGRA subtasks, by year.

In addition, as shown in *Figure 4* and *Table 8*, the mean number and percentage of items correct in the 2016 EGRA increased in every subtask over the 2013 baseline. However, it should be noted that overlapping confidence intervals makes it impossible to claim that changes in means are statistically meaningful. The shift in the distribution, however, is positive and clear. These findings reveal a generalized upward trend in mean performance, which is consistent with the shift in distribution previously shown.

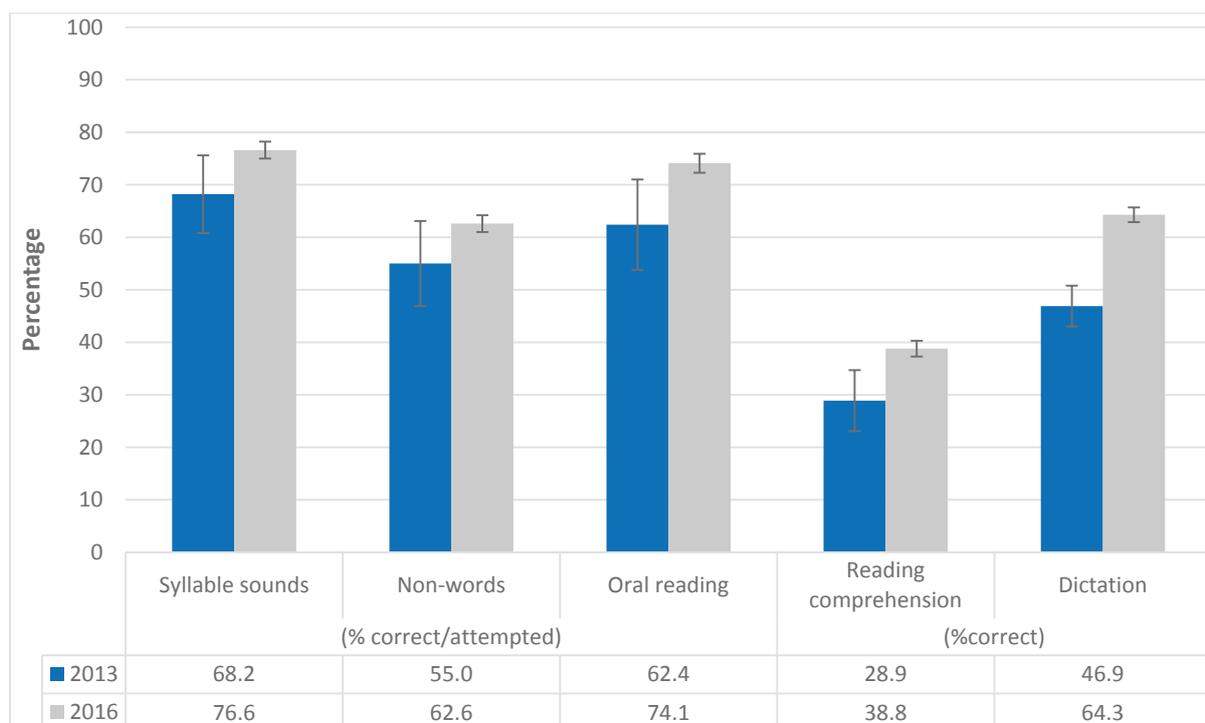


Figure 4. Performance on the EGRA subtasks during 2013 and 2016.

Table 8. Mean Number and Percentage of Kiswahili EGRA Items Correct, by Subtask and Year

Subtask	2013 National 3Rs Study	2016 Tanzania National EGRA
	Mean Correct Items Per Minute	
Syllable Sounds	31.4 (±5.9)	39.9 (±1.2)
Non-word Reading	12.3 (±2.5)	15.7 (±0.5)
Oral Reading Fluency	17.9 (±3.4)	23.6 (±0.8)
	Mean Percentage Correct of Items Attempted	
Syllable Sounds	68.2% (±7.4)	76.6% (±1.6)
Non-word Reading	55.0% (±8.1)	62.6% (±1.6)
Oral Reading Fluency	62.4% (±8.6)	74.1% (±1.8)
Reading Comprehension	53.2% (±8.4)	61.5% (±2.0)
Sentence Dictation	46.9% (±4.0)	64.3% (±1.4)
	Mean Percentage Correct out of Total Items	
Reading Comprehension	28.9% (±5.8)	38.8% (±1.4)
Sentence Dictation	46.9% (±4.0)	64.3% (±1.4)

To further elucidate the results, for the purpose of this study, four categories of readers were defined with regard to their performance on the ORF and Reading Comprehension subtasks: Non-readers, Beginning Readers, Progressing Readers, and Proficient Readers (*Table 9*). The highest performing category (i.e., Proficient Readers) is defined as those who could correctly read 50 or more words of the story in one minute *and* with 80 percent or higher comprehension. In other words, they are readers who meet both the benchmark for ORF and for Reading Comprehension. This category of reader constituted 5.3 percent of the students. At the other extreme, Non-readers (those students who were unable to read a single word of the story) constituted 16.1 percent of the students. In the middle of these two extremes, the Beginning Readers (those who could correctly read between 1 and 29 words per minute) made up nearly half of the students (47.8 percent). Progressing Readers (those students who could correctly read 30 words or more per minute) made up nearly one-third (30.8 percent) of the sample.

Table 9. Categories of Readers

Category	Type of Reader	Characteristic	Percentage of Students
1	Non-readers	Unable to read a single word of the story	16.1%
2	Beginning Readers	Can correctly read between 1 and 29 words of the story in one minute	47.8%
3	Progressing Readers	Can correctly read at least 30 words of the story in one minute	30.8%
4	Proficient Readers	Can correctly read at least 50 words of the story in one minute and with 80% or higher comprehension	5.3%

Figure 5 shows the upward shift in distribution of performance from 2013 to 2016 in terms of these four categories. Although the Beginning Readers category constituted the largest and approximately the same proportion of the population in both years (46–47 percent), the percentage of Non-readers decreased and the percentages of Progressing Readers and Proficient Readers increased in 2016 compared to 2013.

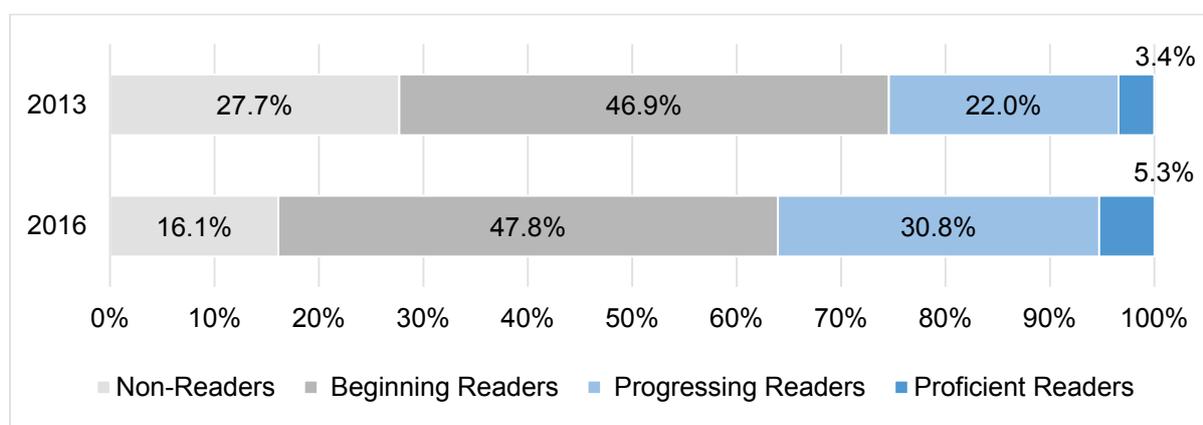


Figure 5. Proportions of categories of readers, by year.

Comparing the mean scores on each EGRA subtask among the categories of readers within the same year also allows us to evaluate the range of reading skills (*Table 10*). For example, on average, the Proficient Readers recognized nearly twice as many syllables as the Beginning Readers in one minute (71.8 versus 36.3) and read words in context three times as fast (57.9 correct words per minute [cwpm] versus 18.8 cwpm).

Table 10. Mean Number and Percentage of EGRA Items Correct, by Subtask and Category of Reader

Subtask	Category 1: Non-readers	Category 2: Beginning Readers	Category 3: Progressing Readers	Category 4: Proficient Readers	Overall Mean (95% Confidence Interval)
Mean Correct Items Per Minute					
Syllable Sounds	2.6***	36.3 [^]	59.4***	71.8***	39.9 (±1.2)
Non-word Reading	0.2***	13.3 [^]	24.6***	33.6***	15.7 (±0.5)
Oral Reading Fluency	0.0***	18.8 [^]	37.6***	57.9***	23.6 (±0.8)
Mean Percentage Correct out of 5 Questions					
Reading Comprehension	0.0%***	34.6% [^]	57.4%***	86.6%***	38.8% (±1.4)
Mean Percentage of Questions Correct of Attempted					
Reading Comprehension	0.1%***	63.7% [^]	84.1%***	98.0%***	61.5% (±2.0)
Sentence Dictation	20.1%***	67.1% [^]	79.6%***	84.5%***	64.3% (±1.4)

[^] Reference

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

Furthermore, because of the way the Reading Comprehension subtask was designed, the more the students read, the more questions they are asked. (The students are only asked questions over the portion of the text that they read.) The Proficient Readers not only attempted more questions, but also correctly answered a higher percentage of the items they attempted than did the readers at the lower proficiency levels. For example, because the Proficient Readers read faster, they were asked on average 4.4 out of the 5 questions and had an overall comprehension rate of 86.6 percent of the 5 questions. In contrast, Beginning Readers were only asked on average 2.5 questions, giving them a much lower overall comprehension rate of 34.6 percent on the 5 questions. However, when considering only the questions attempted, the Proficient Readers answered on average with 98.0 percent accuracy compared to only 63.7 percent accuracy by the Beginning Readers. This finding indicates that the increase in reading fluency is not only helping the students cover more text (and therefore more questions) but to understand better and answer more accurately the questions that they are asked.

5.1.3 Summary of Scores by Region, Gender, and Home Language

Region

The data disaggregated by region reveal that the regions vary somewhat in their performance. **Figure 6** summarizes the performance by region in terms of the proportion of students achieving the benchmarks for ORF and Reading Comprehension subtasks. The variance is greater for the Reading Comprehension subtask. The regions have been arranged from the region with the lowest proportion of students achieving the benchmark for each subtask to the region with the highest proportions. Students in Dar es Salaam and Kilimanjaro outpace the remainder of the nation in achieving the reading benchmarks; other than that, the regions vary from one another in their achievement by less than 15 percentage points.

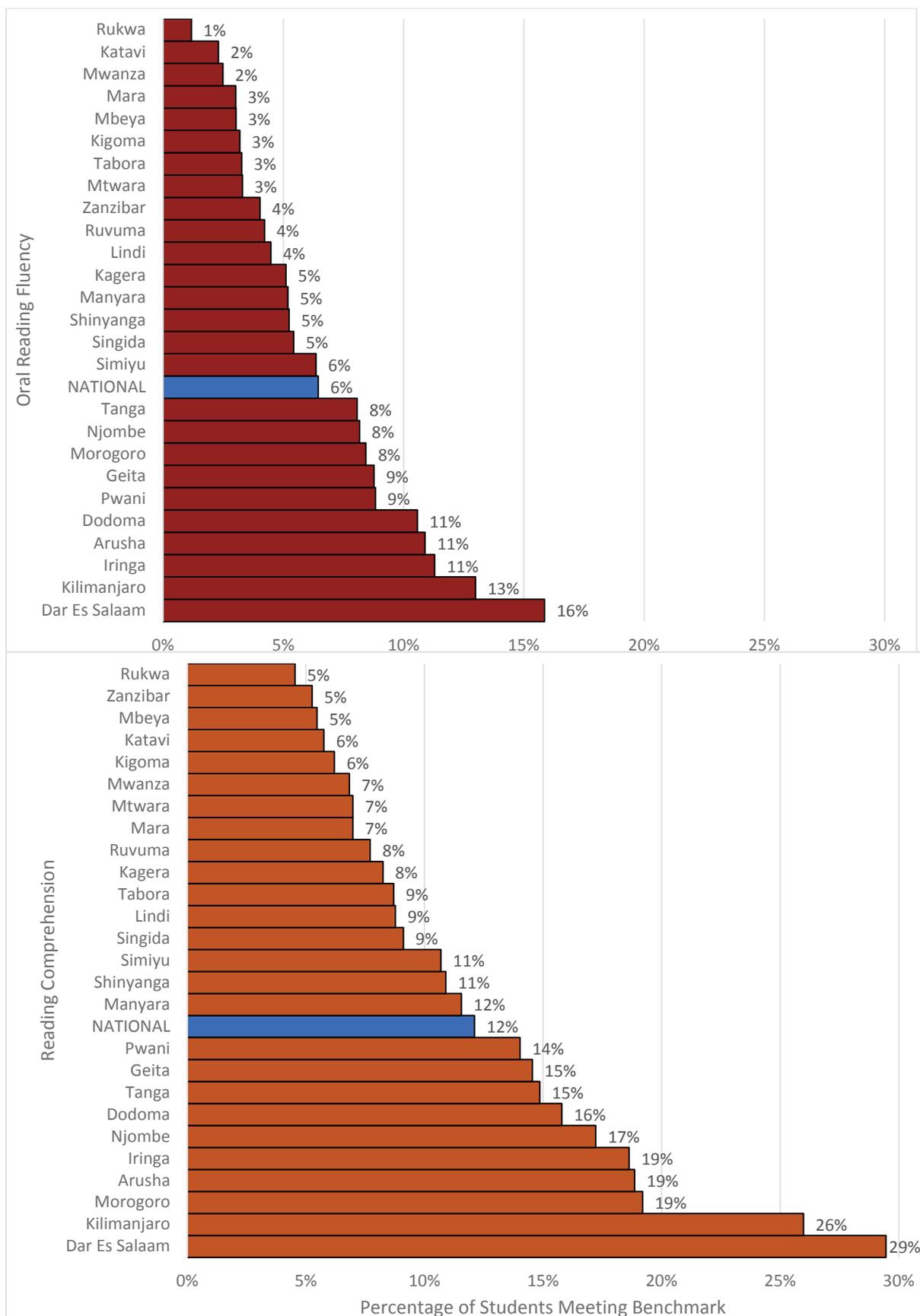


Figure 6. Regional performance in terms of the percentages of students meeting the Tanzanian benchmarks for reading.

Gender

The data disaggregated by gender show that at the national level girls consistently outperform boys, both in the percentage achieving each benchmark and in the mean scores for each subtask. Approximately 3 percent more girls achieved the benchmarks for ORF and Reading Comprehension than boys. Except for the percentage of students achieving the Non-word Reading benchmark, all the differences between the genders in mean scores and percentages achieving the benchmark were all statistically significant at $p = 0.0$.

Accordingly, a higher percentage of girls than boys qualify as Progressing and Proficient Readers—the top two categories—while a higher percentage of boys fall into the categories of Non-reader and Beginning Reader (*Table 11*). These differences were also all statistically significant at $p = 0.0$.

Table 11. Categories of Readers, by Gender

Category	Type of Reader	Characteristic	Percentage of Girls	Percentage of Boys
1	Non-readers	Unable to read a single word of the story	15.4%	16.9%
2	Beginning Readers	Can correctly read between 1 and 29 words of the story in one minute	45.1%	50.7%
3	Progressing Readers	Can correctly read at least 30 words of the story in one minute	33.2%	28.2%
4	Proficient Readers	Can correctly read at least 50 words of the story in one minute and with 80% or more comprehension	6.3%	4.2%

Home Language

The data disaggregated by home language also reveal performance differences. Kiswahili is the official language of instruction for the full primary cycle (United Republic of Tanzania Ministry of Education and Vocational Training, 2014). Approximately 56.4 percent of the students reported speaking Kiswahili at home, whereas 43.6 percent reported speaking a different language at home. Students who reported speaking Kiswahili at home outperformed the students with other home languages in meeting all the reading benchmarks and in mean scores on all subtasks. The differences between the language groups were statistically significant at $p = 0.0$. The differences remained statistically significant even after adjusting for SES index, region, age, and gender through logistic and linear regression analyses. For example, students who speak Kiswahili at home read on average 3.1 more cwpm and were 61 percent more likely to reach the benchmark for ORF than students with another home language.

Therefore, a greater percentage of students with Kiswahili as their home language qualify as Progressing and Proficient Readers than do the speakers of other languages (*Table 12*). Overall, these data indicate that regardless of other demographic factors, students who do not speak Kiswahili at home are at a significant disadvantage compared to those who do. The children who do not speak Kiswahili at home (who constitute a sizeable proportion of the national population) would benefit from more explicit second language support in Kiswahili.

Table 12. Categories of Readers, by Home Language

Category	Type of Reader	Characteristic	Speak Kiswahili at Home	Speak Other Language at Home
1	Non-readers	Unable to read a single word of the story	12.5%	20.7%
2	Beginning Readers	Can correctly read between 1 and 29 words of the story in one minute	46.5%	49.5%
3	Progressing Readers	Can correctly read at least 30 words of the story in one minute	34.0%	26.7%
4	Proficient Readers	Can correctly read at least 50 words of the story in one minute and with 80% or more comprehension	7.0%	3.1%

5.1.4 Kiswahili EGRA Subtask Analysis

Syllable Reading Subtask

Students must be able to identify common syllables easily and automatically as an essential step to developing reading fluency. On average, students read 39.9 (± 1.2)¹³ syllables per minute on the Syllable Reading subtask, an increase from 31.4 (± 5.9) syllables per minute in 2013. Moreover, the distribution pattern suggests a shift away from the zero to 30 score range toward higher scores (Figure 3). For example, in 2013, 30 percent of the students correctly read 10 syllables or fewer in one minute (including zero scores), versus only 18 percent of students in 2016.

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

A common threshold for fluent syllable reading is to correctly read one syllable per second. In February 2016, approximately 19 percent of the students were correctly reading syllables at this rate, up from 13 percent in 2013. The 2016 results indicate that students can read some syllable sounds, but that they still need instruction or more practice to increase their rate of syllable recognition.

¹³ Numbers in parentheses represent the 95 percent confidence intervals.

Non-word Reading Subtask

The Non-word Reading subtask is considered to be a “pure” decoding task because students cannot use memorization to read words. These non-words (or invented words) are words that must be decoded because they will not have been previously encountered.

On average, the students decoded 15.7 (± 0.5) correct non-words per minute (cnwpm), up from 12.3 (± 2.5) in 2013. Although the percentage of students achieving the benchmark (40 or more cnwpm) remained

approximately the same (1.5 percent in 2013, 1.3 percent

in 2016), the distribution pattern of scores reveals nonetheless a shift away from the 0–10 score range toward higher scores (Figure 3). In 2013, 47 percent of students correctly read only 10 non-words or fewer in one minute (including zero scores); in 2016, only 31 percent of students were reading non-words in this range.

Students may struggle with this subtask because the subtask is unfamiliar and/or because students do not know how to apply letter sound knowledge for decoding.

Using a systematic, explicit phonics-based approach to teaching decoding skills can help students learn these skills relatively quickly because Kiswahili has a transparent and consistent orthography.

Oral Reading Fluency Subtask

The Oral Fluency Reading subtask is the item that is most strongly related to proficient reading. (Two elements of fluency [i.e., accuracy and rate] are scored to determine the correct words per minute.) On average, the students read 23.6 (± 0.8) cwpm in 2016, compared to 17.9 (± 3.4) cwpm in 2013. Again, the distribution pattern in Figure 3 shows a similar shift away from the low-end scores, as shown in the previous two tasks. The percentage of students who correctly read only 10 words or fewer in one minute (including zero scores) fell from 40.4 percent in 2013 to 24.1 percent in 2016.

To give a better sense of what these relative reading fluency rates mean, **Figure 7** maps the 2016 performance of each category of reader onto the text used for the ORF subtask.

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

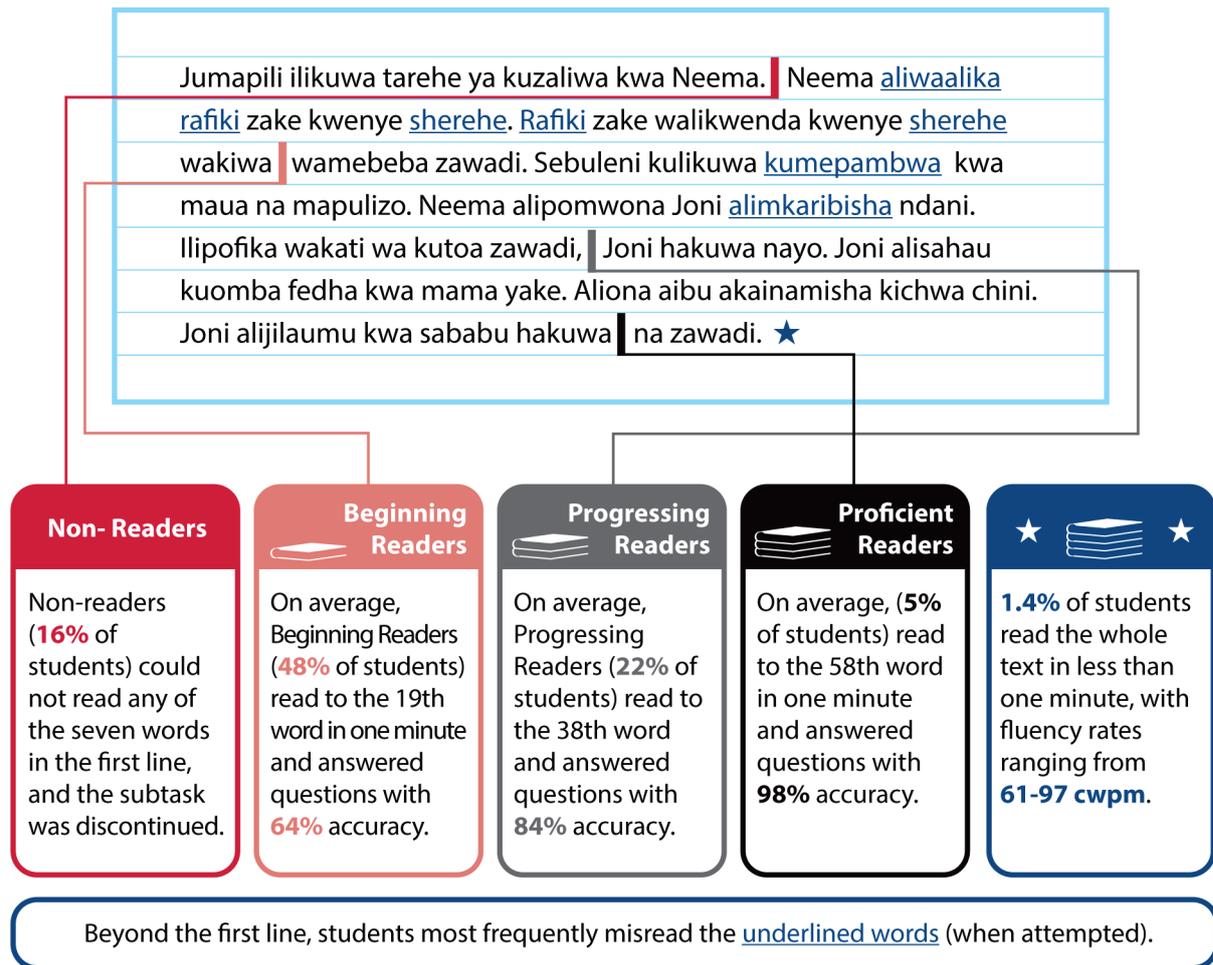


Figure 7. Performance on the Kiswahili ORF subtask.

Reading Comprehension Subtask

The Reading Comprehension subtask consisted of five comprehension questions based on the Oral Reading passage, with each correct answer contributing 20 percent. The mean percentage correct out of attempted was 61.5 percent (± 2.0) in 2016, up from 53.2 percent (± 8.3) in 2013. As for the previous subtasks, Figure 3 shows the distribution patterns trending away from zero scores, which were at 40.3 percent in 2013, but only 25.9 percent in 2016. In addition, the percentage of students meeting the benchmark of 80 percent comprehension or more (i.e., answering at least four out of the five questions correctly) increased from 8.1 percent (± 3.3) in 2013 to 12.1 percent (± 1.1) in 2016.

Research has consistently demonstrated a strong linkage between reading fluency and reading comprehension. Both in 2013 and in 2016, the students who could read with 80 percent comprehension or more were reading on average 47 cwpm. For the 2016 ORF subtask, students read on average only 23.6 cwpm. Although this finding represents an increase of 5.7 cwpm from the 2013 baseline of 17.9 cwpm, the students essentially still need to double their reading speed to meet the comprehension goals.

Comprehension is strongly correlated with oral reading proficiency, so targeted and effective instruction in decoding and fluency, oral vocabulary, and language skills should have a positive impact on student performance in reading comprehension.

Dictation Subtask

The Dictation subtask required students to listen to a complete sentence and to write the sentence after hearing it repeated three times. The same sentence was used for this subtask in 2013 and in 2016. The students were scored on the sentence’s five words, spaces between the words, an initial capital letter, and a final full stop, for a total of 11 items. Overall, the mean percentage correct was 64.3 percent (± 1.4) in 2016, up from 46.9 percent (± 4.0) in 2013. In addition, the percentage of students scoring zero fell from 17.7 percent in 2013 to 6.3 percent in 2016. **Figure 8** illustrates the students’ performance on the dictated sentence for both years. The 2016 scores were higher for every item except the full stop.

In 2016, more than 50 percent of students could write each of the five words, and more than 80 percent wrote each of the first three words, which had a simpler structure. The Dictation subtask provides an important window regarding how students read words because their spelling of words reflects their understanding of the sound-spelling system in the language. Although a benchmark for writing does not exist, the data indicate that the students are developing some spelling skills. Students scored considerably higher on spelling the words than on capitalization (only 33.9 percent wrote a capital letter at the beginning of the sentence) and punctuation (only 5.6 percent ended the sentence with a full stop).

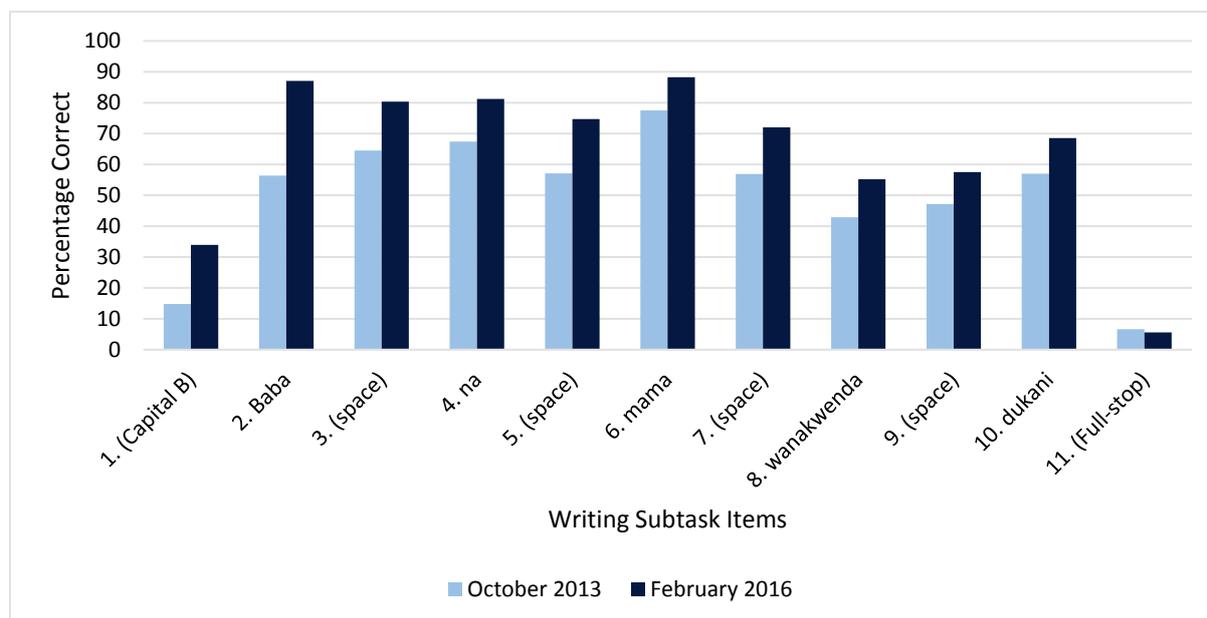


Figure 8. Performance on the Kiswahili Dictation subtask.

5.2 EGMA Results

Table 13 and **Figure 9** summarize the EGMA results of this survey in terms of the percentage of students scoring at the Tanzanian benchmarks established after the 2013 USAID–funded National 3Rs Baseline Study. **Figure 10** summarizes the percentage of zero scores on the two EGMA benchmark subtasks. At first glance, it might appear as if there was a slight

improvement in terms of both the percentage of students achieving each of the benchmark and the percentage of zero scores, which appear to have declined especially so for the Addition and Subtraction (Level 2) subtasks. However, a more careful analysis that takes into account the standard errors for the various summary statistics and the slightly different nature of the two study samples¹⁴ reveals that it is not possible to suggest with confidence that there is a significant difference in percentage of students meeting the benchmarks between the 2013 and 2016 studies. As previously mentioned, however, the drop in zero scores—especially for Addition and Subtraction (Level 2) subtask—is a significant and encouraging finding.

Table 13. Proportion of Students at the Tanzanian Benchmarks on EGMA Subtasks

EGMA Subtask	Benchmark	2013 National 3Rs Study	2016 Tanzania National EGRA	2015 Target
Addition and Subtraction (Level 2)	80% on the Addition and Subtraction (Level 2) subtasks	8.2% (± 2.5)	7.9% (± 0.9)	13%
Missing Number	60% on the Missing Number subtask	8.3% (± 3.8)	10.6% (± 1.0)	13%
EGMA Subtask	Zero Scores	2013 National 3Rs Study	2016 Tanzania National EGRA	2015 Target
Addition and Subtraction (Level 2)	—	43.4% (± 6.5)	32.1% (± 1.9)	40%
Missing Number	—	10.9% (± 3.9)	7.2% (± 0.9)	10%

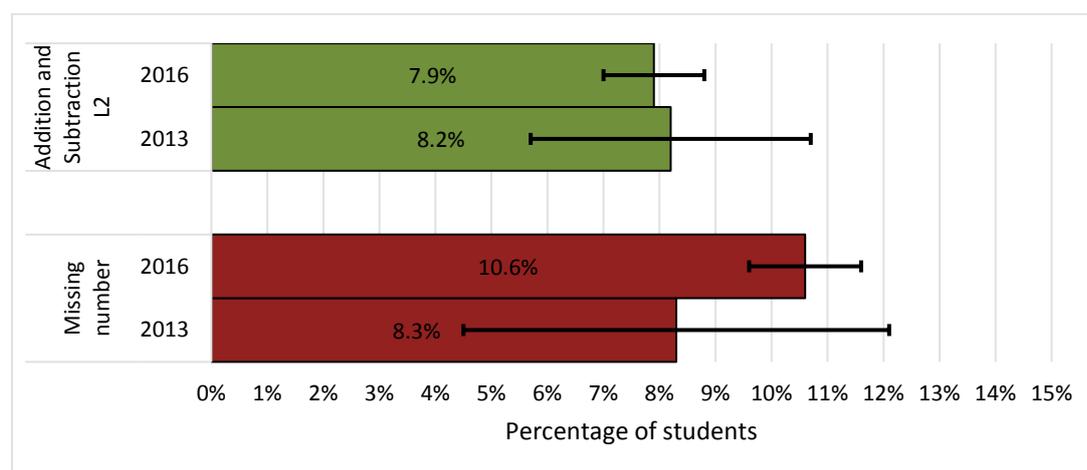


Figure 9. Percentage of students scoring at the Tanzanian benchmarks for the two EGMA benchmark subtasks.

¹⁴ The sample in the 2013 National 3Rs Survey consisted of Standard 2 students at the end of the school year. The sample in the 2016 Tanzania EGRA consisted of Standard 3 students at the start of the school year.

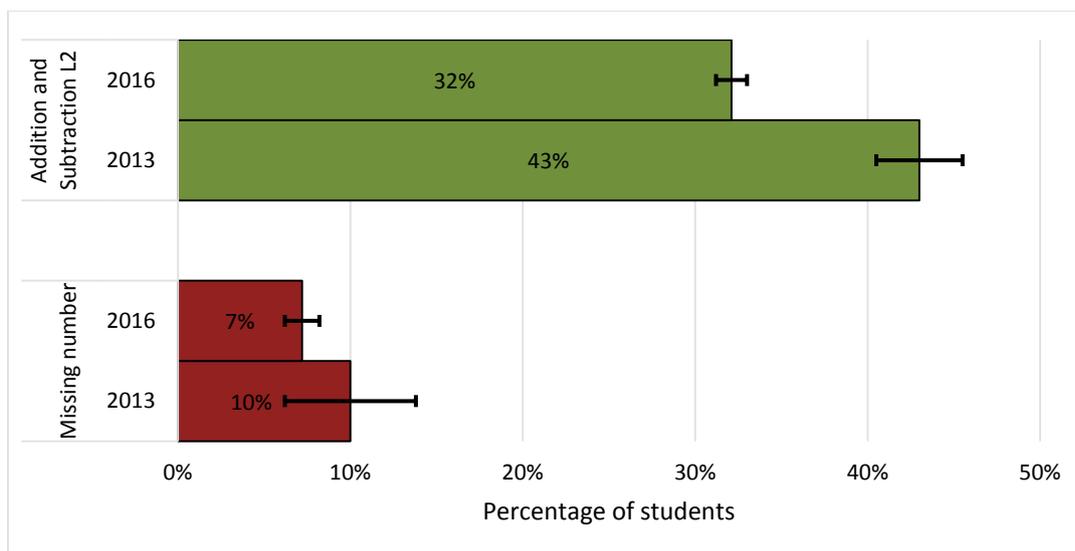


Figure 10. Percentage of zero scores for the two EGMA benchmark subtasks.

Performance by students on the individual subtasks will be discussed in Section 4.2.2, EGMA Subtask Analysis; however, to gain an overall impression of mathematics performance and for ease when making comparisons between regions and genders, a composite mathematics score was created by using the Tanzanian benchmark subtasks. In particular, the scores for the Missing Number subtask and the Addition and Subtraction (Level 2) subtasks were used to create the following four categories:

- **Non-performers (Category 1)**—The score for the Missing Number subtask equals zero and/or the score for the Addition and Subtraction (Level 2) subtasks equals zero.
- **Emergent Performers (Category 2)**—Both scores for the Missing Number subtask and the Addition and Subtraction (Level 2) subtasks are above zero.
- **Approaching Benchmark Performers (Category 3)**—Either the score for the Missing Number subtask or the score for the Addition and Subtraction (Level 2) subtasks is at or above the Tanzanian benchmark.
- **Benchmark Performers (Category 4)**—Both of the scores for the Missing Number subtask or the Addition and Subtraction (Level 2) subtasks are at or above the Tanzanian benchmark.

Figure 11 illustrates the distribution of students by performance category. Although it is encouraging that the number of students scoring zero on either or both of the benchmark subtasks (i.e., Non-performers [Category 1]) is only approximately one-third of all the students, it is equally disconcerting that the number of students in the top two categories is only on the order of 15 percent altogether.

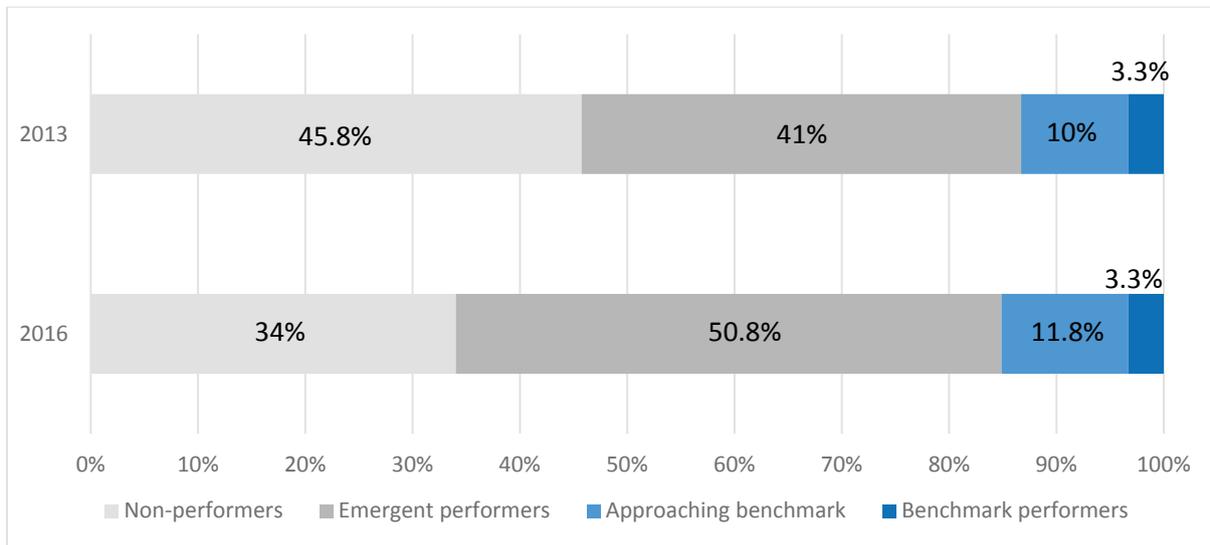


Figure 11. Distribution of students by the EGMA performance category.

Figure 12 and *Table 14* summarize the 2016 EGMA results by subtask. Table 14 includes the corresponding results (in parentheses) from the 2013 National 3Rs Baseline Study. Taking into account the standard errors (indicated by the error bars in Figure 12) associated with the summary statistics and the difference in the student samples of the two studies, student performance in Word Problems increased significantly and substantively. Significant changes in Missing Number and in Addition Level 2 problems were also detected, though these changes were not substantive. No significant changes were detected among the remaining EGMA subtasks.

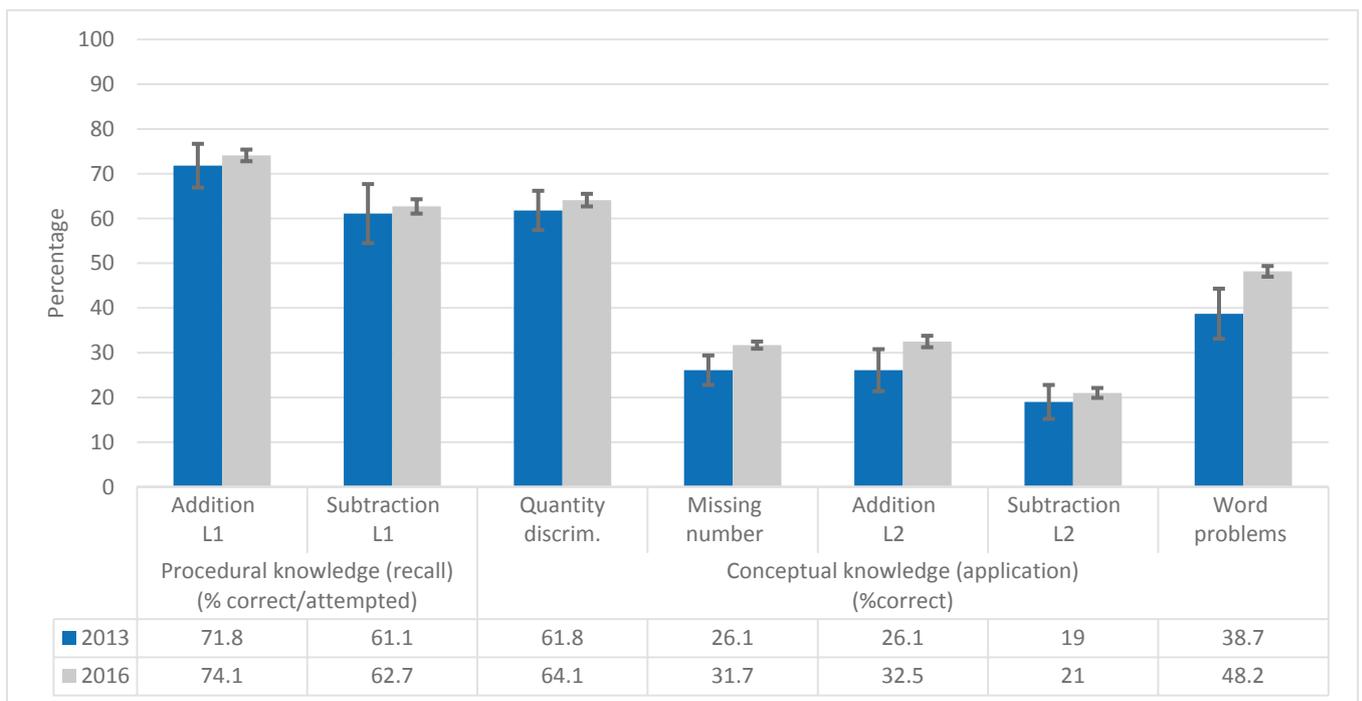


Figure 12. Performance on the EGMA subtasks during 2013 and 2016.

Table 14. Student Performance on EGMA Subtasks

Subtask	Number Correct per Minute	Percentage Correct Attempted	Percentage Correct	Percent Zero Scores
Addition (Level 1)	9.1 ±0.2 (7.6 ±0.9)	74.1% ±1.3 (71.8% ±4.9)	—	6.8% ±0.9 (12.3% ±3.8)
Subtraction (Level 1)	6.72 ±0.2 (5.5 ±0.7)	62.7% ±1.6 (61.1% ±6.6)	—	15.9% ±1.6 (21.9% ±6.2)
Quantity Comparison	—	—	64.1% ±1.4 (61.8% ±4.4)	3.1 ±0.7 (5.3% ±2.0)
Missing Number	—	—	31.7% ±0.8 (26.2% ±3.3)	7.2% ±0.9 (10.9% ±3.9)
Addition (Level 2)	—	—	32.5% ±1.3 (26.1% ±4.7)	37.9% ±2.0 (47.7% ±6.7)
Subtraction (Level 2)	—	—	21.0% ±1.1 (19.0% ±3.8)	51.9% ±1.8 (57.9% ±6.0)
Addition and Subtraction (Level 2)	—	—	26.8% ±1.2 (22.6% ±4.1)	32.1% ±1.92 (43.3% ±6.5)
Word Problems	—	—	48.2% ±1.2 (38.7% ±5.6)	14.2% ± 1.23 (23.5% ±6.5)

Note: The values in parentheses represent the scores from the 2013 National 3Rs Baseline Study.

The EGMA showed that students performed reasonably well on the more procedural items (i.e., Addition and Subtraction [Level 1] subtasks), with students scoring, on average, greater than 60 percent on these subtasks. That said, the students performed better on the Addition (Level 1) subtask than they did on the Subtraction (Level 1) subtask, and approximately 16 percent of the students were unable to correctly answer a single item in the Subtraction (Level 1) subtask, the easiest of these items being $4 - 1 = \square$. When it came to the more conceptual items, the students still performed reasonably well on the Quantity Discrimination subtask. However, regarding the Tanzanian benchmark for the Missing Number subtask and Addition and Subtraction (Level 2) subtasks, more than half of the students (52 percent) were unable to correctly answer a single Subtraction (Level 2) subtask item, the easiest of these being $18 - 4 = \square$. 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.

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 the children “know their mathematics.” In terms of the curricular expectations for Standard 1, and even much of Standard 2, which are both in very low number ranges, students will appear to “perform well” because they will “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 the answers. Students will need to be able to apply the so-called “basic facts” (assessed during the Addition and Subtraction [Level 1] subtasks) with fluency, flexibility,

and understanding to perform more complex tasks (assessed during the Addition and Subtraction [Level 2] subtasks). The sharp decrease in performance and the dramatic increase in zero scores from the Addition and Subtraction (Level 1) to the Level 2 subtasks suggests that these students did not know the Level 1 facts with understanding and, hence, were unable to apply them to solve the Level 2 items.

The seemingly reasonable performance on the Word Problems subtask is discussed further in the detailed subtask analysis that follows.

Performance by Region

Although a detailed regional analysis is provided in the regional reports found in **Annex G** to this report, this subsection of the report provides an overall impression of EGMA performance across the regions. **Figure 13** summarizes the performance by region in terms of the proportion of students achieving each of the Tanzanian mathematics benchmarks. The regions have been arranged from the region with the highest proportion of students achieving the benchmark for the Missing Number subtask to the region with the lowest proportion of students achieving the benchmark for that same subtask.

Figure 13 highlights that there is evidence of a reasonably marked difference in performance between the region with the highest proportion of students achieving the benchmark for the Missing Number subtask (i.e., Kigama) and the region with the lowest proportion of students achieving the benchmark for that same subtask (i.e., Zanzibar). However, taken as a whole, the data do not provide any strong evidence of individual regions or even a group of regions that perform markedly better (or worse) than the other regions.

In responding to the data in this report, the MoEST may want to identify some lower performing regions that receive more urgent additional support and some higher performing regions that may be deprioritized in terms of the support and attention that they receive. That said, the data also clearly indicate that all regions need support if a reasonable number of students in the region are to perform at or above the Tanzanian benchmark expectations.

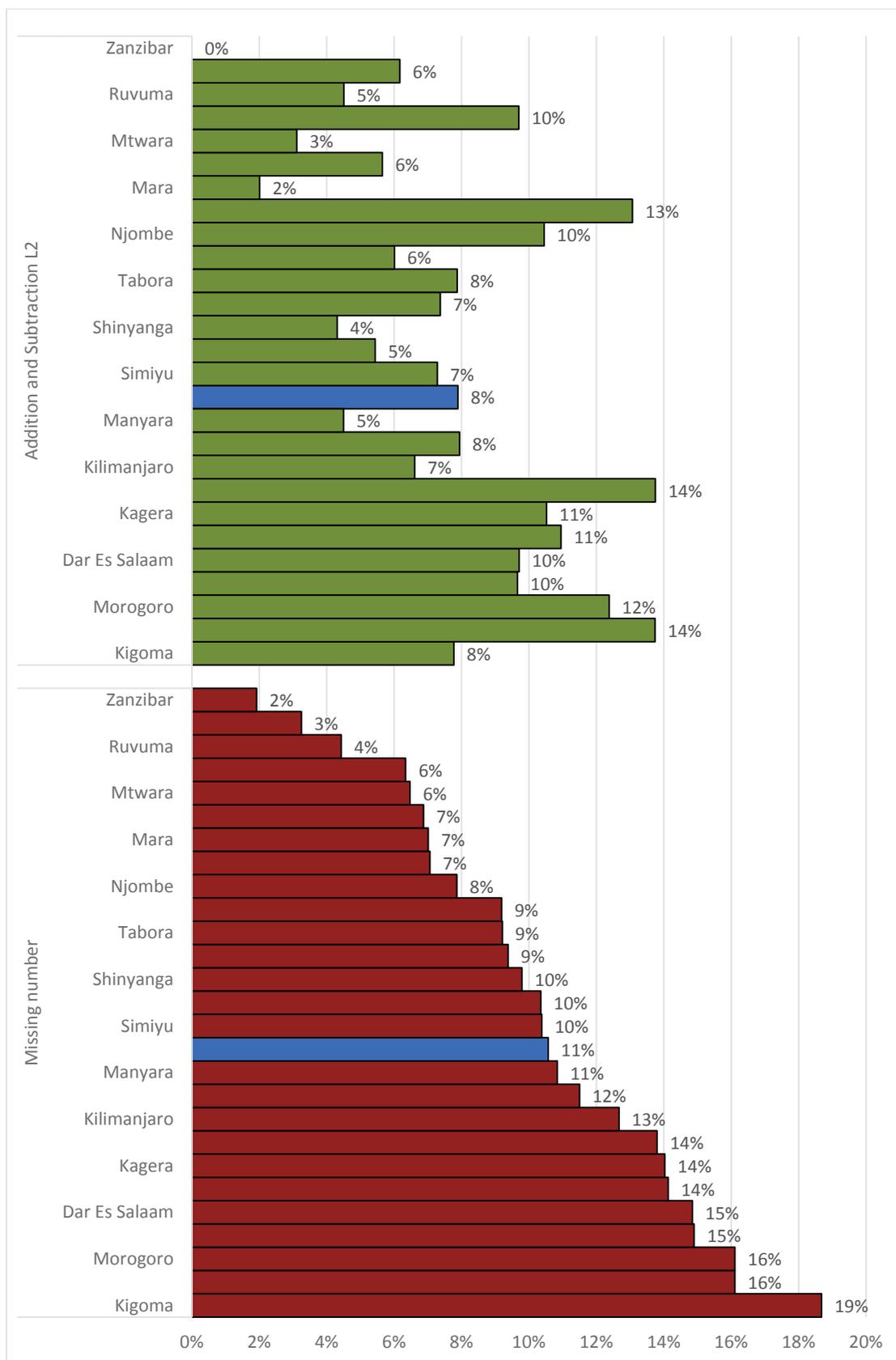
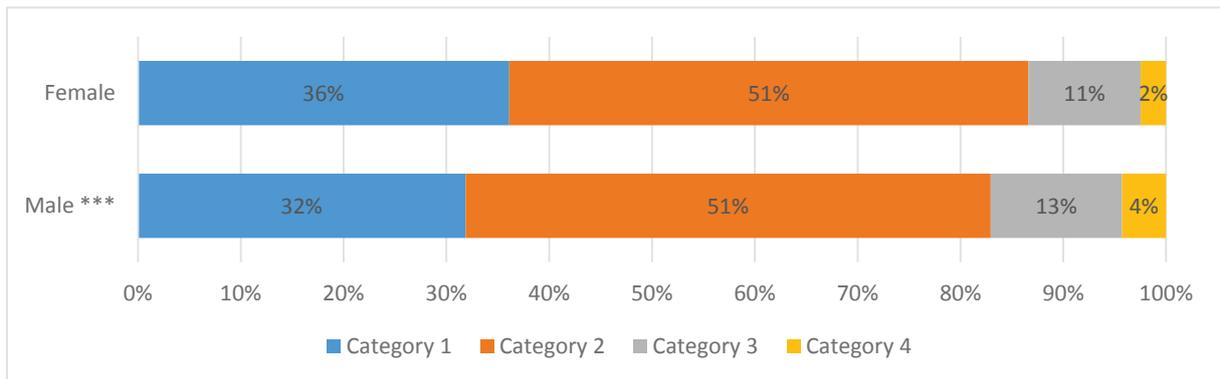


Figure 13. Regional performance in terms of percentage of students meeting the Tanzanian benchmarks for mathematics.

Performance by Gender

Figure 14 summarizes the performance of students by gender in terms of the EGMA performance categories. **Figure 15** summarizes the performance of students by gender in terms of the proportion of students achieving each of the Tanzanian benchmarks for mathematics.



*** p<0.001

Figure 14. Performance of students by gender in terms of the mathematics performance categories.

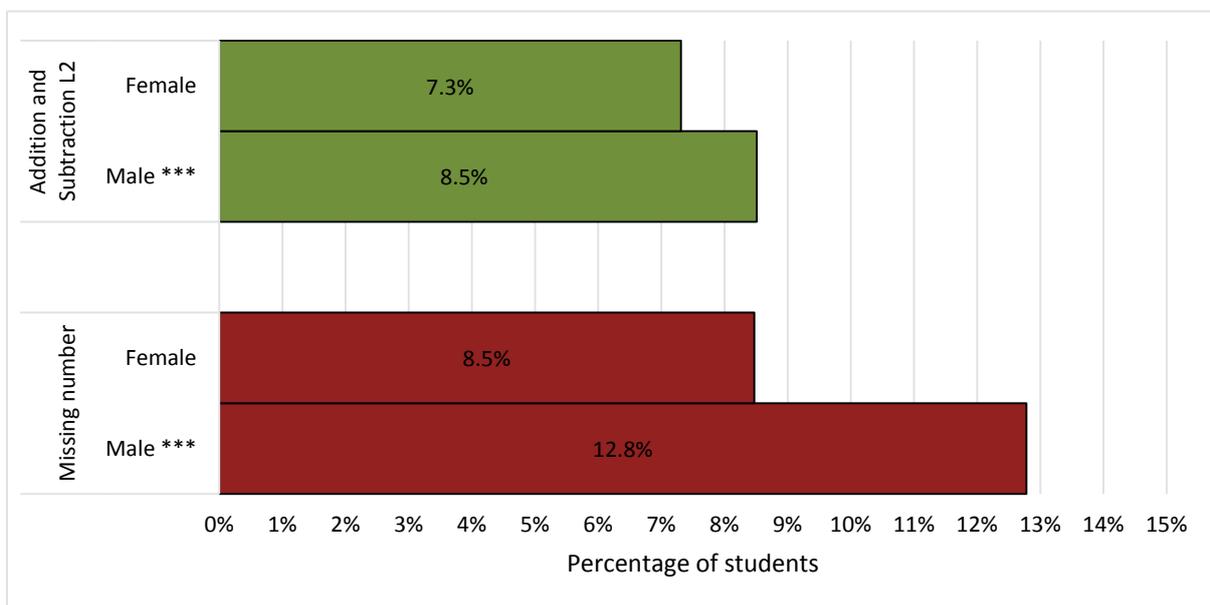


Figure 15. Percentage of students by gender in achieving benchmarks in mathematics.

In terms performance on the Tanzanian benchmarks for mathematics and in terms of the EGMA performance categories, male students have performed better than their female counterparts. The difference in performance is statistically significant. Notwithstanding the statistically significant difference in the performance of the male and female students, it should be noted that the performance of both the boys and girls is well below the Tanzanian performance targets set by the MoEST at the end of the 2013 National 3Rs Baseline Study. In other words, as much as attention should be paid to ensuring that male and female students receive equitable learning support and opportunities and that attention is given to the factors

that cause female students to perform poorer than their male counterparts, general performance in mathematics is not at the level expected by the Tanzanian government.

5.2.1 Subtask Analysis

Addition and Subtraction (Level 1) Subtask

The Addition and Subtraction (Level 1) items were assessed in two 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, although necessary, is not sufficient to ensure success on the Addition and Subtraction (Level 2) items, as already noted in the results for Tanzanian primary grade students.

Sample Addition and Subtraction (Level 1) Items	
$3 + 1 = \square$	$2 - 1 = \square$
$4 + 2 = \square$	$5 - 2 = \square$
$6 + 2 = \square$	$8 - 4 = \square$
$3 + 7 = \square$	$10 - 2 = \square$
$8 + 6 = \square$	$15 - 9 = \square$

Performance on subtraction items was not as strong as on addition items. Performance on the items within these two subtasks was, however, in line with the changing structure of the items.

Figure 16 illustrates the performance on the Addition (Level 1) subtask items and is based on the performance of the students who attempted each item. Based on the results from this study, the following trends are evident:

- The students performed well—between 69 percent and 87 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 67 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 53 percent and 63 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 68 percent of the students responded correctly—on 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 it would be expected that performance on these items to be better than the performance on the items discussed in the next bullet if students “see the structure” of the item. The fact that students perform most poorly on these items reinforces the impression that they know the answers to the Addition (Level 1) subtask items by rote and without much understanding.

- Between 51 percent and 67 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).

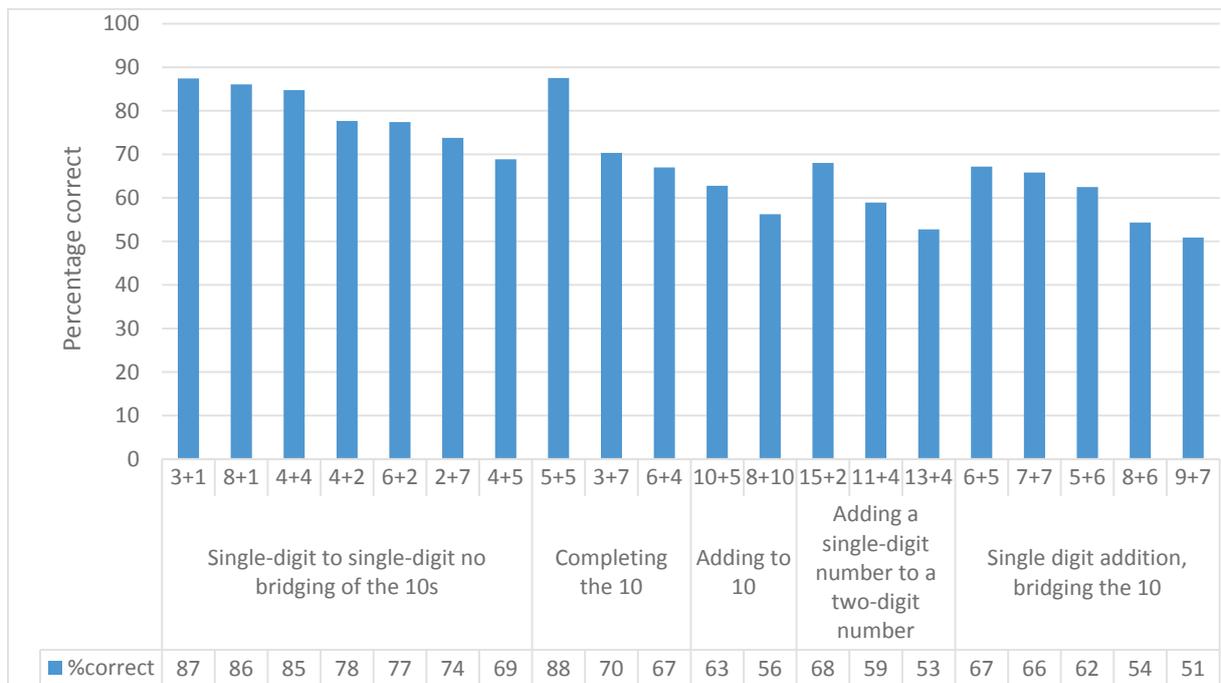


Figure 16. Item-level performance on the Addition (Level 1) subtask.

Figure 17 illustrates the performance on the Subtraction (Level 1) subtask items, and the following trends are evident:

- The students performed best—between 51 percent and 76 percent of the students responded correctly—on the items involving the subtraction of a single-digit numbers from a single-digit number.
- Between 52 percent and 73 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 38 percent and 64 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—between 18 percent and 34 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).
- Between 43 percent and 45 percent of the students responded correctly to the items involving the subtraction of a 10 from a two-digit number (less than 20) or the subtraction to 10.

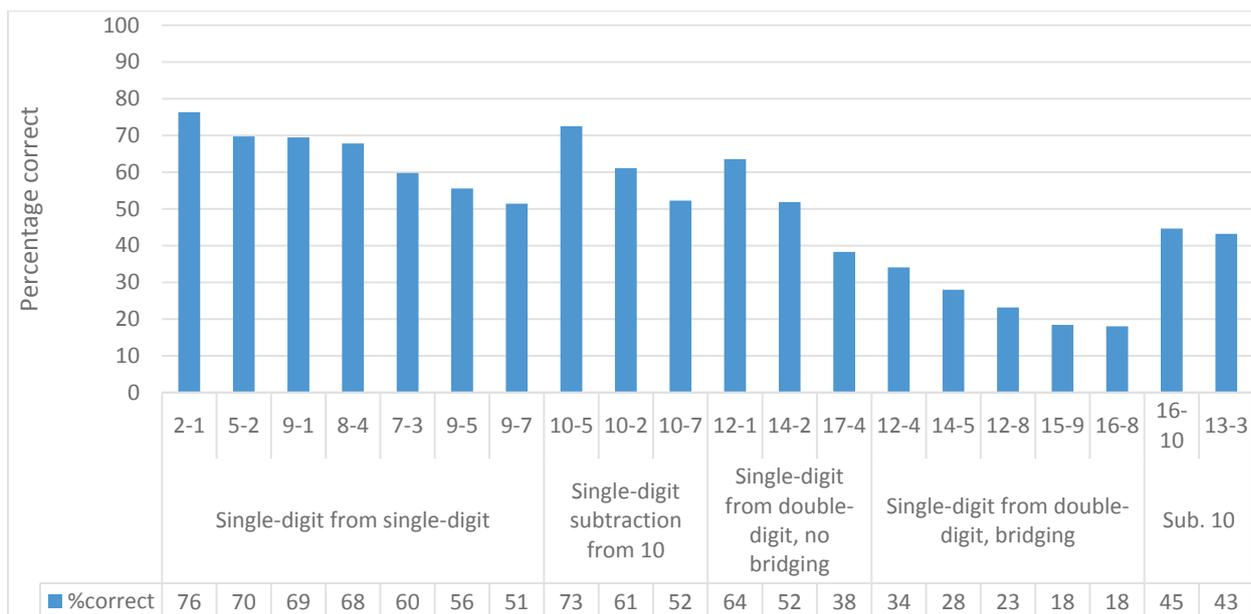


Figure 17. Item-level performance on the Subtraction (Level 1) subtask.

It is generally expected that, after two years of formal schooling, students should be able to respond correctly to a large percentage of these items and can do so with automaticity and fluency. At the beginning of the school year, Tanzanian Standard 3 students responded to the Addition (Level 1) subtask items with a fluency of 9.1 correct answers per minute and to the Subtraction (Level 1) subtask items with a fluency of 6.7 correct answers per minute.

Although the accuracy with which students are responding is a generally pleasing finding, the fluency is low. Of particular concern, however, is the difference between the addition and subtraction accuracy and fluency scores. The scores suggest that more attention and time in class are 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: because $3 + 2 = 5$, 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 Subtask

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 large 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 is important when estimating the reasonableness of answers to problems. During the early

Quantity Discrimination Items			
7	5	77	67
16	23	146	153
39	23	395	421
52	47	705	750
65	67	967	965

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.

A distinct pattern emerged in the students' responses. More than 95 percent of students could correctly discriminate between two single-digit numbers. Between 68 percent and 84 percent of the students could correctly discriminate between the quantities represented by pairs of two-digit numbers. However only between 29 percent and 64 percent of students could correctly 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 in class on the different number ranges.

Missing Number Subtask

Mathematics is the study of patterns.

Determining which number is missing from a sequence of numbers 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.

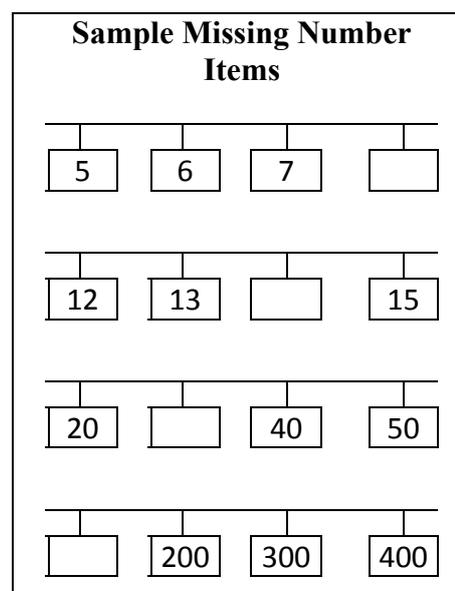


Figure 18 illustrates the performance on the Missing Number subtask, and the following trends are evident:

- Students performed best—between 83 percent and 88 percent of the students responded correctly—on the items with a step size of 1 and numbers below 20: 5, 6, 7, 8, and 12, 13, 14, 15.
- Between 44 percent and 52 percent of the students correctly determined the missing number in the following number patterns: 100, 200, 300, 400 (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: 1, 2, 3, 4, and 5; 100, 200, 300, 400, and 500; and 10, 20, 30, 40, and 50. It would appear as if students did not see this relationship.
- Of the remaining items (which involved step-sizes of two and five, as well as larger numbers), only between 5 percent and 24 percent of students could determine the

missing numbers correctly. This finding represents an improvement on these items when compared with the 2013 National 3Rs Baseline Study, suggesting that the 2013 study may have highlighted the need to expand the range of patterns that teachers pay attention to in class.

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

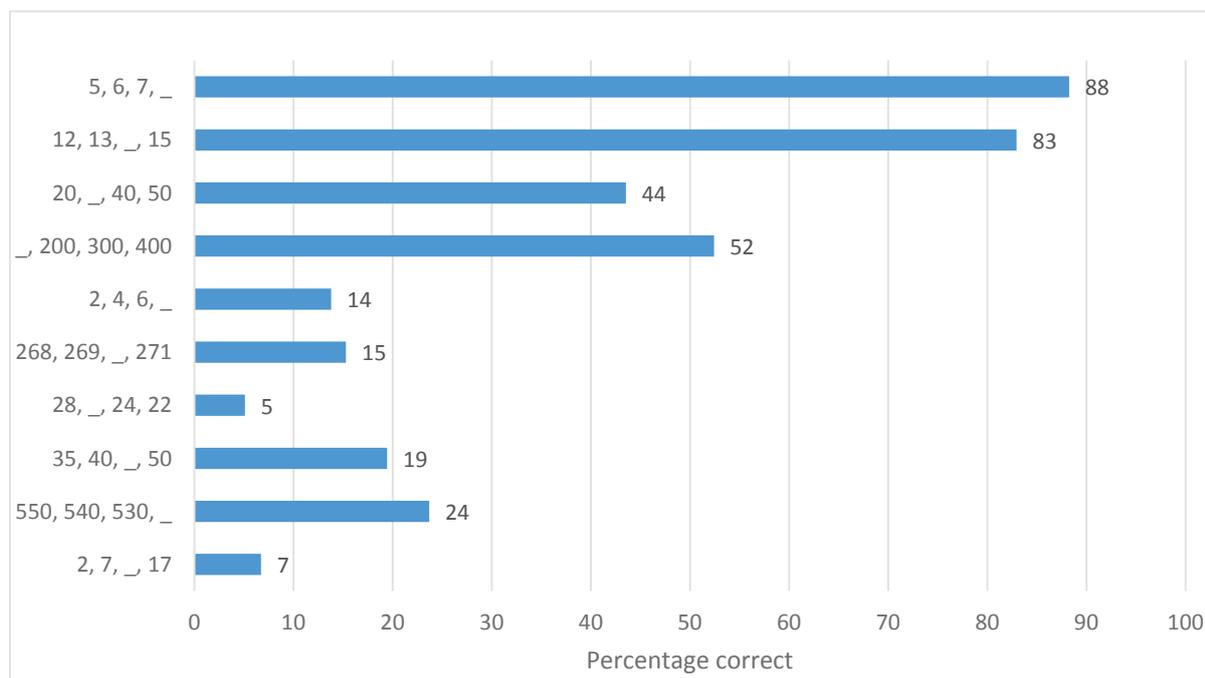


Figure 18. Item-level performance on the Missing Number subtask.

Addition and Subtraction (Level 2) Subtask

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., 6.8 percent of the students in the case of the Addition [Level 1] subtask and 15.9 percent in the case of the Subtraction [Level 1] subtask) were not asked to solve the Level 2 problems. In addition, students who made three consecutive errors were also stopped from continuing with the task

Addition and Subtraction (Level 2) Subtask Items	
$12 + 5 = \square$	$18 - 4 = \square$
$18 + 7 = \square$	$21 - 3 = \square$
$13 + 25 = \square$	$36 - 12 = \square$
$25 + 35 = \square$	$30 - 12 = \square$
$46 + 17 = \square$	$42 - 25 = \square$

Nearly 40 percent (37.9 percent) of the students who attempted the Addition (Level 2) problems and 51.9 percent of the students who attempted the Subtraction (Level 2) subtask problems were unable to correctly answer a single item. These findings are in stark contrast

to the more impressive performance on the Addition (Level 1) subtask (6.9 percent zero scores) and on the Subtraction (Level 1) subtask (15.9 percent zero scores).

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 19 illustrates the performance, by item, for each of the items 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.

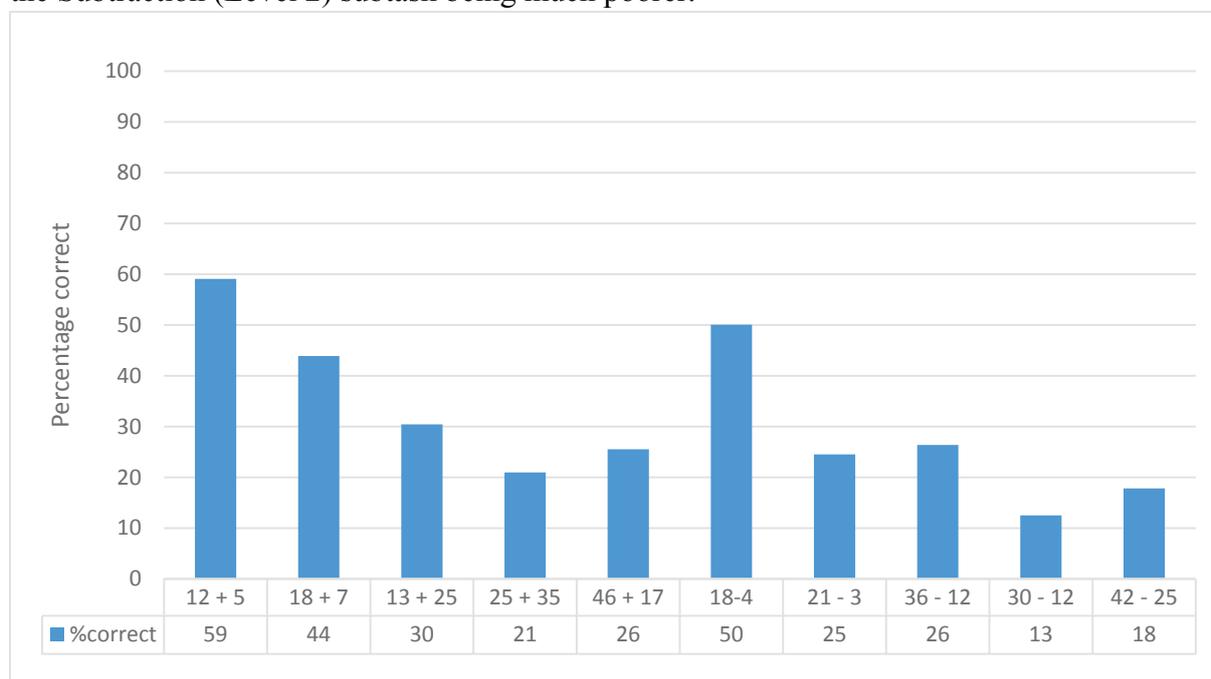


Figure 19. Item-level performance on the Addition and Subtraction (Level 2) subtasks.

What is so notable about the performance on the Addition and Subtraction (Level 2) subtasks 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. 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 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 Subtask

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 why 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. The word problems were administered in either Kiswahili or English, or in both languages according to the students' needs.

The word problems (*Figure 20*) 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 children—long before they even start school—can use counters to model and solve this problem.
- Problem 6 has a “multiplication (grid/array)” structure. Problem 6 is typically a little bit more difficult than Problem 5; however, many children—before they even start school—are nonetheless able to use counters to model and solve this type of problem.

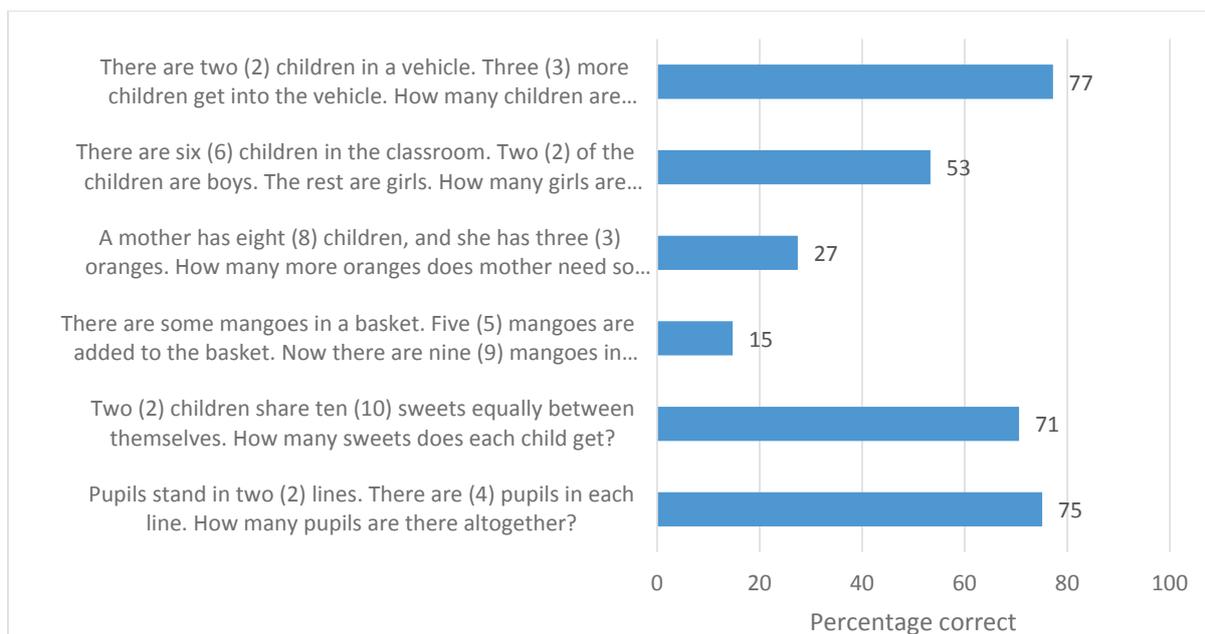


Figure 20. Item-level performance on the Word Problems subtask (English version).

Table 14 showed that, on average, the Standard 3 students scored 48.2 percent for the Word Problems subtask, despite 14.2 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 (3.7 percent), Addition (Level 2 [32.5 percent]), and Subtraction (Level 2 [21.0 percent]). The result of the Word Problems subtask is encouraging because it suggests that although the Tanzanian students are struggling to apply their basic (foundational) mathematical knowledge and skills in more conceptual context, they are nonetheless able to solve problems when these are posed in more familiar (everyday) contexts. Of particular interest is how well the students performed on Problems 5 (which has a division structure) and 6 (which has a multiplication structure). These division and multiplication structures are operations that we would not expect students in Standard 3 to be familiar with at the start of the school year. Again, it is important to highlight the point that when the students were asked to make a plan and solve a problem, they are able to do so, but when they are asked to perform memorized mathematical procedures (learned without understanding) they struggle.

5.2.2 EGMA Conclusions

Although some change has been detected on the more conceptual items as reflected in the Word Problems and Missing Number subtasks, more progress is still needed in this area. The difference in performance on the procedural and conceptual subtasks may suggest 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.

5.3 Life Skills Findings

5.3.1 Performance of Instruments

Academic Grit Questions

The revised response options, which were designed to obtain more sincere responses from the students, seemed to increase the discrepancies between positively phrased questions versus negatively phrased questions. As a result, reliability analysis revealed that, when both positive and negative questions were included, internal consistency of the academic grit scale was lower than what had been observed in 2013. A factor analysis confirmed that the academic grit scale based on all eight questions was bi-dimensional, with the positive questions representing one dimension and the negative questions representing a second dimension. For this reason, the research team chose to use the five positively phrased questions. With the reduced scale, academic grit questions showed acceptable levels of internal consistency, with a Cronbach's alpha of 0.697. We assigned between one and three points for each response, giving positive responses the highest number of points (all the life skills questions and scoring are provided in the instruments in *Annex A*). We added the scores for all the academic grit questions to create a total raw grit score, with a minimum total score of five and a maximum total score of 15, a mean of 11.6 and a standard deviation of 2.4. The distribution of academic grit scores is presented in *Figure 21*.

Inspired by the Duckworth groupings, which classified respondents by low-, moderate- and high-rate groups based on their overall academic grit score, we divided students into three academic grit levels. The definitions for these cut-points are as follows:

- Low academic grit (20.6 percent of students)—Students scored less than two on each question (score range: 5 to 9).
- Moderate academic grit (66.3 percent of students)—Students scored at least a two on each question (score range: 10 to 14).
- High academic grit (13.7 percent of students)—Students scored a three on each question (total score: 15).

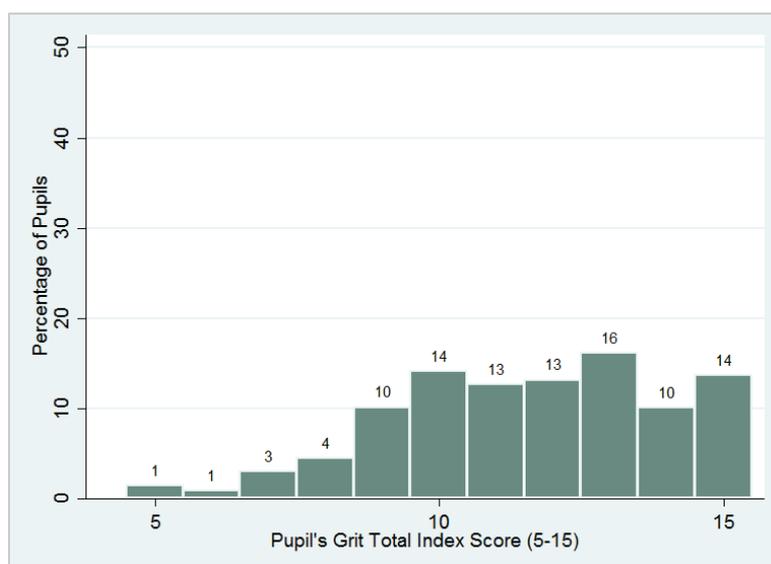


Figure 21. The distribution of students by academic grit.

Self-Control

We found a high level of internal consistency among the self-control questions, with a Cronbach’s alpha of 0.868. As previously mentioned, we changed the responses options to reflect the frequency with which students experience a lack of self-control. As anticipated, this change resulted in an increase in the variability in students’ responses. At the pilot stage in particular, we detected an increase in the distribution of responses in all but two of the self-control questions. The variability in responses was lower for the national sample and, though improved, the overall self-control scores were still skewed, with the majority of students reporting a high level of self-control. These findings lead to the conclusion that additional changes to the questions themselves (and not just the response options) are needed (for proposed revised questions, see **Annex F**. Differences in the students’ responses to matching questions that are phrased negatively and positively, as observed in the academic grit section, lead us to believe that by rephrasing the questions positively, we may be able to obtain more accurate and varied responses.

When developing the self-control rating, we included the four questions that measured lacks of focus, forgetfulness and tidiness. In general, these questions exhibited greater variability in responses than the questions that asked about rudeness, disrespect or loss of temper. For this reason, we believed that it was likely that these questions would provide a more authentic portrayal of students’ self-control levels. In addition, this greater variability in responses should allow us to more easily determine the linkages between self-control and student performance. We added scores for the four academic self-control questions to create a total raw self-control score, with a minimum total score of four, a maximum total score of 12, a mean of 10.4 and a standard deviation of 1.9. The distribution of self-control scores is presented in **Figure 22**.

Low, moderate and high self-control ratings are defined as follows:

- Low self-control (7.9 percent of students)—Students scored less than two on each of the questions (score ranges: 4 to 7).

- Moderate self-control (42.7 percent of students)—Students scored at least two on each question (score ranges: 8–11).
- High self-control (40.2 percent of students)—Students scored a three on each question (total score: 12).

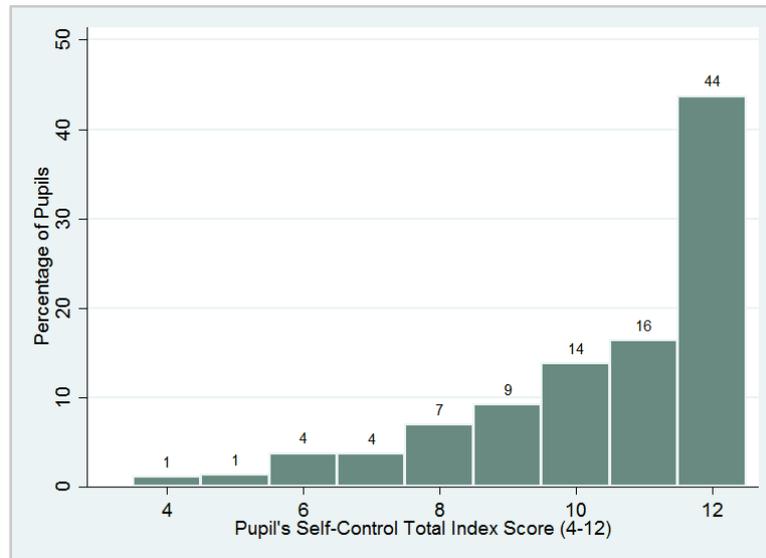


Figure 22. The distribution of students by self-control.

Table 15 summarizes the proportion of students at each level for the following life skills: academic grit, self-confidence and problem solving. As previously mentioned, the distribution of the self-control scores is more heavily skewed than we would expect. The proportion of students who reported high levels of all three skills was quite low.

Table 15. Proportion of Students at Each Level for Three Key Life Skills

Life Skill	Percentage of Students in the Low Level	Percentage of Students in the Middle Level	Percentage of Students in the High Level	Percentage of Students in the High Level for All Three Skills
Academic grit	20.6%	66.3%	13.7%	
Self-control	7.9%	42.7%	40.2%	0.08%
Problem solving (EGMA)	72.3%	26.9%	1%	

5.4 Life Skills by Student Demographics

We examined academic grit, self-control, and problem solving by student age, sex, and SES. We did not find any significant correlations between these student demographic indicators and these three soft skills.

5.5 Academic Grit and Student Performance

We chose one student performance indicator each for reading and mathematics to evaluate the association between student performance and life skills. We chose two indicative skills, Oral Reading Comprehension and Missing Number subtasks, because these are the more advanced and conceptual of the subtasks. Mirroring Duckworth’s findings and those from the 2015 UNICEF study, these data indicated that students with higher academic grit scores outperformed their counterparts with lower academic grit scores (*Figure 23*). The differences in performance between low- and moderate- and low- and high-academic grit levels was significant ($p = 0.000$).

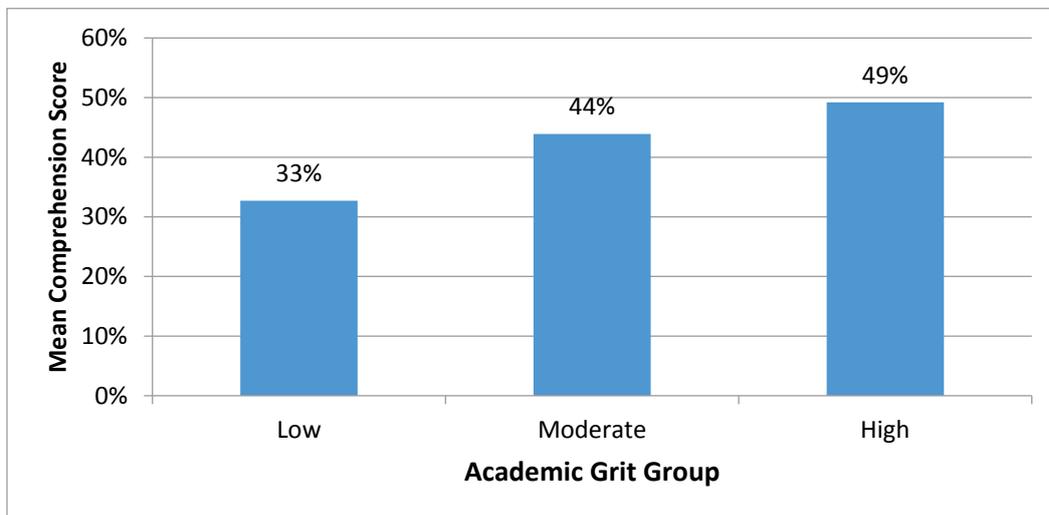


Figure 23. Mean Oral Reading Comprehension scores by academic grit.

We then looked at the distribution of students reading with at least 80 percent comprehension. Although the percentage of students reading with comprehension was low among all academic grit groups, the percentage of students reading with comprehension was higher among the students with high academic grit (*Figure 24*).

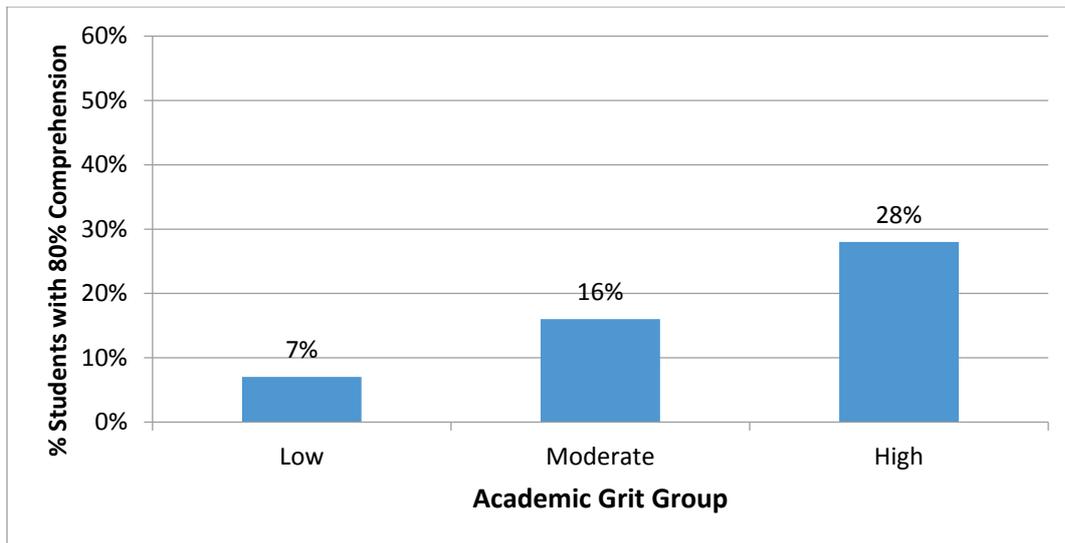


Figure 24. Percentages of students with 80 per cent or higher Oral Reading Comprehension subtask scores by academic grit.

Similarly, the percentage of students unable to answer any of the Oral Reading Comprehension subtask questions was lowest among the students in the highest academic grit group (*Figure 25*).

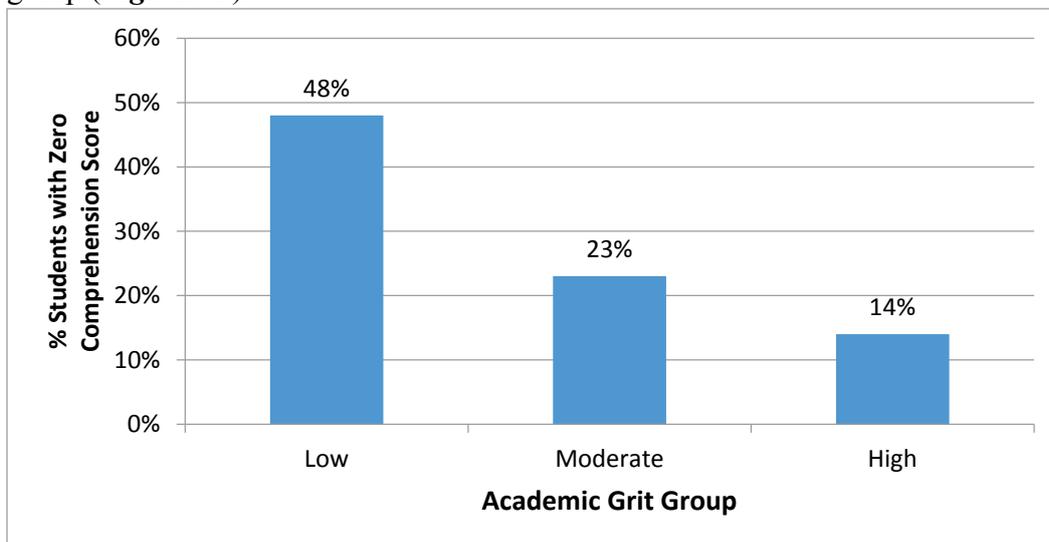


Figure 25. Percentage of students with zero Oral Reading Comprehension scores by academic grit.

To confirm that observed differences in student performance could indeed be attributed to academic grit and not students' demographic characteristics, we created a linear regression model that included students' demographic characteristics (e.g., age, gender, relative SES). The model showed that students reporting moderate academic grit had a 10.4 percent higher mean Oral Reading Comprehension subtask score when compared to students reporting low academic grit ($p = 0$). Similarly, students reporting high academic grit had a 16.6 percent higher mean score than those reporting low academic grit ($p = 0$). Only being in the highest SES quintile resulted in a higher mean score than high academic grit (18.4 percent [$p = 0$] for highest SES compared to 16.6 percent for high academic grit [$p = 0$]). It is important to note

that the benefit of having either moderate or high academic grit outweighed the benefit of being in the second highest SES group (8.04 percent [$p = 0.01$]).

At the opposite end of the performance scale, a logistic regression model that included student demographic indicators (i.e., age, sex and SES) highlighted that students with low academic grit were 3.58 times more likely to receive a zero score than students with high academic grit ($p = 0.0001$, confidence interval = 1.75–7.35).

Academic grit was also positively associated with student performance in mathematics. Students with higher academic grit levels enjoyed higher mean scores regarding the Missing Number subtask (**Figure 26**). Though differences were statistically significant when comparing either high or moderate academic grit to low academic grit ($p = 0$), the differences were small and do *not* appear substantive.

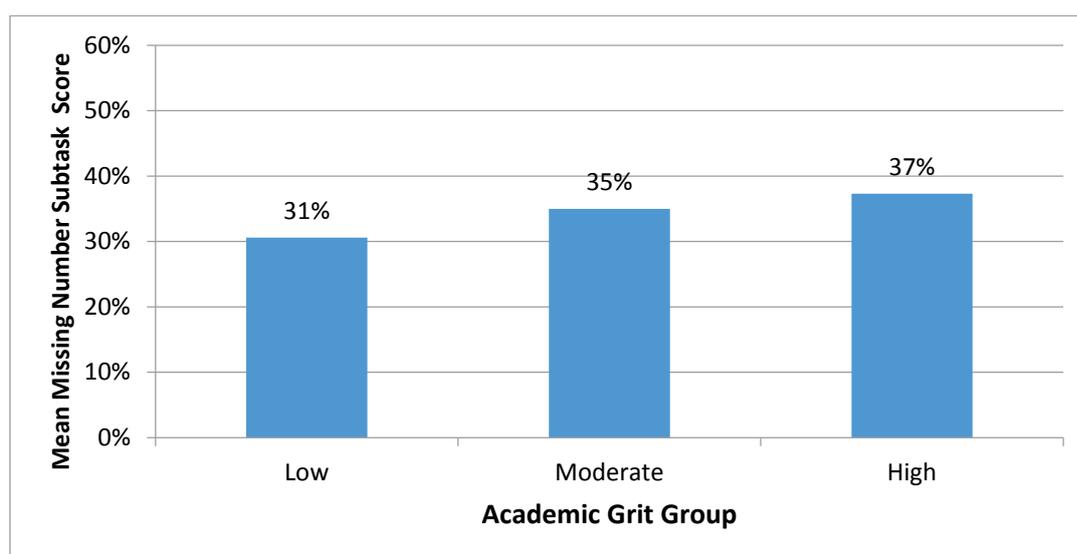


Figure 26. Mean Missing Number scores by academic grit.

Using linear regression, we were able to confirm that, even when basic demographic characteristics were taken into consideration, students with high academic grit had a mean score on the Missing Number subtask that was 8 percent higher than for those with low academic grit ($p = 0.001$). The students with moderate academic grit also had a higher mean Missing Number subtask score, though the differences were smaller (4.4 percent $p = 0.007$). Being in the highest SES quintile or being male student was similarly associated with a 4 percent higher mean Missing Number subtask score (SES $p = 0.042$; male student $p = 0.004$). Therefore, the increases in mean Missing Number subtask score were greater for students with high academic grit than for other demographic characteristics measured.

Overall, the results indicate that high academic grit, more precisely “student perseverance,” was found to be positive and significantly correlated with strong performance on the Oral Reading Comprehension subtask. There was a similar association found with student performance regarding the Missing Number subtask, but the differences in student performance, though significant, were much smaller. As academic grit was not found to be correlated with student demographic characteristics, the positive correlation between

academic grit and student performance indicates that academic grit, which is a teachable skill, could potentially help students to overcome the challenges imposed by factors such as low SES.

5.6 Self-Control and Student Performance

When evaluating the academic self-control questions, we noted a correlation between students' reported self-control responses and student performance on the Oral Reading Comprehension subtask. Students reporting greater self-control tended to have significantly higher mean Oral Reading Comprehension subtask scores than the students who reported low levels of self-control (*Figure 27*).

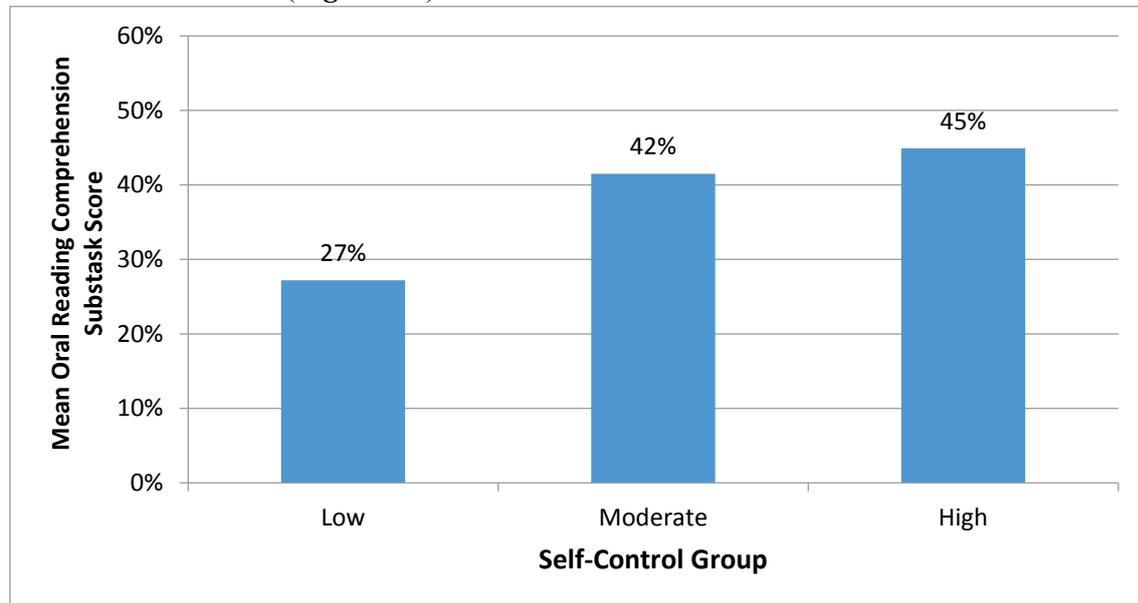


Figure 27. Mean Oral Reading Comprehension scores by self-control.

The percentage of students who were unable to answer any of the Oral Reading Comprehension subtask questions was greatest among those with low self-control (*Figure 28*).

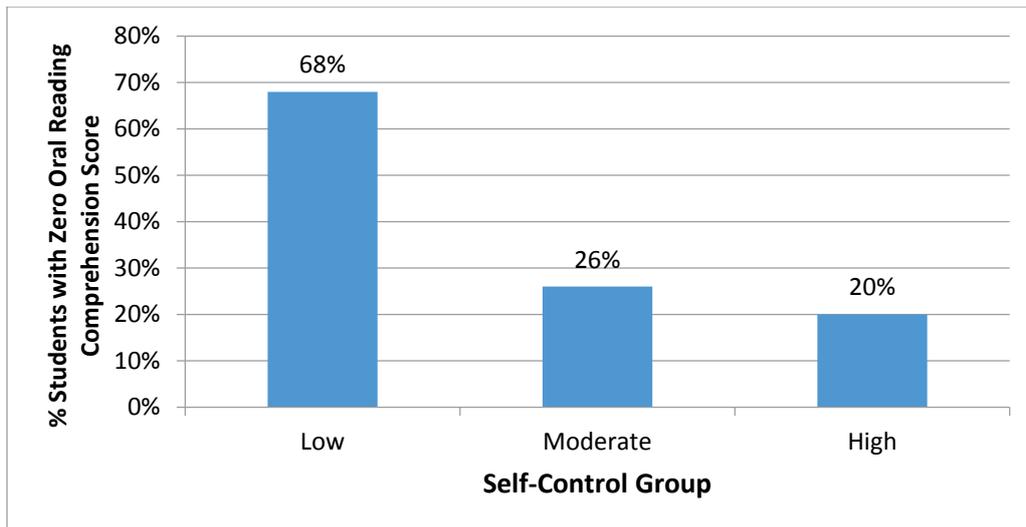


Figure 28. Percentage of students with zero Oral Reading Comprehension scores by self-control.

A linear regression model that controlled for basic student demographics (e.g., age, sex, SES) confirmed that student-reported self-control was associated with better performance on the Oral Reading Comprehension subtask. Students with moderate self-control received an average reading comprehension score that was 12.14 percent ($p = 0$) greater than scores from those with low self-control. Students with high self-control received, on average, 15.89 percent ($p = 0$) greater scores than those with low self-control. As with the academic grit model, only being in the top SES (coefficient = 18.89 percent, $p = 0$) group was associated with a higher score than being in either the high or moderate self-control group.

The linkage between self-control and mathematics as measured during the Missing Number subtask was positively correlated with student performance (*Figure 29*).

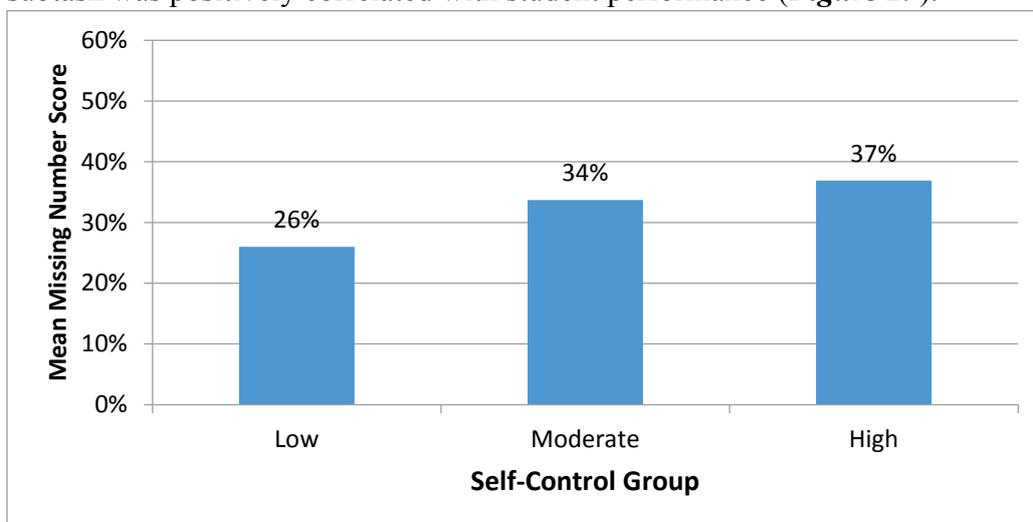


Figure 29. Mean Missing Number scores by self-control.

We then evaluated the distribution of students who correctly answered 50 percent or more of the Missing Number subtask questions. Forty percent of those students reporting high self-

control correctly answered 50 percent or more of the Missing Number subtask questions (*Figure 30*).

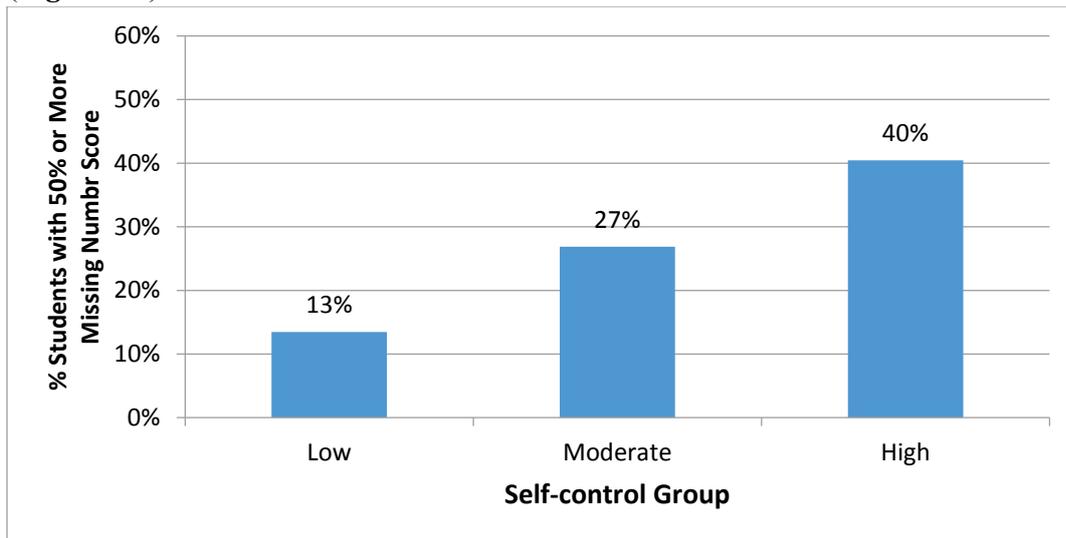


Figure 30. Percentage of students with 50 percent or more correct Missing Number scores by self-control.

Though as noted previously, only a small fraction of students received a zero score on the Missing Number subtask (8 percent), a larger proportion of students with low self-control received a zero score than those with either high or moderate self-control (17 percent versus 3 percent).

We used linear regression to verify that even when controlling for demographic characteristics, moderate and high self-control were both associated with higher mean performance rates on the Missing Number subtask (high self-control $\beta = 10.3$ percent, $p = 0$; moderate self-control $\beta = 6.3$ percent, $p = 0.002$).

5.6.1 Problem Solving (Word Problems) and Student Performance

Problem solving skills were assessed by observing the resources that students used to solve the items in the Word Problems subtask in EGMA. The assessors observed students as they completed the problems and noted which resources they used (i.e., solving the problem in their heads; and/or using fingers, counters, or tallies; and/or using paper and pencil calculations). The majority of students relied on just one problem-solving approach to solve the items (*Figure 31*).

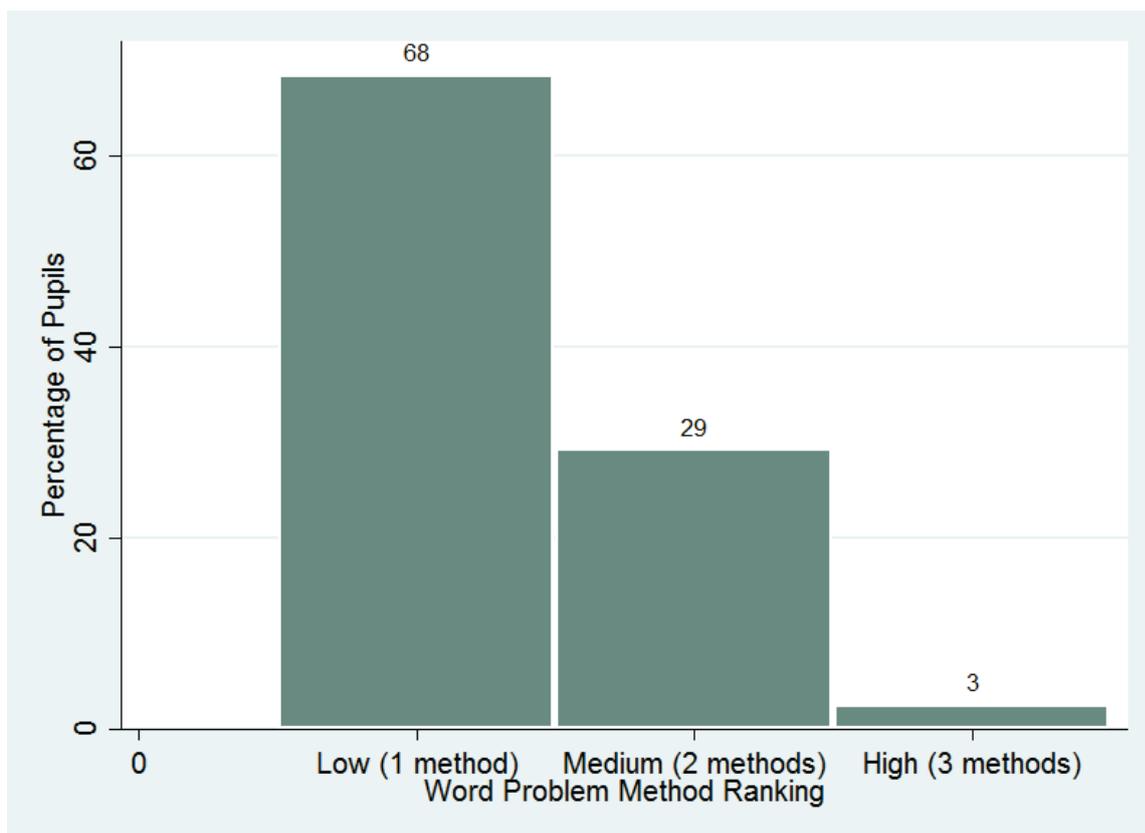


Figure 31. Percentage of students by number of problem-solving strategies applied.

The poorest performing students (i.e., those who received zero scores) were more likely to try to solve the problem in their heads without using their fingers or paper and pencil to try to solve them. This difference was statistically significant. The exception to this involved students who were able to answer all problems correctly. These highest performing students were slightly more likely to solve the problem in their head (*Table 16*). We speculate that these students found the problems simple enough to solve them without the aid of problem-solving strategies. This finding notwithstanding, we can conclude that, overall, better problem solvers tend to use a wider range of problem-solving strategies.

Table 16. Percentage of Students who Attempted to Solve the Problem in Their Heads by the Number of Correct Word Problems

Percentage of Students	Correct Number of Word Problems						
	0	1	2	3	4	5	6
	48%	33%	36%	37%	35%	36%	41%

Students who used a wider range of resources tended to out-perform other students on the Subtraction 2 subtask (*Table 17*).

Table 17. Mean Score on Subtraction 2 Problems by Number of Problem-Solving Resources Applied

Range of problem-solving methods used	Mean % Score	[95% Conf.]	Interval]
Low (1 method)	19.5%	18.10177	20.90937
Medium (2 methods)	30.4%	28.80071	32.09476
High (3 methods)	40.0%	34.66111	45.24388

When evaluating correlations with other life skills, we also noted that students who reported a high level of self-control were less likely to attempt to solve the problem in their heads (39 per cent for high self-control versus 65 per cent for low self-control). Problem-solving skills and the ability to apply a range of appropriate problem-solving techniques can be developed in the classrooms.

6 Life Skills Conclusions

Data from the life skills analysis contribute new information about improvements to life skills measurement methodology and to detect differences in student’s life skills. Although introducing frequency-of-event options increased the variability in student responses, the results for self-control remained fairly heavily skewed. Additional refinements, including testing of positively phrased questions rather than the currently negatively phrased questions, is recommended. Students seem to be much more willing to admit that they are not always applying a positive behavior than they are willing to admit to ever applying a negative behavior. It is our hope that by rephrasing the questions positively, we may be able to further increase the variability in student responses.

We created three groupings—low, medium, and high—for each of the three life skills by summing the responses for the questionnaire items (i.e., for academic grit and self-control) and summing correctly completed items for the problem-solving sub-scale. Overall, we found that the academic grit sub-scale produced a decent distribution, with most students in the “medium academic grit” category. Self-control appeared slightly negatively skewed. Although the modal student fell into the “medium self-control” category, approximately 40 percent reported “high” self-control. Most students (72 percent) fell into the low category in the problem-solving subtask.

We examined academic grit, self-control, and problem solving by student age, sex, and SES. We did not observe any significant correlations between these student demographic indicators and these three soft skills. Academic grit, self-control, and SES were shown to be significantly and positively associated with student performance on the Reading Comprehension and Missing Number subtasks. Linear regression models indicated that the linkage between academic grit and self-control remained even when a student’s age, sex and SES were considered. In fact, the only demographic characteristic that was a strongly associated with student performance was the highest SES quintile. Though traditionally thought of as innate skills, recent research has indicated that life skills are in fact teachable skills. Although further refinements and additional research are needed, these results indicate that increasing students’ academic grit and self-control may be a way to increase the

effectiveness of instruction while simultaneously helping to mitigate some of the performance barriers challenging economically disadvantaged students.

Student performance regarding the problem solving subtask was markedly better than the performance on the other conceptual subtasks: Missing Number, Addition Level 2, and Subtraction Level 2. This result is encouraging because it suggests that the Tanzanian students, while struggling to apply their basic (foundational) mathematical knowledge and skills in more conceptual context, can solve problems when these are posed in more familiar (everyday) contexts. When related to student performance on the EGRA and EGMA, we found that the poorest performing students (i.e., those who received zero scores) were more likely to try to solve the problem in their heads, without using their fingers or paper and pencil to try to solve them. In addition, students who used a wider range of resources tended to out-perform other students on the Subtraction 2 subtask. These findings would suggest that developing problem-solving skills and applying a range of appropriate problem-solving techniques in the classrooms could be beneficial to students.

6.1 3Rs Reforms and School Context

6.1.1 Basic School Inputs

Basic school inputs are those resources and items (e.g., people, resources, infrastructure) that are necessary for the proper functioning of school systems. These resources and items can be categorized in terms of inputs at the student level, the classroom level, and at the school level.

With regard to students, interviews provided information about individual and household characteristics, teaching and learning resources, and reading performed at home. Most students interviewed for this study attended pre-primary school (73 percent), which is a positive finding because pre-primary attendance is often predictive of learning in later years. However, this level of pre-primary attendance is actually lower than that reported in 2013 (approximately 80 percent). Interview items pertaining to students' households revealed that most students (63 percent) did not eat anything before arriving at school, and very few students who did not eat at home ate anything at school (9 percent). Thus, school feeding programs do not seem to be reaching many of the 63 percent of students who do not eat before school.

Opportunities to practice reading on a regular basis outside of school are important for emerging readers; however, in order to practice reading, students need access to books in their homes and time to read to others. To this end, most students surveyed (62 percent) indicated that they had books other than school textbooks to read in their homes. Moreover, nearly three out of every four students asserted that they read to others at home at least "sometimes." However, only one out of four of students reported reading on a daily basis outside of school. Time spent reading at home is significantly associated with reading outcomes: students who reported reading to others sometimes were 1.6 times more likely to achieve the Tanzanian benchmark for ORF (50 cwpm or more) than were students who never read at home. Students who reported reading every day were 1.9 times more likely to reach the Tanzania benchmark than were students who never read to others. These findings suggest that schools in Tanzania could have a significant role to play in providing structured opportunities for students to meaningfully engage with text during the school day.

At the classroom level, most teachers (71 percent) in Tanzania are women, and they report their highest level of academic education to be a certificate of secondary schooling (95 percent). Less than one out of three teachers (30 percent) completed pre-service training in content-specific pedagogy. The majority of teachers (84 percent) have attended in-service training pertaining to the 3Rs or were trained by a colleague who attended the training (12 percent). This finding suggests that the 3Rs training has covered all but approximately 4 percent of teachers. Of those who participated in the 3Rs training, most (87 percent) reported that they found it to be effective. Suggestions collected from teachers about how to make the training more effective included having the 3Rs student textbooks (82 percent), having the opportunities to develop teaching aids for use in the classroom (60 percent), and having smaller training groups (33 percent).

Several instruments attempted to collect data about classroom-level teaching and learning resources available to teachers and students. During interviews, students were asked to show the school books that they had with them on the day of the assessment. These interviews revealed that the students were much more likely to have exercise books (77 percent had Kiswahili and 71 percent had mathematics exercise books) than textbooks (only 8 percent had either Kiswahili or mathematics textbooks). These findings were corroborated by the classroom inventory: the median classroom had approximately 50 students, but very few textbooks were available for children in classrooms (only 23 percent of classrooms had any language or mathematics textbooks).¹⁵ For their part, most teachers had access to the 3Rs syllabus (90 percent) and teacher's guides for reading¹⁶ (94 percent) and mathematics¹⁷ (91 percent). However, 91 percent of teachers reported that they did not have adequate materials in their classrooms for teaching and learning of the 3Rs, with 70 percent stating they had zero books registered for their class. Other pedagogical materials seen in some classrooms were blackboards (in 100 percent of the classes), letter cards (in 62 percent), word charts (in 40 percent), number cards (in 55 percent), word cards (in 52 percent), and manipulatives for mathematics (in 21 percent). More generally, most classrooms (94 percent) do not have any non-textbooks for students to read during school hours, and the majority of classrooms (58 percent) had insufficient seating for the number of students in attendance. In summary, many classroom-level basic resources and teaching and learning materials could be more efficiently and equally distributed.

With regard to gender at the school level, the majority of teachers are women, but Head Teachers tend to be men (74 percent). More than half of the Head Teachers (53 percent) reported completing the 3Rs training.

6.1.2 Classroom Teaching and Learning Process

This subsection of the report describes the teaching and learning processes that take the basic school inputs previously discussed and translates them into actions of and interactions

¹⁵ Although these textbooks are not the 3Rs textbooks (as these were not yet made available to schools at the time the study was conducted), this finding does point to the difficulty that schools have had previously in obtaining and providing learning materials for students.

¹⁶ The 3Rs Teacher Guide for Reading and Writing (*Mwongozo wa mwalimu wa kufundishia stadi za kusoma na kuandika*).

¹⁷ The 3Rs Teacher Guide for Mathematics (*Mwongozo wa mwalimu wa kufundishia Kuhesabu Darasa la I na la II*).

between teachers and students around curricular content in classrooms and schools in Tanzania, as reported by students and teachers and as observed during classroom instruction. Specifically, this subsection discusses student work around content, teacher feedback to students, teachers’ instructional responses to specific classroom situations (“pedagogical moves”), teachers’ formal and information evaluation practices, and teaching behavior during observed reading and mathematics lessons.

During the student interview, they were asked about regular classroom interactions with their teachers. Specifically, the students were asked how their teachers tend to respond when a student answers a question incorrectly. This interaction was chosen because it affords an opportunity for teachers to react to a pedagogically challenging classroom situation in active and constructive ways that can promote student engagement in learning and the classroom.

Table 18 displays the proportion of students taught by teachers who tended to respond in one of the following ways:

- Active destructive (directly engaging with the issue, but in a discouraging manner)
- Passive destructive (not directly engaging with the issue and in a discouraging manner)
- Passive constructive (not engaging directly with the issue but in a generally encouraging manner)
- Active constructive (actively engaging with the issue and in an encouraging manner) way.

Either constructive (active or passive) ways of responding to classroom situations are better, in terms of student engagement and instructional quality, and tend to encourage student motivation and learning.

Table 18. Teachers’ Instructional Responses to Student Error¹⁸

Category	Teachers’ Pedagogical Moves	Percentage of Students
Active destructive	Hits the student	39%
Passive destructive	Asks another student	12%
	Corrects the student	12%
Passive constructive	Asks again	4%
	Encourages the student to try again	12%
Active constructive	Rephrases or explains the question	26%
Other	Other	2%
	Do not know	6%

From Table 18, it is clear that destructive pedagogical practices, particularly hitting students, are more commonly used by teachers than are constructive practices during challenging instructional situations. Such situations are important because they present teachers with difficult, but important, choices in keeping students motivated to learn and in promoting their continued engagement with lesson content. To cite an example from Table 18, when a student

¹⁸ Percentages do not total 100 because multiple responses per question were permitted.

answers a question incorrectly, a teacher can choose to respond in an active destructive manner by hitting the student. This action communicates to the student that the response was indeed wrong, but it does not promote continued engagement (this action does not keep the student thinking about why the response was wrong or how it could be corrected), and it does not motivate the student to respond in the future. However, teachers can respond to student error in active and constructive ways, such as rephrasing or explaining the question (26 percent of students reported that their teacher did this). This response similarly indicates to the student that the answer offered was incorrect, but yet encourages continued engagement with both the question at hand and with the lesson content. A logistic regression model was used to test whether teacher constructive responses predicted whether the students would meet reading benchmark criteria. It was found that students of teachers who employed mostly constructive responses to students' errors were 1.3 times more likely to achieve the Tanzanian benchmark than were students taught by teachers who used mostly destructive responses.¹⁹ Constructive pedagogical practices, therefore, could be taught to and employed by more teachers in Tanzanian schools, and this would likely impact student motivation and engagement.

The assessors examined students' exercise books to determine the number of pages that teachers had graded and had provided feedback (in the form of marking). Although most students had received some feedback from teachers (only 3 percent had not received any), the majority of students (56 percent) had only 1–10 pages of teacher marking in their exercise books. Approximately one out of every three students (30 percent) had markings on between 11–20 pages of their exercise books, whereas the remainder of students had between 21–30 (8 percent) or 31–40 (2 percent) pages with markings. The next subsection, Time on Task, of this report discusses the amount of work that students had completed in their workbooks at the time of the assessment, it suffices to say here that the median child had completed between 21 and 30 pages in their exercise books and had received teacher feedback on between 1 and 10 pages.

During Kiswahili and mathematics lessons, the teachers were observed for 30 minutes. Every three minutes, the assessors noted teachers' instructional behavior and the lesson content. With regard to teachers' instructional behavior, the assessors distinguished between talking to students and presenting material, asking or answering questions, monitoring or assessing students, and assisting students with their work. These observations were then aggregated to determine the proportion of lesson time during which teachers were observed engaging in specific pedagogical actions. Interestingly, the findings were notably uniform across content areas: in both Kiswahili and mathematics lessons, the teachers were most often observed talking or speaking to students (observed 38 percent of the time during Kiswahili lessons and 36 percent of the time during mathematics lessons). The second most commonly observed teacher action was asking or answering questions during Kiswahili lessons (observed 23 percent of the time) and monitoring or assessing students during mathematics lessons (observed 27 percent of the time). The third most commonly observed behavior was monitoring or assisting students during Kiswahili lessons (21 percent of the time) and asking questions during mathematics lessons (21 percent of the time). A slightly less common

¹⁹ The logistic regression model controlled for gender, region, SES index, age, pre-primary attendance, and reading at home. The result was marginally statistically insignificant ($p=0.059$).

behavior was assisting students (observed 18 percent of the time during Kiswahili lessons and 16 percent of the time during mathematics lessons).

These observations were also used to create profiles of Kiswahili and mathematics lessons in Tanzania by depicting what actions teachers tend to employ at various points throughout the observation period. Remarkably, teacher's actions followed very similar patterns in both Kiswahili and mathematics lessons: many teachers tend to begin lessons by talking or speaking to students. This action is the most commonly observed behavior during the first 10–12 minutes of reading lessons and the first 15–18 minutes of mathematics lessons. In both content areas, there is a notable increase in the number of teachers who were observed posing questions to students between 6 and 12 minutes. Finally, between 18 and 21 minutes of Kiswahili and mathematics lessons, most teachers give students work to complete and tend to use the final 10 minutes of the lessons to monitor students' work. These patterns appear to make pedagogical sense and could describe an "ideal" lesson structure. However, when depicted in figures these aggregate patterns are obvious, but there also appears to be a high degree in variation between classrooms in terms of teacher actions (the slope of teacher behavior action lines is gradual) and not all teachers change from one section of the lesson (e.g., introduction) to the next (e.g., asking questions) at the same time. This, in turn, suggests variation in terms of the amount of time allocated to students engaging with lesson content (e.g., not all students are able to read the same amount of time during lessons).

The assessors also found some evidence of teachers' behaviors during the classroom inventory. The assessors determined whether teachers had lesson plan books (89 percent of teachers did) and whether they used the materials to prepare lesson plans (84 percent did). As such, it appears that most teachers regularly prepare plans before the each day's lesson. However, this analysis does not indicate the quality of lessons prepared. High-quality lessons include, at a minimum, reflections on prior lessons, likely student misunderstandings, multiple strategies for learning content, as well as an outline of structured activities. It is not clear whether lesson plans observed in the teachers' books included these elements.

As seen in *Table 19*, teachers tend to employ various means of assessment. When asked how they measure their students' academic progress—one of the teaching competencies described in the 3Rs—teachers of most students affirmed their use of written tests (82 percent) and worksheets (58 percent). In addition, a substantial minority of students were taught by teachers who used oral evaluations (43 percent) and end-of-term evaluations (36 percent) to measure progress. In 2013, Brombacher and colleagues (2014) reported that most teachers used written exams (95 percent) and end-of-term exams (56 percent). In 2016, by contrast, many teachers have reduced their reliance on single-event assessments, such as end-of-term exams, and appear to favor more regular and informal means of assessment, such as worksheets, oral evaluations, and observations. In terms of checking for understanding—another 3Rs teaching competency—most students are taught by teachers who ask comprehension questions to individual students (73 percent) or the entire class (51 percent) and who give students a task and correct it after the lesson is completed (54 percent). The most frequent use of assessment results was, according to interviewed teachers, to adapt teaching to better fit student' needs (60 percent of them are taught by such teachers), followed by arranging students in ability groups (48 percent), grading students (42 percent), and planning teaching and learning activities (37 percent). The results to this latter question

represent an abrupt, but positive, change from just several years ago: in 2013, Brombacher and colleagues (2014) reported that the vast majority of teachers (approximately 86 percent) used assessment results for grading students. At that time, less than one out of three teachers reported using assessment results for evaluating understanding or adapting teaching. These uses for assessment have become more mainstream during the previous several years. Moreover, using results to group students is a specific goal of the 3Rs curriculum, and nearly half of the students are taught by teachers who reported employing such methods.

Table 19. Teacher Assessment Methods

Questions	Method	Percentage of Students
How do you measure students' academic progress?	Written tests	82%
	Oral evaluations	43%
	Observation	17%
	Portfolios or projects	6%
	Homework	20%
	Worksheets	58%
	End-of-term evaluations	36%
	Other	7%
How do you check for student understanding?	Ask comprehension questions to individual students	73%
	Ask comprehension questions to the entire class	51%
	Ask comprehension questions to student groups	32%
	Give students a task and correct it at the end of the lesson	47%
	Give students a task and correct it after the lesson	54%
	Other	3%
How do you use assessment results?	Grade students	42%
	Evaluate understanding of the subject matter	26%
	Plan teaching and learning activities	37%
	Adapt teaching	60%
	Arrange students in ability groups	48%
	Other	10%

Although many teachers reported having attended the 3Rs training (84 percent), our researchers were interested to determine whether training was predictive of whether teachers exhibited behaviors that are considered to be good pedagogy and, more aptly, a part of the 3Rs implementation. To this end, a regression model was created to test whether the training was associated with how teachers assess student learning in class, how teachers use the results of student assessments, whether the teachers allocated the appropriate amounts of time to the 3Rs, and whether the teachers' lessons lasted for at least 30 minutes during the classroom observation. The regression model controlled for teachers' gender, the region where the teachers work, and an observed measure of classroom instruction. The model revealed two main findings. First, taking the 3Rs training was not associated with most

measures, either observed or reported, of good teaching. Generally speaking, teachers who completed the 3Rs training were no more likely to engage in the most of the tested behaviors, even allocating the appropriate amount of time for lessons and reading, writing, and mathematics (as stipulated by the 3Rs curriculum) than their colleagues who were not trained. However, teachers who attended the training were found to be 2.2 times more likely than non-trained teachers on how to use the results of the student assessments to plan teaching and learning materials. Although this analysis is not causal (other mitigating factors cannot be ruled out) and this behavioral measure was in fact self-reported by teachers, it is nevertheless significant that the 3Rs training is associated with this particular measure of good pedagogy and instructional planning.

Of the teachers interviewed, 92 percent reported that they taught Kiswahili reading, 92 percent Kiswahili writing, 84 percent mathematics, 79 percent health and environment sciences, 74 percent games, sports, and fine and performing arts. A small percentage of teachers reported teaching other subjects. Very few teachers (2 percent) reported teaching English reading or writing.

6.1.3 Time on Task

The amount of time spent for reading and doing mathematics (“on task”) matters greatly for student learning. Students need structured time to practice emerging reading skills in order to become more familiar with and learn to decipher meaning from written text. Likewise, students need time to learn to think logically and mathematically and to use mathematics to solve problems. Time away from school (i.e., because of absenteeism or tardiness) and time wasted during class inherently reduce the time spent on task to hone these emergent skills.

A very basic measure of time on task is absenteeism: students are obviously not on task if they are not in school. To this end, 21 percent of students reported being absent at least one day during the previous week, mostly due to illness (14 percent of all students). As with student absenteeism, teacher absenteeism has been shown to be a major factor in school ineffectiveness and low student performance. Twenty-five percent of teachers reported being absent at least one day during the previous week, either because of illness (10 percent) or working another job (9 percent).

Students were also asked whether they believed that they had time to read books in the classroom on a daily basis. More than two out of every three students (69 percent) reported that they did have time to read with such frequency. However, because most classrooms had very few books—textbooks or otherwise (see Subsection 4.3.1, Basic School Inputs)—the ability of students to read with such frequency is questionable.

Student exercise books were checked to determine the number of pages that students worked, which indicates how much work has been completed since the beginning of the school year. A significant amount of variation was found in this regard. Although a very small number of students (1 percent) had blank pages without work, 41 percent had between 1 and 10 pages of work, 37 percent had between 11 and 20 pages of work, 15 percent had between 21 and 30 pages of work, and 4 percent had between 31 and 40 pages of work. In other words, the students who completed the most work in their exercise books (the top 20 percent [those with 21 pages or more]) had finished more than twice the amount of work than the bottom 40

percent of students (10 or fewer pages completed). These results amount to a high degree of variation in work conducted.

During the classroom observation, the assessors determined the proportion of time that teachers allocated to specific lesson content. In observed Kiswahili lessons, teachers and students were observed engaging in reading activities during most observation segments (65 percent), followed by writing activities (29 percent), and listening activities (4 percent). Other activities (e.g., grammar) were rare. During the observed mathematics lessons, the vast majority of teachers and students were engaged in activities relating to whole numbers (nearly 100 percent); a few other classrooms were observed conducting activities with fractions.

Although teaching standards relating to the 3Rs indicate that Kiswahili and mathematics lessons must last at least 30 minutes, the classroom observations found that this was not always the case. Thirty percent and 23 percent of Kiswahili and mathematics lessons ended before 30 minutes, which inherently reduces the time that students can engage with lesson content. The assessors also reported on whether the teachers' lesson timetables reflected the current guidance in terms of time allocated to reading (5 hours per week), writing (3 hours per week), and mathematics (4 hours per week). The assessors found that most of the teachers' timetables matched this guidance (i.e., 82 percent for reading, 83 percent for writing, and 83 percent for mathematics). However, 67 percent of teachers whose lesson timetables indicated the appropriate amount of time allocated to reading during the school week were actually observed conducting appropriately timed lessons (according to the 3Rs guidance)—33 percent of these teachers ended their reading lessons before 30 minutes. Of the teachers who had the appropriate amount of time allocated to mathematics in their timetable, 77 percent were actually observed delivering 30-minute mathematics lessons. These findings suggest that the time spent on task on the 3Rs might be lower than reported in teachers' lesson timetables.

6.1.4 Pedagogical Oversight and Management

This section of the report discusses how the schools are managed, how instructional leadership is shown by the Head Teacher, the characteristics of school leaders (e.g., years of experience, academic background). Part of the Head Teacher's role in a school is to create a safe teaching and learning environment conducive to students' and professional growth and to help teachers develop enhanced pedagogical techniques.

Reports from teachers about lesson plan checks, teacher observations, conversations about teaching, and teachers' responses to seeking assistance would suggest a strong culture of support within schools. A majority of teachers (78 percent) reported that their Head Teacher or Academic Head Teacher checked their lesson plans; of that finding, 9 percent reported the lesson plans were checked daily, 58 percent reported they were checked weekly, and the remaining 11 percent of teachers reported having their lesson plans checked either monthly or quarterly. More than half of the teachers (60 percent) were visited by their Head Teachers frequently since the beginning of the school year, with 23 percent reporting weekly visits. Almost one-fourth of the teachers (23 percent) shared that their Academic Teacher discussed their teaching with them weekly, and 31 percent have monthly discussions. However, 34 percent reported never having conversations about their teaching with their Academic

Teacher since the beginning of the school year. Although all teachers should have some level of support from Head Teachers and Academic Teachers (i.e., ideally, none of the teachers should report that they were not visited at all during a school year), the level of variation in the previous findings is not in itself problematic. Varying the frequency of classroom observations makes sense, particularly to provide more support (more observations) for those teachers who are most in need of improvement (e.g., see Bill & Melinda Gates Foundation, 2015; White, 2013). However, it is unclear whether the variation seen in observation frequency is the result of a pre-meditated effort to provide appropriate and differentiated levels of support for teachers. This issue should be made a priority for Head Teachers. In terms of seeking support, only 1 percent of teachers stated that they never needed help. The remaining responses showed that teachers employ a variety of strategies for discussing items (multiple items could be selected). A majority of teachers (71 percent) reported discussing issues casually with other teachers, 50 percent talk with the Academic Teacher, and 42 percent talk with their Head Teacher.

As for support provided from outside of the school, almost three-fourths of teachers (73 percent) indicated that the Ward Education Officer visited, with 20 percent noting weekly visits, 43 percent monthly visits, and 10 percent quarterly visits. The results show less frequent visits from the School Inspectors, with 70 percent of teachers reported that they were never visited, 19 percent were visited quarterly, and 9 percent were visited monthly.

6.1.5 School Safety

Student safety at school is a primary concern for parents, students, teachers, Head Teachers, and other school officials in Tanzania. Learning is compromised if students perceive that they are not safe, and teachers are less likely to provide quality instruction if they also perceive the school to be an unsafe place for either themselves or their students. Because the perception of safety is a primary need—one that imposes itself on the minds of students, teachers, and Head Teachers—during the interviews, the assessors asked whether the students, teachers, and Head Teachers believed that they were safe at school. When the respondents said that they did not feel safe at the school, the assessors asked them to discuss the issue. During teacher and Head Teacher interviews, the assessors also inquired about their perceptions of student safety. Many teachers (70 percent) said they did not have any safety concerns at their school. Among those teachers who did have safety concerns, the most prevalent issues were those regarding the surrounding area and the lack of a guard at the school. Most teachers (79 percent) said they did not have any safety concerns for their students. Of those teachers who reported safety concerns for their students, the most prevalent issue again was regarding the surrounding area.

7 Conclusions and Recommendations

On June 14 and 15, 2016, MoEST hosted a Policy Dialogue Workshop in Dar es Salaam at the National Museum of Tanzania. The purpose of this workshop was to present the findings of the 2016 3Rs National Survey, discuss the results, examine progress towards the recommendations made at the 2014 workshop, and suggest recommendations for further progress in reading, writing and arithmetic.

The workshop was opened by the Honorable Professor Joyce Ndalichako Minister for Education, Science, and Technology. Dr. Leonard Akwilapo, the Deputy Permanent Secretary of MoEST, and Timothy Donnay, the USAID Acting Mission Director, welcomed the participants.

In her opening remarks, Minister Ndalichako emphasized the role that data, through initiatives such as BRN, have elevated the visibility of the education sector, particularly the issue of early grades access, quality, and disparities. She shared that “quantity and quality have never been good friends” and that efforts to address one of these must also include the other. Furthermore, she identified the role of stakeholders in the process to improve quality in Standards 1 and 2: teachers to support the instruction of the 3Rs and Quality Assurers to support teachers’ instruction. Minister Ndalichako also discussed activating community engagement. She emphasized that the results of the current 3Rs survey should be discussed and considered in relation to the 2013 survey.

During Day 1 of the workshop, the results from the National 3Rs survey were presented to 110 people representing the following institutions and organizations:

- MoEST
- President’s Office, Regional Administration, and Local Government
- MoEST, Quality Assurers at the zonal and Local Government Authority levels
- Regional Education Officers and District Education Officers
- Institute of Education
- NECTA
- Primary school teachers and Head Teachers
- Universities
- Teachers’ colleges
- Local and international non-governmental organizations
- Book publishers
- Private School Owners Association.

On Day 2 of the workshop, 75 of participants—nearly all who attended on Day 1—returned to discuss the findings, explore the progress since the 2014 workshop, and suggest outstanding issues towards progress in reading, writing, and mathematics for children in lower primary grades. Data Vision and RTI International provided support for the workshop.

7.1 Progress Since the 2014 Survey

To ensure that the 2016 Dissemination Workshop was a continuation of the 2014 workshop, Day 2 was structured to give participants the opportunity to review and reflect upon the efforts of the past two years.

One way help them understand the progress since 2014 was to attend two presentations by projects that addressed some of the 3Rs goals. From one project, the Education Quality Improvement Programme in Tanzania (EQUIP-T), workshop participants learned that the program is organized around simple and accessible modules that are used at monthly teacher

meetings held at the Ward level. The project has increased the amount of instructional materials in seven regions, and it is using a 12-week school readiness program.

A second project, the USAID-funded Tusome Pamoja, presented an overview of its goals and theory of change. The five-year project is in its first year, so its activities were presented to address some of the outstanding needs from the 2014 3Rs survey. The Tusome Pamoja project will address learning skills in four mainland regions and Zanzibar in Standard 1 through 4 and early childhood in a limited number of schools. The intervention includes teacher professional development via peer learning, in-service, and mentoring for Head Teachers and Ward Education Coordinators.

A second way that participants reflected on the progress was by reviewing the 2014 written recommendations. Small groups reviewed the written recommendations for one of the following topics: (1) fluent readers, (2) mathematics improvement, (3) opportunities to learn, and (4) assessment. For each topic, the groups identified progress towards the 2014 recommendations and areas that remain outstanding. The results are arranged by the following themes, which emerged from the small groups: (1) access, (2) assessment, (3) materials, and (4) training. Each theme is further described in the remainder of this section of the report.

Access: Progress during the past two years has involved increasing children's access to the goals of the 3Rs. There are still outstanding needs: address students with special needs; provide school meals through mobilized communities; establish reading clubs, corners, and competitions; and form libraries.

Assessment: The following progress was made during the past two years to improve and use assessments: Developed a draft of a diagnostic tool to measure teacher performance by Quality Assurers, trained two teachers per school and Head Teachers regarding the ways in which to use the assessments, and conducted formative assessments for Standard 2. There is still an outstanding need for teachers to help families understand student progress.

Materials: The following progress was made during the past two years to increase and improve instructional materials: reduced the number of subject for Standards 1 and 2 from seven to three, performed a curriculum review for Standards 1 and 2, refined the textbook policy, and developed a Kiswahili textbook, which is currently being distributed to schools. Levelled reader collections of 25 titles are currently being finalized for use in two donor-funded initiatives, Tusome Pamoja and EQUIP-T. There are still outstanding needs for more instructional materials and for revised curricular materials focused on mathematics.

Training: The following progress was made during the past two years to improve teacher's pedagogy: introduced initial teacher education for Standards 1 and 2 at the level of diploma and conducted national in-service teacher training for the 3Rs; however, additional reinforcement is needed. Reallocation of teachers is ongoing. There are outstanding needs to connect the 3Rs training to in-service education and training and continuing professional development, support Teacher Resource Centers to share effective practice, and learn best practice from English medium schools.

7.2 2016 Recommendations

The final activity of the workshop was structured to make recommendations for continued progress in reading, writing, and arithmetic for children in lower primary grades. Participants were organized into groups that discussed five issues emerging from the report. They were guided to use the 2016 3Rs report, the discussions on the progress since the 2014 workshop, and questions relevant to each topic to generate the following recommendations, some of which were noted as outstanding from the 2014 workshop:

- **Reading Outside of Classroom:** The 2016 3Rs survey showed that children who read outside of the classroom were more likely to reach the EGRA benchmark. Recommendations to increase reading outside of the classroom include the following:
 - Increase the availability of supplemental books that can be used for pleasure reading outside of the classroom
 - Develop books with just pictures or minimal text to support independent reading
 - Promote the message of reading by organizing reading competitions and reading clubs
 - Encourage older children to read to younger children (i.e., book buddies).
- **Constructive Responses:** The 2016 3Rs survey suggested that teachers who relied more on constructive responses to student errors had students who were more likely to reach the reading benchmark. Recommendations to increase the use of constructive responses include the following:
 - Provide regular meetings between teachers in small groups led by a facilitator or a role model teacher where they have the opportunity to practice learning to rephrase, simplify, or clarify questions
 - Provide training sessions where teachers learn and practice using scaffolding instead of just stating the correct response
 - Provide training sessions that sensitize teachers to the negative effects on student achievement if they use negative reactions such as corporal punishment or sustained standing
 - Identify teachers who routinely use constructive feedback and take videos of them and share them as examples during training sessions.
- **Kiswahili Language:** The 2016 3Rs survey showed that children who spoke Kiswahili at home were more likely to reach the reading benchmark. Recommendations to increase language support include the following:
 - Provide and use levelled readers
 - Produced and provided word, number, and picture cards to support language development
 - Provide training sessions to teachers to use and make teaching materials locally available to help support vocabulary growth
 - Structure training sessions for teachers about the use of interactive oral discussions and code switching in teaching and learning
 - Provide students with an introduction to Kiswahili that is a few weeks in length.

- **Family Support:** The 2016 3Rs survey showed that children who read to others (e.g., family members) were more likely to reach the EGRA benchmark. Recommendations to increase family support include the following:
 - Use parent associations (Parent Teacher Partnership and the Parent Teacher Association) to strengthen formal and informal relationships between schools and families
 - At parent–family meetings, teachers can provide parents with specific ways in which they can support learning (e.g., inquire about school work, designate a spot for homework)
 - Invite families to visit classrooms during school visiting days
 - Demonstrate to families age-appropriate expectations for specific skills.
- **Assessment to Inform Instruction:** The 2016 3Rs survey showed that more teachers were varying the way and reasons they assessed students as compared to the 2013 survey. Recommendations to further increase the number of teachers who use assessment to inform instruction include the following:
 - Prepare a training module that focuses on the role of formative assessments used throughout the lesson and not waiting for formal (i.e., summative) assessments
 - Include informal ways for teachers to assess understanding (e.g., gestures, slates, thumbs up, calling on select groups of students)
 - Prepare a training module that helps teachers understand the purposes of various assessments types and plan instruction based on the results.

Mathematics Conclusions

The difference in performance on the procedural and conceptual subtasks may suggest how students in Tanzania are likely to experience school mathematics. It is likely that the students experience mathematics as a subject in which they must know the answer to a problem rather than having a strategy for solving it. Students may view mathematics as the memorization of facts, rules, and procedures, rather than performing mathematical calculations as a meaningful sense-making problem-solving activity.

The EGMA results suggest that student performance has a lot more to do with how students are learning to do mathematics rather than the mathematics that they are learning. Doing mathematics (especially in the early grades) involves being able to read, write, compare, and perform basic operations with numbers; however, doing mathematics involves a lot more than this. According to the authors of *Adding it Up: Helping Children Learn Mathematics*,²⁰ “Our analyses of the mathematics to be learned, our reading of the research in cognitive psychology and mathematics education, our experience as learners and teachers of mathematics, and our judgment as to the mathematical knowledge, understanding, and skill people need today have led us to adopt a composite, comprehensive view of successful mathematics learning. ... Recognizing that no term captures completely all aspects of expertise, competence, knowledge, and facility in mathematics, we have chosen mathematical proficiency to capture what we believe is necessary for anyone to learn mathematics

²⁰ National Research Council. 2001. *Adding It Up: Helping Children Learn Mathematics*. Washington, DC: The National Academies Press.

successfully.” The authors also describe mathematical proficiency as having the following five components, or strands: (1) conceptual understanding (understanding): the comprehension of mathematical concepts, operations, and relations; (2) procedural fluency (computing): skill in carrying out procedures flexibly, accurately, efficiently, and appropriately; (3) strategic competence (application): the ability to formulate, represent, and solve mathematical problems; (4) adaptive reasoning (reasoning) the capacity for logical thought, reflection, explanation, and justification; and (5) productive disposition (engaging): the habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy. In short, the authors present the case that to be successful in learning mathematics, students need—in addition to being able to compute answers—to understand the mathematics that they are learning, be able to apply what they have learned in unfamiliar situations, and be able to reason about what they have done.

The results of the EGMA study suggest very strongly that the focus in mathematics teaching in Tanzania is more about knowing facts—as revealed by the stronger performance on the more procedural tasks (Addition and Subtraction [Level 1])—than on the ability to apply that knowledge with reasoning and understanding—as reflected in the significantly poorer performance on the more conceptual tasks (Addition and Subtraction [Level 2] and Missing Number).

Improving performance in mathematics (especially on the more conceptual subtasks) will require not just teaching the same mathematics that is currently being taught more effectively, but a reorientation of what it means for children to do mathematics. It is recommended that future in-service teacher training in mathematics needs to focus more on the multi-dimensional nature of mathematical proficiency than on more efficient teaching strategies that focus on mathematics as the memorization of facts, rules, and procedures.

It is encouraging to note that the students performed better on the Word Problems subtask than on the Addition and Subtraction (Level 2) and Missing Number subtasks. The results on the Word Problem subtask highlight that students are, in general, able to make a plan and solve a problem. Teaching that uses problems to both give meaning to the mathematics that students are learning and to expose students to the mathematics to be learned may achieve a great deal more than the current approach. It is recommended that the pedagogical approaches to the teaching of mathematics conveyed in both pre- and in-service increasingly focus on solving problems as a way of teaching and learning mathematics and not only the reason for learning mathematics.

Life Skills Conclusions

In terms of findings from the Life Skills instruments, data from the life skills analysis contribute new information about improvements to life skills measurement methodology and to detect differences in student’s life skills. Although introducing frequency-of-event options increased the variability in student responses, the results for self-control remained fairly heavily skewed. Additional refinements, including testing of positively phrased questions rather than the currently negatively phrased questions, are recommended. Students seem to be much more willing to admit that they are not always applying a positive behavior than they are willing to admit to ever applying a negative behavior. It is our hope that by rephrasing the questions positively, we may be able to further increase the variability in student responses.

We created three groupings—low, medium, and high—for each of the three life skills by summing the responses for the questionnaire items (i.e., for academic grit and self-control) and summing correctly completed items for the problem-solving sub-scale. Overall, we found that the academic grit sub-scale produced a decent distribution, with most students in the “medium academic grit” category. Self-control appeared slightly negatively skewed. Although the modal student fell into the “medium self-control” category, approximately 40 percent reported “high” self-control. Most students (72 percent) fell into the low category in the problem-solving subtask.

We examined academic grit, self-control, and problem solving by student age, sex, and SES. We did not observe any significant correlations between these student demographic indicators and these three soft skills. Academic grit, self-control, and SES were shown to be significantly and positively associated with student performance on the Reading Comprehension and Missing Number subtasks. Linear regression models indicated that the linkage between academic grit and self-control remained even when a student’s age, sex and SES were considered. In fact, the only demographic characteristic that was a strongly associated with student performance was the highest SES quintile. Although further refinements and additional research are needed, these results indicate that increasing students’ academic grit and self-control may be a way to increase the effectiveness of instruction while simultaneously helping to mitigate some of the performance barriers challenging economically disadvantaged students.

Student performance on problem solving was markedly better than the performance on the other conceptual subtasks: Missing Number, Addition Level 2, and Subtraction Level 2. This result is encouraging because it suggests that the Tanzanian students, while struggling to apply their basic (foundational) mathematical knowledge and skills in more conceptual context, can solve problems when these are posed in more familiar (everyday) contexts. When related to student performance on the EGRA and EGMA, we found that the poorest performing students (i.e., those who received zero scores) were more likely to try to solve the problem in their heads, without using their fingers or paper and pencil to try to solve them. In addition, students who used a wider range of resources tended to out-perform other students on the Subtraction 2 subtask. These findings would suggest that developing problem-solving skills and applying a range of appropriate problem-solving techniques in the classrooms could be beneficial to students.

References

- Aron, A., E.N. Aron, and E. Coups. 2013. *Statistics for psychology (6th edition)*. Boston, MA: Pearson.
- Bandura, A., C. Barbaranelli, G.V. Caprara, and C. Pastorelli. 2001. Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development* 72(1):187–206.
- 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 the *Handbook of Research on the Education of Young Children*. Edited by O. Saracho and B. Spodek. Mahwah, NJ: Erlbaum.
- Bill & Melinda Gates Foundation. 2015. *Seeing it clearly: Improving observer training for better feedback and better teaching*. Seattle, The Bill & Melinda Gates Foundation. Available at <http://www.aasa.org/uploadedFiles/BetterFeedbackAASA15Oct15.pdf>
- Brombacher, A., K. Batchelder, A. Mulcahy-Dunn, A. Dick, P. Downs, L. Nordstrum, S. King, C. Cummiskey, and M. Davidson. 2015. *School Quality Assessment for Education and Wash in Mbeya, Iringa, and Njombe*. Report prepared for UNICEF Education Programme. Research Triangle Park, NC: RTI International.
- Brombacher, A., L. Nordstrum, M. Davidson, K. Batchelder, C. Cummiskey, and S. King. 2014. *National Baseline Assessment for the 3Rs (Reading, Writing, and Arithmetic) Using EGRA, EGMA, and SSME in Tanzania*. Available at <https://www.eddataglobal.org/countries/index.cfm?fuseaction=pubDetail&ID=682>
- 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.)
- Chard, 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 for Effective Intervention* 30(2):3–14.
- CIA (Central Intelligence Agency). 2015. The World Factbook. Available at <https://www.cia.gov/library/publications/resources/the-world-factbook/fields/2103.html#tz>
- CIA (Central Intelligence Agency). 2012. The World Factbook. Available at <https://www.cia.gov/library/publications/the-world-factbook/fields/2205.html>
- CIA (Central Intelligence Agency). 2006. The World Factbook. Available at <https://www.cia.gov/library/publications/the-world-factbook/fields/2255.html#tz>
- 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.
- Cronbach, L.J. 1951. Coefficient alpha and the internal structure of tests. *Psychometrika* 16(3):297–334.

- Duckworth, A.L. 2009. Development and validation of the Short Grit Scale (Grit S). *Journal of Personality Assessment* 91 166–174.
- Duckworth, A.L., and J.J. Gross. 2014. Self-control and grit: Related but separable determinants of success. *Current Directions in Psychological Science* 23(5):319–325.
- Duckworth, A.L., C. Peterson, M.D. Matthews, and D.R. Kelly. 2007. Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology* 92:1087–1101.
- 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.
- Heckman, J.J., and T. Kautz. 2012. Hard evidence on soft skills. *Labour Economics* 19:451–464.
- International Monetary Fund. 2016. IMF World Economic Outlook, October 2015. Available at <http://knoema.com/IMFWEO2015Oct/imf-world-economic-outlook-weo-october-2015>
- Mulcahy-Dunn, A.D., S.J. King, L.E. Nordstrum, E.O. Newton, and K.E. Batchelder. 2016. *An Approach to Measuring Soft Skills: A Trial in Tanzania*. Paper presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX. April 27–May 1.
- National Bureau of Statistics. 2014. *The United Republic of Tanzania: Statistical Abstract 2013*. Available at <http://www.nbs.go.tz/nbs/Stastical%20Abstract/Statistical%20Abstract%20Report%20013.pdf>
- 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.)
- Rojas, J.P., J.A. Reser, E.L. Usher, and M.D. Toland. 2013. *The Psychometric Properties of the Academic Grit Scale*. University of Kentucky College of Education. August. Available at <http://sites.education.uky.edu/motivation/files/2013/08/PojasPeserTolandUsher.pdf>
- RTI International. 2009. *Early Grade Reading Assessment Toolkit*. Prepared for the World Bank, Office of Human Development, under Contract Number 7141961. Research Triangle Park, North Carolina, USA: RTI International. Available at <https://www.eddataglobal.org/countries/index.cfm?fuseaction=pubDetail&ID=149>
- SACMEQ (Southern and Eastern Africa Consortium for Monitoring Educational Quality). 2010. *SACMEQ III Project Results: Student Achievement Levels in Reading and Mathematics*. Available at <http://www.sacmeq.org/reports>
- Snow, C., & the RAND Reading Study Group. 2002. *Reading for Understanding: Toward an R&D Program in Reading Comprehension*. Research prepared for the Office of Educational Research and Improvement (OERI). U.S. Department of Education, Santa Monica, CA: RAND Corporation.

- Tsukayama, E.D., A.L. Duckworth, and B. Kim. 2013. Domain-specific impulsivity in school-age children. *Developmental Science*:1–16.
- United Republic of Tanzania Ministry of Education and Vocational Training. 2014. *Education and Training Policy*. Available at <http://www.pmoralg.go.tz/noticeboard/tangazo-1027-21050223-Sera-ya-Elimu-na-Mafunzo-2014/Sera-ya-Elimu-na-Mafunzo-2014.pdf>
- UNDP (United Nations Development Programme). 2016. Data about Tanzania (United Republic of). Available at <http://hdr.undp.org/en/countries/profiles/TZA>
- White, T. 2013. *Improving the Quality and Efficiency of Teacher Evaluations*. Stanford, CA, Carnegie Foundation for the Advancement of Teaching. Available at <http://www.carnegiefoundation.org/blog/improving-the-quality-and-efficiency-of-teacher-evaluations>
- World Bank. 2016a. Data: Sub-Saharan Africa (from the Tanzania Overview). Available at <http://data.worldbank.org/country/tanzania>
- World Bank. 2016b. World development indicators. Both available at http://data.worldbank.org/country/tanzania#cp_wdi and <http://data.worldbank.org/indicator/SI.POV.NAHC/countries/TZ?display=graph>
- World Bank. 2016c. World DataBank: World Development Indicators. Available at <http://databank.worldbank.org/data/reports.aspx?source=2&country=TZA&series=&period>
- World Bank. 2012. *World Development Indicators*. Available at http://data.worldbank.org/country/tanzania#cp_wdi

Annexes

Annex A: National Benchmarks and Targets for the 3Rs (Reading, Writing, and Arithmetic) in Tanzania

Following the dissemination of findings from the 2013 National 3Rs Baseline Study, benchmarks on key indicators were developed during a two-day workshop in early 2014. The benchmarks were developed through a collaborative process involving a range of Ministry of Education, Science, and Technology officials, district education officers, donor agency representatives, and non-governmental organizations active in the education sector to begin a process of defining benchmarks for specific skill areas of early grade reading. The objective was to develop benchmark values for the key indicators identified by Early Grade Reading Assessment (EGRA) subtasks. Five-year targets were established for each indicator, along with intermediary yearly targets.

The benchmarks for Oral Comprehension and Non-word Reading were correctly developed based on weighted data. The Oral Reading Fluency (ORF) benchmark was incorrectly developed based on unweighted data which indicated that 12 percent of students were reaching the benchmark. The 2013 actual percentage of Standard 2 students at benchmark below has been corrected based on the weighted data. However, new intermediary yearly targets will need to be developed for the ORF benchmark to accurately reflect this correction.

Table A-1 provides the national benchmarks and targets for EGRA and the Early Grade Mathematics Assessment (EGMA), which were developed in 2014.

Table A-1. National Benchmarks and Targets for the 3Rs (Reading, Writing, and Arithmetic) in Tanzania

Early Grade Reading Assessment	Benchmark	Percentage of Standard 2 Students at Benchmark						
		2013 Actual	2014	2015	2016	2017	2018	5-Year Target
Oral Comprehension	80%	8%	10%	13%	17%	24%	40%	40%
Oral Reading Fluency	50 Correct words per minute	4.7% ²¹	14%	17%	21%	28%	45%	45%
Non-word Reading	40 Correct words per minute	1.5%	2%	3%	5%	8%	15%	15%
Early Grade Mathematics Assessment	Benchmark	2013 Actual	2014	2015	2016	2017	2018	5-Year Target
Addition and Subtraction Level 2	80% on the Addition and Subtraction Level 2 subtask	8%	10%	13%	16%	22%	36%	35%
Missing Number	60% on the Missing Number (pattern completion) subtask	8%	10%	13%	16%	22%	36%	35%
Early Grade Reading Assessment	Zero Scores	2013 Actual	2014	2015	2016	2017	2018	5-Year Target
Oral Comprehension	—	40%	39%	37%	35%	31%	21%	20%

²¹ The ORF benchmark is currently based on the unweighted data, whereas all other benchmarks were based on weighted data. These benchmarks come from the 2014 benchmark activity report. Revised benchmark targets for ORF based on the weighted data will be developed and updated.

Early Grade Reading Assessment	Benchmark	Percentage of Standard 2 Students at Benchmark						
		2013 Actual	2014	2015	2016	2017	2018	5-Year Target
Oral Reading Fluency	—	28%	27%	26%	24%	21%	14%	14%
Non-word Reading	—	28%	27%	26%	24%	21%	14%	14%
Early Grade Mathematics Assessment	Zero Scores	2013 Actual	2014	2015	2016	2017	2018	5-Year Target
Addition and Subtraction Level 2	—	43%	42%	40%	37%	32%	21%	20%
Missing Number	—	10%	10%	10%	9%	8%	6%	5%

Annex B: Final, Validated Instruments

Annex: Final Data Collection Instruments

Student Consent Form

EGRA

EGMA

Student Questionnaire

Life Skills Questionnaire

Teacher/Head Teacher Consent Form

Head Teacher Questionnaire

Teacher Questionnaire

Classroom Inventory

Classroom Observation: Kiswahili

Classroom Observation: Mathematics

Student Consent Form

EGRA /SSME: Fomu ya Majibu ya Mwanafunzi
Maelekezo ya Msimamizi na Protokali / Pupil Consent Form – 2016

Maelekezo kwa ujumla

Fanya utangulizi/utambulisho rafiki na mwanafunzi kwa namna ya mchezo kwa mazungumzo mafupi kati yenu. (*ona mfano hapo chini*). Mwanafunzi anatakiwa ahisi maswali anayoulizwa ni kama vile anacheza badala ya kujihisi anatahiniwa. Tumia muda huu kumuuliza ni lugha ipi atakuwa huru kuitumia. Soma taratibu kwa sauti na kwa ufasaha maelezo yaliyomo NDANI ya kisanduku tu.

Establish a playful and relaxed rapport with the child through a short conversation. The child should perceive the assessment almost as a game to be enjoyed rather than a test.

Use this time to identify in what language the child is most comfortable communicating. Read aloud slowly and clearly ONLY the sections in boxes.

Habari ya asubuhi. Jina langu ni ___ naishi __ . Napenda nikueleze kidogo habari zangu. [Eleza idadi ya watoto uliona, umri wao, mchezo unaoupenda, kipindi cha redio au luninga unachopendelea, n.k.] Good morning. *My name is ___ and I live in _____. I'd like to tell you a little bit about myself.*

[Number and ages of children; favourite sport, radio or television program, etc.]

1. Unapenda kufanya nini unapotoka shuleni? [Subiri jibu lake; kama mwanafunzi hataki kusema lolote, uliza swali la pili, lakini kama anaonekana angependa kuendelea kuongea basi endelea kupata ridhaa yake kwa maneno]

What do you like to do when you are not in school?

[Wait for response; if student is reluctant, ask question 2, but if they seem comfortable continue to verbal consent].

2. Unapenda kucheza michezo ipi? What games do you like to play?

Maridhiano kwa maneno: Msomee mwanafunzi kwa ufasaha habari ifuatayo iliyopo ndani ya kisanduku.

Read the text in the box clearly to the child.

- **Ngoja nikueleze kwa nini nipo hapa leo; Mimi nafanya kazi na Wizara ya Elimu na Mafunzo ya Ufundi. Tunataka kujua ni kwa jinsi gani wanafunzi wanajifunza kusoma na kuhesabu. Kwa bahati ninyi mmechaguliwa.** *Let me tell you why I am here today. I work with the Ministry of Education and we are trying to understand how children learn to read and do maths. You were picked by chance.*
- **Tungependa kupata msaada wenu katika zoezi hili. Lakini si lazima ushiriki kama hupendi.** *We would like your help in this. But you do not have to take part if you do not want to.*
- **Tutafanya mchezo wa kusoma na kuhesabu. Nitakupa herufi za kusoma, maneno na hadithi fupi ambazo utasoma kwa sauti. Utafanya pia hesabu chache.** *We are going to play reading and maths games. I am going to ask you to read letters, words and a short story out loud and to solve some sums.*
- **Kwa kutumia kifaa hiki ambacho ni kama saa, nitajua muda gani umetumia kusoma.** *Using this stopwatch/device/gadget, I will see how long it takes you to read.*
- **Huu si mtihani kwa hiyo zoezi hili halitahusishwa na matokeo yako ya mitihani hapa shuleni.** *This is NOT a test and it will not affect your grade at school.*
- **Nitakuuliza pia maswali yanayohusiana na familia yenu, kama vile lugha mnayotumia mkiwa nyumbani na vitu mliyonavyo nyumbani.** *I will also ask you other questions about your family, like what language your family uses at home and some of the things your family has.*
- **Sitaandika jina lako ili mtu yeyote asijue kuwa haya ni majibu yako.** *I will NOT write down your name so no one will know these are your answers.*
- **Napenda kusema tena, sio lazima ushiriki katika zoezi hili kama hupendi . Pia tukianza kuongea ukiona hutaki kujibu swali, ni sawa tu.** *Once again, you do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that's all right.*
- **Una swali lolote? Do you have any questions?**
- **Upo tayari kuanza? Are you ready to get started?**

Weka tiki kuonyesha unakubali

Check box if verbal consent is obtained:

NDIO YES

(Kama amekataa kuhojiwa, mshukuru mwanafunzi na endelea na mwanafunzi mwingine ukitumia fomu hii hii)

(If verbal consent is not obtained, thank the child and move on to the next child, using this same form)

A. Tarehe ya Tathmini : Date of assessment: (Mfano: 3 Mei 2016) Example: 3 May 2016 = 3/05/2016)	Tarehe: _____ Date: _____ Mwezi: _____ Month: _____ Mwaka: _____ Year: _____		
		K. Kifungu Section:	
		L. Namba ya Mwanafunzi: Pupil number:	
		M. Tarehe ya kuzaliwa mwanafunzi Pupil birth date:	Mwezi Mo _____ Mwaka Yr _____
E. Jina la Msimamizi Mhojaji:		N. Jinsi Gender	<input type="checkbox"/> Mvulana Boy <input type="checkbox"/> Msichana Girl
F. Namba ya Mhojaji Administrator code:			
G: Jina la Shule School name:			
H: Namba ya Shule EMIS School EMIS code:			
I. Awamu za shule School shift:	<input type="checkbox"/> =Siku nzima Full Day <input type="checkbox"/> =Asubuhi Morning <input type="checkbox"/> = Mchana Afternoon	Muda wa kuanza Start Time	_____ : _____ <input type="checkbox"/> Asubuhi AM [weka vema kwa moja inayohusu Tick one] <input type="checkbox"/> Mchana PM

EGRA

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: 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.

X : 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.

X : 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.

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 silabi lolote kwa usahihi tangu mwanzo mpaka mwisho wa mstari, (silabi 10), 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 continue to the next subtask.



(/) Weka alama ya mkwaju kwa silabi aliyokosea kuisoma. Mark any incorrect syllable with a slash.

(Ø) Iwapo uliweka alama ya kosa aliposahihisha kusoma silabi aliyokosea, zungushia silabi kisha endelea. Circle self-corrections if you already marked the syllable incorrect.

(]) Weka alama ya mabano katika silabi ya mwisho aliyosoma. Mark the final syllable read with a bracket.

Mfano: ma nda re

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

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.

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 “fisa” [Onesha neno “fisa”], soma “fisa”. 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 “fisa” [Point to the word “fisa”], read “fisa”.

 Tufanye zoezi pamoja: Soma neno hili [Onesha neno “mwate”].

Let's practise: Please read this word [Point to the non-word “mwate”].

✓ : Vizuri, neno hili ni “mwate”.

Good, this made-up word is “mwate”.

X : Neno hili ni “mwate”.

This made-up word is “mwate”.

Jaribu mfano mwingine. Soma neno hili [Onesha neno lisilo na maana “hefa”].

Now try another one. Please read this word [Point to the next made-up word: “hefa”].

✓ : Vizuri, neno hili ni “hefa”.

Good, this made-up word is “hefa”.

X : Neno hili ni “hefa”.

This made-up word is “hefa”.

 Nikisema “Anza”, anzia hapa [Onesha neno la kwanza] na soma maneno kwenye ukurasa huo [Elekeza]. Onesha kila neno na soma kwa sauti kubwa. Soma haraka kadri uwezavyo na kwa makini. Ukifikia neno ambalo huwezi kulisoma, endelea kusoma neno linalofuata. Weka kidole kwenye neno la kwanza. 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.

 (/) 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: fisa mwate hefa

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

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, (maneno 5), 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 continue to the next subtask.

 Muda uliobaki (sekunde)
Time remaining (seconds)

 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.

Subtask 3a2. ORAL READING PASSAGE	Sekunde 60 seconds	Subtask 3b2. READING COMPREHENSION
------------------------------------------	------------------------------	-------------------------------------------

1. Iwapo mwanafunzi atashindwa kusoma japo neno moja kwa usahihi kabila ya 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.

<p>Muoneshe mwanafunzi karatasi yenye hadithi wakati unasoma maelekezo. Show the child the sheet in the student stimulus booklet as you read the instructions.</p> <p>Hii ni karatasi yenye hadithi fupi. Soma hadithi hii kwa sauti, haraka na kwa umakini: Ukimaliza kusoma nitakuuliza maswali kuhusu yale uliyosoma. Je umelewa unachotakiwa kufanya. Nikisema “Anza” soma hadithi, haraka na kwa umakini kadri uwezavyo. Kama utaona 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.</p> <p>Anza kupima muda mara mwanafunzi anapoanza kusoma neno la kwanza. Start the timer when the child reads the first word.</p> <p>Endapo muda umekwisha (sekunde 60). If the time on the stopwatch runs out (60 seconds).</p> <p>(/) Weka alama ya mkwaju kwa maneno yote aliyokosea kuyasoma. Mark any incorrect words with a slash.</p> <p>(Ø) Iwapo uliweka alama ya kosa aliposahihisha kusoma neno alilokosea, zungushia neno kisha endelea. Circle self-corrections if you already marked the word incorrect.</p> <p>() Weka alama ya mabano katika neno la mwisho alilosoma. Mark the final word read with a bracket.</p>	<p>3. Endapo mtoto hajajibu swali baada ya sekunde tatu. If the child doesn’t respond to an item after 3 seconds.</p>	<p>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.</p> <p>Sasa nitaanza kuuliza maswali machache kuhusu hadithi uliyosoma. Jitahidi kujibu maswali vizuri kwa kadri uwezavyo. Now I will ask you a few questions about the story you just read. Try to answer the questions as well as you can.</p> <p><input checked="" type="checkbox"/> (✓) 1 = Sahihi / Correct <input type="checkbox"/> (✓) 0 = Isiyosahihi / Incorrect <input checked="" type="checkbox"/> (✓) . = Hakuna jibu / No response</p> <p><small>One day Furaha went to the bush to pick fruits. On the way she saw an old woman sitting on the pathway. Near her was a basket of oranges. Some of them had spilled. The old woman was happy to see Furaha. She asked Furaha to remove a thorn that had pierced her leg. The old woman could not reach the thorn. Furaha took out the thorn slowly. The old woman thanked Furaha and gave her some oranges. 1. Where did Furaha go? [to the bush] 2. Who sat on the pathway? [an old woman] 3. What was in the basket? [oranges] 4. What did the old woman ask Furaha? [to remove a thorn] 5. Why did the old woman give Furaha oranges? [because she helped; she removed the thorn; she removed the thorn slowly]</small></p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Piloted January 2016; Used February 2016		Maswali [Majibu] Questions [Answers]			
Siku moja Furaha alikwenda porini kuchuma matunda.	7	Furaha alikwenda wapi? [porini]	1	0	.
Njiani alimwona bibi ameketi barabarani.	12	Nani aliketi barabarani? [bibi]	1	0	.
Jirani naye lilikuwepo kapu la machungwa. Baadhi ya machungwa yalikuwa yamemwagika.	23	Kwenye kapu kulikuwa na kitu gani? [machungwa]	1	0	.
Bibi alifurahi kumwona Furaha. Bibi akamwomba Furaha amtoe mwiba mguuni.	33	Bibi alimwomba Furaha afanye nini? [amtoe mwiba]	1	0	.
Bibi hakuweza kuufikia ule mwiba. Furaha alimtoa mwiba polepole. Bibi alimshukuru Furaha na kumpa machungwa machache.	49	Kwa nini Bibi alimpa Furaha machungwa? [kwa sababu alimsaidia; alimtoa mwiba mguuni; alimtoa polepole]	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.		

Subtask 3a3. ORAL READING PASSAGE

Sekunde
60 seconds

Subtask 3b3. READING COMPREHENSION

1. Iwapo mwanafunzi atashindwa kusoma japo neno moja kwa usahihi kabla ya 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.

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 utaona 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).

(/) **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.

3. Endapo mtoto hajajibu swali baada ya sekunde tatu.
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.

Sasa nitaanza kuuliza maswali machache kuhusu hadithi uliyosoma. Jitahidi kujibu maswali vizuri kwa kadri uwezavyo. Now I will ask you a few questions about the story you just read. Try to answer the questions as well as you can.

(✓) 1 = Sahihi / Correct
(✓) 0 = Isiyosahihi / Incorrect
(✓) . = Hakuna jibu / No response

Neema was born on a Sunday. Neema had invited her friends to her birthday party. Neemas' friends had gone to the party carrying gifts. The sitting room was decorated with flowers and balloons. When Neema saw Joni she invited him inside. When the time came to give gifts, Joni did not have any gift. Joni had forgotten to ask his mother for money. He felt ashamed and bent down his head. Joni blamed himself because he did not have a gift. 1. Which day was Neema born? [Sunday] 2. Who did Neema invite? [his friends; Joni] 3. What did Neemas' friends carry? [gifts] 4. Who did not have a gift? [Joni] 5. Why did Joni bend his head? [he was ashamed; he did not have a gift].

2013 passage; Piloted January 2016; Used February 2016		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.

Subtask 4. Imla (sentensi) / Dictation (sentence)

 X

 X

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 ya sentensi hiyo ili uweze kuandika ulichokisikia. Nitasoma tena mara ya tatu ili uweze kuhakiki sentensi yako. Uko tayari? Sikiliza na andika sentensi hii.

I will read 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. Are you ready? Listen and write a sentence.

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.

✂ (/) Weka alama ya mkwaju kwa maneno yote aliyokosea. 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 <i>Capital B</i>	Baba	Nafasi Space	na	Nafasi Space
mama	Nafasi Space	wanakwenda	Nafasi Space	dukani
Nukta <i>Full-stop</i>				

EGMA

Kazi 1: Kutofautisha namba kwa idadi: Zoezi kwa vitendo) / Number Discrimination: Practice		A1	X																																																		
<p>P1:</p> <p> Angalia namba hizi kwa makini. Niambie ni namba gani kubwa kuliko nyingine. Look at these numbers. Tell me which number is bigger.</p> <p style="text-align: center;">8 4</p> <p>✓ Vizuri, 8 ndio namba kubwa kuliko zote. Hebu tuendelee. That's correct, 8 is bigger. Let's do another one.</p> <p>X Namba kubwa ni 8. [<i>Onesha namba 8</i>]. [<i>Onesha namba 4</i>]. Hii ni namba 4. Namba 8 ni kubwa kuliko namba 4. Hebu tuendelee. The bigger number is 8. [<i>Point to 8</i>] This is 8. [<i>Point to 4</i>] This is 4. 8 is bigger than 4. Let's do another one.</p>			X																																																		
<p>P2:</p> <p> Angalia namba hizi kwa makini. Niambie ni namba gani kubwa kuliko nyingine. Look at these numbers. Tell me which number is bigger.</p> <p style="text-align: center;">10 12</p> <p>✓ Vizuri namba 12 ni kubwa zaidi, tuendelee na swali lingine. That's right, 12 is bigger. Let's continue.</p> <p>X Namba 12 ni kubwa zaidi. [<i>Onesha ilipo namba 10</i>] Namba hii ni 10. [<i>Onesha ilipo namba 12</i>] Namba hii ni 12. 12 ni namba kubwa kuliko 10. Hebu tuendelee. The bigger number is 12. [<i>Point to 10</i>] This number is 10. [<i>Point to 12</i>] This is 12. 12 is bigger than 10. Let's continue.</p>																																																					
Kazi 1: Kutofautisha namba - idadi / Number Discrimination		A2 & A3	X																																																		
<p> Angalia namba hizi kwa makini. Niambie ni namba gani kubwa kuliko nyingine. [<i>Rudia kwa kila namba.</i>] Look at these numbers. Tell me which number is bigger. [<i>Repeat for each item.</i>]</p> <p> (✓) 1 = Sahihi / Correct (✓) 0 = Jibu sio sahihi au halijajibiwa / Incorrect or no response</p> <table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td>7</td><td>5</td><td><u>7</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> <td>77</td><td>67</td><td><u>77</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>16</td><td>23</td><td><u>23</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> <td>146</td><td>153</td><td><u>153</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>39</td><td>23</td><td><u>39</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> <td>395</td><td>421</td><td><u>421</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>52</td><td>47</td><td><u>52</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> <td>705</td><td>750</td><td><u>750</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>65</td><td>67</td><td><u>67</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> <td>967</td><td>965</td><td><u>967</u></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> </tbody> </table>		7	5	<u>7</u>	<input type="checkbox"/>	<input type="checkbox"/>	77	67	<u>77</u>	<input type="checkbox"/>	<input type="checkbox"/>	16	23	<u>23</u>	<input type="checkbox"/>	<input type="checkbox"/>	146	153	<u>153</u>	<input type="checkbox"/>	<input type="checkbox"/>	39	23	<u>39</u>	<input type="checkbox"/>	<input type="checkbox"/>	395	421	<u>421</u>	<input type="checkbox"/>	<input type="checkbox"/>	52	47	<u>52</u>	<input type="checkbox"/>	<input type="checkbox"/>	705	750	<u>750</u>	<input type="checkbox"/>	<input type="checkbox"/>	65	67	<u>67</u>	<input type="checkbox"/>	<input type="checkbox"/>	967	965	<u>967</u>	<input type="checkbox"/>	<input type="checkbox"/>		<p></p> <ul style="list-style-type: none"> Endapo mwanafunzi atakosea mara 4 kwa mfululizo. If the child makes 4 successive errors. <p></p> <ul style="list-style-type: none"> Endapo mwanafunzi hajajibu swali baada ya sekunde 5. If the child doesn't respond after 5 seconds.
7	5	<u>7</u>	<input type="checkbox"/>	<input type="checkbox"/>	77	67	<u>77</u>	<input type="checkbox"/>	<input type="checkbox"/>																																												
16	23	<u>23</u>	<input type="checkbox"/>	<input type="checkbox"/>	146	153	<u>153</u>	<input type="checkbox"/>	<input type="checkbox"/>																																												
39	23	<u>39</u>	<input type="checkbox"/>	<input type="checkbox"/>	395	421	<u>421</u>	<input type="checkbox"/>	<input type="checkbox"/>																																												
52	47	<u>52</u>	<input type="checkbox"/>	<input type="checkbox"/>	705	750	<u>750</u>	<input type="checkbox"/>	<input type="checkbox"/>																																												
65	67	<u>67</u>	<input type="checkbox"/>	<input type="checkbox"/>	967	965	<u>967</u>	<input type="checkbox"/>	<input type="checkbox"/>																																												

Kazi 2: Namba inayokesekana: Practice / Missing number: Practice	 B1	 X
<p><u>P1</u></p> <p> Angalia namba hizi. 1, 2, na 4. Ni namba gani itaingia hapa? Here are some numbers. 1, 2, and 4. What number goes here?</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 30px; text-align: center;">1</div> <div style="border: 1px solid black; padding: 5px; width: 30px; text-align: center;">2</div> <div style="border: 1px solid black; padding: 5px; width: 30px; text-align: center; background-color: #cccccc;">(3)</div> <div style="border: 1px solid black; padding: 5px; width: 30px; text-align: center;">4</div> </div> <p> Vizuri ni namba 3. Tufanye swali jingine. That's correct, 3. Let's do another one.</p> <p>X  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.</p> <p><u>P2:</u></p> <p> Hapa pana baadhi ya namba 5, 10, 15. Namba gani itaingia hapa? Here are some numbers. 5, 10, and 15. What number goes here?</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 30px; text-align: center;">5</div> <div style="border: 1px solid black; padding: 5px; width: 30px; text-align: center;">10</div> <div style="border: 1px solid black; padding: 5px; width: 30px; text-align: center;">15</div> <div style="border: 1px solid black; padding: 5px; width: 30px; text-align: center; background-color: #cccccc;">(20)</div> </div> <p> Vizuri ni 20. Tuendelee na swali jingine. That's correct, 20. Let's do some more.</p> <p>X  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.</p>	<p> X</p> <p> X</p>	

Kazi 2: Namba inayokosekana / Missing number		📖 B2 & B3	🕒 X										
<p>🧠 Hapa kuna namba zaidi. [Onesha katika sanduku] ni namba gani inaingia hapa? [Rudia kwa kila namba.] Here are some more numbers. [Point to the box] What number goes here? [Repeat for each item.]</p>		<p>👉</p> <ul style="list-style-type: none"> • Endapo mwanafunzi amekosea mara 4 mfululizo. If the child makes 4 successive errors 											
<p>🗑️ (✓) 1 = Sahihi / Correct (✓) 0 = Jibu sio sahihi au halijajibiwa / Incorrect or no response</p>		<p>🔄</p> <ul style="list-style-type: none"> • Endapo mwanafunzi hajajibu swali baada ya sekunde 5. If the child doesn't respond after 5 seconds. 											
1	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">5</td> <td style="border: 1px solid black; padding: 2px;">6</td> <td style="border: 1px solid black; padding: 2px;">7</td> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(8)</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	5	6	7	(8)	10	6	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">268</td> <td style="border: 1px solid black; padding: 2px;">269</td> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(270)</td> <td style="border: 1px solid black; padding: 2px;">271</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	268	269	(270)	271	10
5	6	7	(8)	10									
268	269	(270)	271	10									
2	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">12</td> <td style="border: 1px solid black; padding: 2px;">13</td> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(14)</td> <td style="border: 1px solid black; padding: 2px;">15</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	12	13	(14)	15	10	7	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">28</td> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(26)</td> <td style="border: 1px solid black; padding: 2px;">24</td> <td style="border: 1px solid black; padding: 2px;">22</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	28	(26)	24	22	10
12	13	(14)	15	10									
28	(26)	24	22	10									
3	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">20</td> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(30)</td> <td style="border: 1px solid black; padding: 2px;">40</td> <td style="border: 1px solid black; padding: 2px;">50</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	20	(30)	40	50	10	8	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">35</td> <td style="border: 1px solid black; padding: 2px;">40</td> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(45)</td> <td style="border: 1px solid black; padding: 2px;">50</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	35	40	(45)	50	10
20	(30)	40	50	10									
35	40	(45)	50	10									
4	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(100)</td> <td style="border: 1px solid black; padding: 2px;">200</td> <td style="border: 1px solid black; padding: 2px;">300</td> <td style="border: 1px solid black; padding: 2px;">400</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	(100)	200	300	400	10	9	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">550</td> <td style="border: 1px solid black; padding: 2px;">540</td> <td style="border: 1px solid black; padding: 2px;">530</td> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(520)</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	550	540	530	(520)	10
(100)	200	300	400	10									
550	540	530	(520)	10									
5	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">2</td> <td style="border: 1px solid black; padding: 2px;">4</td> <td style="border: 1px solid black; padding: 2px;">6</td> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(8)</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	2	4	6	(8)	10	10	<p>_____</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">2</td> <td style="border: 1px solid black; padding: 2px;">7</td> <td style="border: 1px solid black; padding: 2px; background-color: #cccccc;">(12)</td> <td style="border: 1px solid black; padding: 2px;">17</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> </table>	2	7	(12)	17	10
2	4	6	(8)	10									
2	7	(12)	17	10									

Kazi 3A: Kujumlisha: Hatua 1 / Addition: Level 1	📖 C1 & C2	🕒 Sekunde 60 seconds																			
<p>👂 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].</p>	<p>👂</p> <ul style="list-style-type: none"> • 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. 																				
<p>👎 (/) Jibu sio sahihi au halijajibiwa / Incorrect or no response () Baada ya swali la mwisho kusomwa / After the last number read</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr><td>$3 + 1 = (4)$</td><td>$11 + 4 = (15)$</td></tr> <tr><td>$4 + 2 = (6)$</td><td>$13 + 4 = (17)$</td></tr> <tr><td>$6 + 2 = (8)$</td><td>$15 + 2 = (17)$</td></tr> <tr><td>$4 + 5 = (9)$</td><td>$6 + 5 = (11)$</td></tr> <tr><td>$4 + 4 = (8)$</td><td>$8 + 6 = (14)$</td></tr> <tr><td>$8 + 1 = (9)$</td><td>$9 + 7 = (16)$</td></tr> <tr><td>$6 + 4 = (10)$</td><td>$7 + 7 = (14)$</td></tr> <tr><td>$2 + 7 = (9)$</td><td>$5 + 6 = (11)$</td></tr> <tr><td>$5 + 5 = (10)$</td><td>$10 + 5 = (15)$</td></tr> <tr><td>$3 + 7 = (10)$</td><td>$8 + 10 = (18)$</td></tr> </tbody> </table>	$3 + 1 = (4)$	$11 + 4 = (15)$	$4 + 2 = (6)$	$13 + 4 = (17)$	$6 + 2 = (8)$	$15 + 2 = (17)$	$4 + 5 = (9)$	$6 + 5 = (11)$	$4 + 4 = (8)$	$8 + 6 = (14)$	$8 + 1 = (9)$	$9 + 7 = (16)$	$6 + 4 = (10)$	$7 + 7 = (14)$	$2 + 7 = (9)$	$5 + 6 = (11)$	$5 + 5 = (10)$	$10 + 5 = (15)$	$3 + 7 = (10)$	$8 + 10 = (18)$	
$3 + 1 = (4)$	$11 + 4 = (15)$																				
$4 + 2 = (6)$	$13 + 4 = (17)$																				
$6 + 2 = (8)$	$15 + 2 = (17)$																				
$4 + 5 = (9)$	$6 + 5 = (11)$																				
$4 + 4 = (8)$	$8 + 6 = (14)$																				
$8 + 1 = (9)$	$9 + 7 = (16)$																				
$6 + 4 = (10)$	$7 + 7 = (14)$																				
$2 + 7 = (9)$	$5 + 6 = (11)$																				
$5 + 5 = (10)$	$10 + 5 = (15)$																				
$3 + 7 = (10)$	$8 + 10 = (18)$																				
<p>👎 Muda uliobaki (sekunde) / Time left (seconds):</p>																					

Kazi 3B: Kujumlisha: Hatua 2 / Addition: Level 2		📖 C3	🕒 X
✍️ Karatasi na kalamu / Paper and pencil			
<p>💡 Hapa kuna maswali mengine. Unaweza kutumia karatasi na penseli kama unataka 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 [<i>Point to first problem</i>].</p>		<p>👋</p> <ul style="list-style-type: none"> • 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. 	
<p>🗒️ (✓) 1 = Sahihi / Correct (✓) 0 = Jibu sio sahihi au halijajibiwa / Incorrect or no response</p> <p style="text-align: center;"> $12 + 5 = (17)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $18 + 7 = (25)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $13 + 25 = (38)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $25 + 35 = (60)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $46 + 17 = (63)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 </p> <p>Mwanafunzi / The pupil:</p> <p><input type="checkbox"/> Ametumia vidole au kutali / Used fingers or tallies</p> <p><input type="checkbox"/> Ametumia karatasi na penseli / Used paper & pencil</p> <p><input type="checkbox"/> Amejibu maswali kwa kichwa / Solved the problem(s) in his/her head</p>		<p>↻</p> <ul style="list-style-type: none"> • 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. If a child continues to use an inefficient strategy or stops on an item for 5 seconds. 	

Kazi 4A: Kutoa: Hatua ya 1 / Subtraction: Level 1	D1 & D2	sekunde 60 seconds																				
<p> 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].</p>	<p> • Endapo muda umekwisha (sekunde 60). If the time on the stopwatch runs out (60 seconds).</p> <p> • Endapo mwanafunzi hajajibu swali baada ya sekunde 5. If the child doesn't respond to an item after 5 seconds.</p>																					
<p> (/) Jibu sio sahihi au halijajibiwa / Incorrect or no response (]) Baada ya swali la mwisho kujibiwa / After the last number read</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr><td>$2 - 1 = (1)$</td><td>$12 - 1 = (11)$</td></tr> <tr><td>$5 - 2 = (3)$</td><td>$14 - 2 = (12)$</td></tr> <tr><td>$7 - 3 = (4)$</td><td>$17 - 4 = (13)$</td></tr> <tr><td>$9 - 5 = (4)$</td><td>$13 - 3 = (10)$</td></tr> <tr><td>$8 - 4 = (4)$</td><td>$16 - 10 = (6)$</td></tr> <tr><td>$9 - 1 = (8)$</td><td>$12 - 4 = (8)$</td></tr> <tr><td>$10 - 2 = (8)$</td><td>$14 - 5 = (9)$</td></tr> <tr><td>$9 - 7 = (2)$</td><td>$12 - 8 = (4)$</td></tr> <tr><td>$10 - 5 = (5)$</td><td>$15 - 9 = (6)$</td></tr> <tr><td>$10 - 7 = (3)$</td><td>$16 - 8 = (8)$</td></tr> </tbody> </table>		$2 - 1 = (1)$	$12 - 1 = (11)$	$5 - 2 = (3)$	$14 - 2 = (12)$	$7 - 3 = (4)$	$17 - 4 = (13)$	$9 - 5 = (4)$	$13 - 3 = (10)$	$8 - 4 = (4)$	$16 - 10 = (6)$	$9 - 1 = (8)$	$12 - 4 = (8)$	$10 - 2 = (8)$	$14 - 5 = (9)$	$9 - 7 = (2)$	$12 - 8 = (4)$	$10 - 5 = (5)$	$15 - 9 = (6)$	$10 - 7 = (3)$	$16 - 8 = (8)$	
$2 - 1 = (1)$	$12 - 1 = (11)$																					
$5 - 2 = (3)$	$14 - 2 = (12)$																					
$7 - 3 = (4)$	$17 - 4 = (13)$																					
$9 - 5 = (4)$	$13 - 3 = (10)$																					
$8 - 4 = (4)$	$16 - 10 = (6)$																					
$9 - 1 = (8)$	$12 - 4 = (8)$																					
$10 - 2 = (8)$	$14 - 5 = (9)$																					
$9 - 7 = (2)$	$12 - 8 = (4)$																					
$10 - 5 = (5)$	$15 - 9 = (6)$																					
$10 - 7 = (3)$	$16 - 8 = (8)$																					
<p> Muda uliobaki (sekunde) / Time left (seconds):</p>																						

Kazi 4B: Kutoa: Hatua ya 2 / Subtraction: Level 2		D3	X
 Karatasi na kalamu / Paper and pencil			
<p> Hapa kuna maswali mengine ya hesabu za kutoa. Unaweza kutumia karatasi na penseli kama unataka. 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 [<i>Point to first problem</i>].</p>		<p> • Endapo mtoto hajajibu swali lolote la hatua ya kwanza kwa usahihi. If the child did not answer any Level 1 question correctly.</p> <p>• Endapo mwanafunzi amekosea mara nne mfululizo. If the child makes 4 consecutive errors.</p>	
<p> (✓) 1 = Sahihi / Correct (✓) 0 = Jibu sio sahihi au halijajibiwa / Incorrect or no response</p> <p style="text-align: center;"> $18 - 4 = (14)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $21 - 3 = (18)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $36 - 12 = (24)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $30 - 12 = (18)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $42 - 25 = (17)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 </p> <p>Mwanafunzi / The pupil:</p> <p><input type="checkbox"/> Ametumia vidole au kutali/ Used fingers or tallies</p> <p><input type="checkbox"/> Ametumia karatasi na penseli / Used paper & pencil</p> <p><input type="checkbox"/> Amejibu maswali kwa kichwa / Solved the problem(s) in his/her head</p>		<p> • 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?”</p> <p>• Endapo mwanafunzi ataendelea kutumia njia isiyosahihi au atasimama/ atakwama kwa sekunde 5 katika swali hilo. If a pupil continues to use an inefficient strategy or stops on an item for 5 seconds.</p>	

Kazi 5: Mafumbo: Zoezi / Word Problems: Practice		📖 x	🕒 x
✎ ❖ Vihesabio, Karatasi na penseli / Counters, paper and pencil			
<p>👤 Nina swali nataka ulijibu. Hapa kuna vitu vinavyoweza kukusaidia kujibu. Unaweza ukavitumia lakini sio lazima. Sikiliza kwa makini kila swali. Kama ukihitaji nitarudia swali. Haya, tuanze. I have some problems that I will 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.</p> <p>👤 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. <i>[Pause & check]</i> One child gets off the bus. <i>[Pause & check]</i> How many children are left on the bus?</p> <p>✓👤 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.</p> <p>X👤 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.</p>	👤 x		

Kazi 5: Mafumbo / Word Problems		📖 X	🕒 X
✍️ Vihesabio, karatasi na penseli / Counters, paper and pencil			
<p>🗣️ Sasa nina maswali mengine kwako. Now I have some more problems for you.</p> <p>👉 (✓) 1 = Sahihi / Correct (✓) 0 = Jibu sio sahihi au halijajibiwa / Incorrect or no response</p>		<p>👉</p> <ul style="list-style-type: none"> • 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, oneshwa 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. <p>Maoni: (Subiri na angalia kama amekuelewa) Katika kila swali inaonesha kuwa utahakikisha mwanafunzi anaelewa ulichosema kabla ya kuendelea. Unaweza ukauliza (Umeelewa) Comment: The "[Pause & checks]" in each problem indicate that you should be certain that the child understands what you have said before continuing. You may want to ask, "Do you understand?"</p>	
<p>Swali 1</p> <p>🗣️ 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 & check] Three (3) more children get into the vehicle. [Pause & check] How many children are there in the vehicle altogether?</p>		<p>(5)</p> <div style="display: flex; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; padding: 2px 5px;">1</div> <div style="border: 1px solid black; padding: 2px 5px;">0</div> </div>	
<p>Swali 2</p> <p>🗣️ 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 & check] Two (2) of the children are boys. [Pause & check] The rest are girls. How many girls are there in the classroom?</p>		<p>(4)</p> <div style="display: flex; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; padding: 2px 5px;">1</div> <div style="border: 1px solid black; padding: 2px 5px;">0</div> </div>	
<p>Swali 3</p> <p>🗣️ 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 & check] How many more oranges does mother need so that each child gets one (1) orange?</p>		<p>(5)</p> <div style="display: flex; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; padding: 2px 5px;">1</div> <div style="border: 1px solid black; padding: 2px 5px;">0</div> </div>	
<p>Swali 4</p> <p>🗣️ 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 & check] Five (5) mangoes are added to the basket. [Pause & check] Now there are nine (9) mangoes in the basket. [Pause & check] How many mangoes were there in the basket to begin with?</p>		<p>(4)</p> <div style="display: flex; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; padding: 2px 5px;">1</div> <div style="border: 1px solid black; padding: 2px 5px;">0</div> </div>	

<p>Swali 5</p> <p>☛ 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 & check] How many sweets does each child get?</p>	<p>(5)</p> <p><input type="text" value="1"/> <input type="text" value="0"/></p>	
<p>Swali 6</p> <p>☛ 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 & check] There are (4) pupils in each line. [Pause & check] How many pupils are there altogether?</p>	<p>(8)</p> <p><input type="text" value="1"/> <input type="text" value="0"/></p>	
<p>Mwanafunzi / The pupil:</p> <p><input type="checkbox"/> Ametumia vidole, vihesabio au kutali / Used fingers, counters, or tallies</p> <p><input type="checkbox"/> Ametumia karatasi na penseli / Used paper & pencil</p> <p><input type="checkbox"/> Amejibu maswali kwa kichwa / Solved the problem(s) in his/her head</p>		

Student Questionnaire

General Instructions

Read aloud slowly and clearly ONLY the sections in boxes.

- DO NOT READ THE ANSWER OPTIONS TO THE STUDENT UNLESS THE INSTRUCTIONS INDICATE TO DO SO.
- Wait for the student to respond to each question, then select the answer that corresponds to his or her response.
- For most questions, only one response is permitted. The instructions indicate the exceptions.
- Note that all instructions to the interviewer are in **bold letters**. All instructions to the Tangerine team are in **red letters**.

School Name <input type="text"/>										
School EMIS Number [If school is on mainland]	<p>School Identification Code: [If main land]</p> <table border="1"> <tr> <td>P</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> </table> <p><i>[PS + 4digits + "-" + 3digits]</i></p>	P	S					-			
P	S					-					
Region	_____										
District	_____										
Date of Visit	<table border="1"> <tr> <td></td> <td>/</td> <td></td> <td>/</td> <td></td> </tr> </table> <p><input type="text"/> / <input type="text"/> / <input type="text"/></p> <p>Month / Date / Year</p> <p>3 May 2016 would be 03 / 05 / 2016</p>		/		/						
	/		/								
Assessor User Name <input type="text"/>										
Signature <input type="text"/>										

1.	<p>[Je, mwanafunzi ni msichana?]</p> <p>[Is the student a girl?]</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes 1</p>
2.	<p>Una umri gani?</p> <p>How old are you? <input style="width: 50px; height: 20px;" type="text"/></p>	<p>Range: 5-12 [Kati ya 5-12] / Years [Miaka]</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
3.	<p>Ulikuwa darasa gani mwaka jana?</p> <p>Usitake ufafanuzi zaidi kama mwanafunzi anarudia.</p> <p>What class were you in last year?</p> <p>Do not verify by asking if pupil is repeating.</p>	<p>Darasa la 1 / Standard 1 1</p> <p>Darasa la 2 / Standard 2 2</p> <p>Darasa la 3 / Standard 3 3</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
4.	<p>Je, umepitia elimu ya awali?</p> <p>Did you go to pre-primary?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
5.	<p>Umepata chakula kabla ya kuja shuleni leo? Kama ndiyo, ulikula wapi?</p> <p>Did you eat any food before you arrived at school today? If yes, where did you eat?</p>	<p>Hapana / No 0</p> <p>→ Kama hapana, nenda swali la 6 / If no, skip to 6.</p> <p>Ndiyo, nyumbani / Yes, at home 1</p> <p>Ndiyo, njiani kwenda shule / Yes, on the way to school 2</p> <p>Mengineyo / Other 3</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
6.	<p>Je ulikula shuleni? Kama ndiyo, ulikula chakula gani?</p> <p>Weka tiki majibu YOTE yanayohusika.</p> <p>Did you eat at school? If yes, what meal was it?</p> <p>Tick ALL responses.</p>	<p>Hapana / No 0</p> <p>→ Kama hapana, nenda swali la 7 / If no, skip to 7</p> <p>Ndiyo, kifungua kinywa / Yes, breakfast 1</p> <p>Ndiyo, uji / Yes, porridge 1</p> <p>Ndiyo, chakula cha mchana / Yes, lunch 1</p> <p>Mengineyo / Other 1</p> <p>Hajui/hajajibu / don't know/Refuse 888</p>

<p>7. Ningependa kuona ni vitabu gani unavyo leo. Tafadhali naomba unionyeshe. Mtake mwanafunzi akuoneshe vitabu vyote na uoneshe kama wanaweza kufanya hivyo.</p> <p>I would like to see what school books you have with you today. Please show me your [.....].</p> <p>Ask the pupil to show you each item and indicate if they could do so.</p>		Hapana No	Ndiyo Yes	Hajui/hajajibu Do not know/No response
	Kitabu cha kiswahili cha hadithi (3Rs materials only)	0	1	888
	Kiswahili 3Rs reader			
	Kitabu cha kiswahili (3Rs materials only)	0	1	888
	Kiswahili 3Rs textbook			
	Daftari la mazoezi la kiswahili	0	1	888
	Kiswahili exercise book			
	Kitabu cha hisabati (3Rs materials only)	0	1	888
	Mathematics 3Rs textbook			
	Daftari la mazoezi la hisabati	0	1	888
	Mathematics exercise book			
<p>8. [Rekodi ni kurasa ngapi zilizo andikwa kazi za mazoezi katika daftari la mwanafunzi la hisabati. Hesabu karatasi kwa kartasi na sio kurasa.]</p> <p>[Record how many pages have work on them in the pupil's mathematics exercise book. Count the pages individually, not front to back.]</p>	<p>Hakuna daftari la mazoezi la hisabati / No mathematics exercise book available 9</p> <p>Idadi ya karatasi / Number of pages <input type="text"/></p>			

<p>9.</p>	<p>[Rekodi ni kurasa ngapi mwalimu amesahihisha au kurekebisha makosa katika daftari la mazoezi la mwanafunzi. Hesabu karatasi kwa kartasi na sio kurasa.]</p> <p>[Record how many pages the teacher has marked or corrected mistakes on in the pupil's mathematics exercise book. Count the pages individually, not front to back]</p>	<p>Hakuna daftari la mazoezi la hisabati / No mathematics exercise book available 9</p> <p>Idadi ya karatasi / Number of pages <input type="text"/></p>
<p>10</p>	<p>Mwalimu anafanyaje unapokuwa huwezi kujibu swali au unapokosea kujibu swali?</p> <p>USIMSOMEE mwanafunzi majibu. Weka tiki majibu YOTE.</p> <p>What does the teacher normally do when you are unable to answer a question or you answer a question incorrectly?</p> <p>Do NOT read the responses to the pupil. Tick ALL responses.</p>	<p>Mwalimu hurudia/hufafanua swali Teacher rephrases/explains the question..... 1</p> <p>Mwalimu humtaka mwanafunzi kujaribu tena Teacher encourages the student to try again 1</p> <p>Mwalimu humuuliza mwanafunzi mwingine/ Teacher asks another student..... 1</p> <p>Mwalimu huuliza tena / Teacher asks again 1</p> <p>Mwalimu humsahihisha tena /Teacher corrects the student 1</p> <p>Mwalimu humpiga mwanafunzi Teacher hits student..... 1</p> <p>Mengineyo / Other..... 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
<p>11</p>	<p>Je, kuna mtu anakusaidia kufanya mazoezi unapohitaji msaada ukiwa nyumbani?</p> <p>Does someone at home help you with your homework when you need it?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
<p>12</p>	<p>Je wiki iliyopita ulikosa shule siku yoyote? Kama ndiyo, kwa nini hukuwepo?</p> <p>Msomee mwanafunzi majibu. weka tiki kwa jibu MOJA tu linalohusika.</p> <p>Were you absent from school any day last week? If yes, why were you absent?</p> <p>Read the responses to the pupil. Tick only ONE response.</p>	<p>Hapana, nilikuwepo siku zote shuleni wiki iliyopita / No, was not absent from school last week 0</p> <p>Ndiyo, ugonjwa / Yes, illness..... 1</p> <p>Ndiyo, kwa sababu kulikuwa na kazi nyumbani / Yes, because there was other work at home 2</p> <p>Ndiyo, kwa sababu ilibidi kumhudumia ndugu wa familia / Yes, because I had to take care of a family member..... 3</p> <p>Ndiyo, hakuna usafiri / Yes, no transportation 4</p> <p>Ndiyo , kwa sababu ya hali mbaya ya hewa / Yes, because of bad weather..... 5</p>

		<p>Ndiyo, kwa sababu ya dharura / Yes, because of an emergency..... 6</p> <p>Ndiyo, kwa sababu kwenda shule ilikuwa hatari / Yes, because getting to school was too dangerous..... 7</p> <p>Ndiyo, kwa kuwa niliamka nimechelewa Yes, because I woke up late 8</p> <p>Ndiyo, kwa sababu sikuona sare yangu ya shule, au kwa sababu sare yangu ya shule haikuwa tayari asubuhi / Yes, because I could not find my uniform, or because my uniform was not ready on time in the morning9</p> <p>Ndiyo, kwa sababu walimu hawanitendei haki shuleni / Yes, because I am treated poorly by teachers at school 10</p> <p>Ndiyo, kwa sababu wanafunzi wengine wananichokoza shuleni / Yes, because I am treated poorly by other students at school 11</p> <p>Mengineyo / Other..... 12</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
13	<p>Je unapata muda wa kusoma vitabu darasani au kwenye maktaba ya shule kila siku?</p> <p>Do you have time to read books in your classroom or in your school library every day?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
14	<p>Je huwa unachukua vitabu vya kusoma kutoka darasani au maktaba ya shule unaporejea/ unapokwenda nyumbani?</p> <p>Do you bring home reading books from your classroom or from the school library?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
15	<p>Mbali na vitabu vya shule, je kuna vitabu, magazeti au machapisho mengine unayosoma ukiwa nyumbani?</p> <p>Apart from your school books, are there books, newspapers or other materials for you to read at your home?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>

16	<p>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.</p> <p>How often do you read out loud to someone at home? Never, sometimes, or every day?</p> <p>Read the responses to the pupil. Tick only ONE response.</p>	<p>Sijawahi / Never 0</p> <p>Mara chache / Sometimes 1</p> <p>Kila siku / Every day..... 2</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
17	<p>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.</p> <p>How often does someone read to you at home? Never, sometimes, or every day?</p> <p>Read the responses to the pupil. Tick only ONE response.</p>	<p>Sijawahi / Never 0</p> <p>Mara chache / Sometimes 1</p> <p>Kila siku / Every day..... 2</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
<p>Sasa ningependa nikuulize maswali kuhusu kaya ya familia yenu.</p> <p>Now I would like to ask you some questions about your household.</p>		
18	<p>Je nyumbani kwenu mnatumia umeme? Does your family have electricity in your home?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
19	<p>Je kwa kawaida nyumbani kwenu mnapata maji kutoka wapi? Soma maelezo kwa sauti 📖 Onesha picha inayohusika Weka tiki kwenye jibu sahihi.</p> <p>Where do you normally get your water from at home?</p> <p>Read answer options aloud. 📖 Point to appropriate pictograms. Tick only ONE response.</p>	<p>Mto, kijito au ziwa / River, stream or lake 1</p> <p>Kisima cha asili au kisima cha kuchimba / Well or borehole 1</p> <p>Bomba la jumuiya / Communal tap 1</p> <p>Maji ya bomba la ndani ya nyumba / Water pipe / tap in your home 1</p> <p>Gari la maji au tanki / Water truck or tank 1</p> <p>Mengineyo / Other..... 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>

20	<p>Je nyumbani kwenu kwa kawaida chakula kinapikwa kwa kutumia nini? Soma maelezo kwa sauti Onesha picha inayohusika Weka tiki kwenye jibu sahihi.</p> <p>How is food most often cooked at your home?</p> <p>Read answer options aloud.  Point to appropriate pictograms. Tick only ONE response.</p>	<p>Kuni / Firewood 1</p> <p>Jiko la mkaa / A charcoal burner 2</p> <p>Jiko la mafuta ya taa / A kerosene stove..... 3</p> <p>Jiko la gesi / A gas stove 4</p> <p>Jiko la umeme / An electric stove/cooker..... 5</p> <p>Mengineyo / Other..... 6</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>			
21	<p>Je nyumbani kwenu mnatumia choo cha aina gani? Soma maelezo kwa sauti  Onesha picha inayohusika Weka tiki kwenye jibu sahihi.</p> <p>What type of toilet does your family use at your home?</p> <p>Read answer options aloud.  Point to appropriate pictograms. Tick only ONE response.</p>	<p>Hakuna choo / No toilet 0</p> <p>Choo cha shimo (ikiwa ni pamoja na choo cha ushirika na familia nyingine au choo cha jumuiya) / Pit toilet (including shared and communal)..... 1</p> <p>Choo cha kuflashi nje ya nyumba / Flush/eastern toilet outside your home 2</p> <p>Choo cha kuflashi ndani ya nyumba / Flush/eastern toilet inside your home 3</p> <p>Mengineyo / Other..... 4</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>			
22	<p>Je familia yenu ina vitu vifuatavyo nyumbani kwenu?  Onyesha picha husika.</p> <p>Does your family have the following items in your home?</p> <p> Point to appropriate pictograms.</p>		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

<p>23</p> <p>Je kwa kawaida huwa unazungumza lugha ipi kwenye familia yenu?</p> <p>Weka tiki majibu YOTE yanayohusika.</p> <p>What language do you normally speak with your family at home?</p> <p>Tick ALL responses.</p>	<p>Kanda ya Kaskazini / Northern Zone</p> <p>Kimasai1</p> <p>Kiiraqi.....1</p> <p>Kimeru1</p> <p>Kichaga1</p> <p>Kipare1</p> <p>Kisambaa1</p> <p>Kidigo1</p> <p>Kizigua1</p> <p>Kibondei.....1</p> <p>Kiarusha.....1</p> <p>Kanda ya Ziwa / Lake Zone</p> <p>Kihaya1</p> <p>Kisukuma1</p> <p>Kijita.....1</p> <p>Kikerewe.....1</p> <p>Kikurya.....1</p> <p>Kijaluo1</p> <p>Kanda ya Mashariki / Eastern Zone</p> <p>Kindengereko1</p> <p>Kiluguru1</p> <p>Kipogoro1</p> <p>Kanda ya Magharibi / Western Zone</p> <p>Kinyamwezi1</p> <p>Kiha.....1</p> <p>Kanda ya Kusini / Southern Zone</p> <p>Kimakonde.....1</p> <p>Kingoni.....1</p> <p>Kanda ya Nyanda za juu / Highlands Zone</p> <p>Kinyakyusa.....1</p> <p>Kibena.....1</p> <p>Kihehe.....1</p> <p>Kifipa.....1</p> <p>Kisafwa1</p> <p>Kiswahili.....1</p> <p>Mengineyo / Other.....1</p> <p>Hajui/hajajibu / Don't know/Refuse888</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Life Skills Questionnaire

Dodoso la Mwanafunzi kuhusu Stadi za Maisha / Student Life Skills questionnaire.

“Nitakuuliza maswali yanayokuhusu wewe zaidi. Hakuna jibu sahihi au kosa kwa hiyo tafadhali uwe mkweli kwa kadri unavyoweza. Pia hakuna mtu yeyote atakayejua kuwa haya ni majibu yako.” / “I’m now going to ask you some more questions about yourself. There are no right or wrong answers so please be as honest as possible and please try to answer all questions. Also, remember that no one will know that these are your answers.”

[Haya ni maswali yanayomhusu mtu binafsi, kwa hiyo ni muhimu USIONYESHE hisia au kutoa mrejesho wowote mwanafunzi anapojibu.] [As these are personal questions, it is very important that you NOT show any emotion or reaction to any of the children’s responses.]

[Kwa kila swali katika hadithi tumia jina la jinsi ya mwanafunzi unayemhoji]
[For each question use the name in the story that is the same as the gender of the student you are interviewing]

<p>Katika sehemu hii nitakusomea maelezo ya wanafunzi tofauti. Tafadhali sikiliza kwa makini maelezo haya na kisha niambie ni mara ngapi unajisikia au unatenda kama mtoto huyo. Ninaposema ni mara ngapi, ningependa uniambie kama hua unatabia kama hizi sifanyi hivyo, mara chache, mara nyingi, au kila siku. Hakuna jibu sahihi au kosa. Naomba uwe mkweli katika majibu yako kwani itatusaidia kuelewa jinsi ya kuwasaidia wanafunzi kwenye masomo yao.</p> <p><i>In this section I’m going to read you descriptions of different children. Please listen carefully to each description and then in each case I want you to tell me how frequently you feel or behave like that child. So when I say how frequently, I want you to tell me whether you do not feel or behave like this, you feel or behave like this sometimes, often, or every day. There are no right or wrong answers. Please just be honest in your responses as this will give us a better understanding of how to help children with their schoolwork.</i></p>	
<p>Sehemu I: Ujasiri wa kitaaluma</p> <p><i>Section I: Academic Grit¹</i></p>	
<p>1. Ngoja nikuambie kuhusu kijana anayeitwa Bakari/Amina. Bakari/Amina anafanya kazi kwa bidii kila mara. Je, kwa kiasi gani unafanya kama Bakari/Amina? Soma majibu.</p> <p><i>Let me tell you about a child called Bakari/Amina. He/She always works very hard. How often do you behave like Bakari/Amina?</i></p> <p>Read the responses.</p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui/Amekataa kujibu / Don’t know/refuse 888</p>
<p>2. Daudi/Hawa anamaliza kufanya kazi zote za nyumbani. Je, kwa kiasi gani unafanya kama Daudi/Hawa? Soma majibu.</p> <p><i>Daudi/Hawa always completes all his/her chores at home. How often do you behave like Daudi/Hawa?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don’t know/refuse 888</p>

¹ Questions 1, 2, 4 – 8 were adapted from Rojas, J. P., Reser, J. A., Usher, E. L., & Toland, M. D. (2012). *Psychometric properties of the Academic Grit Scale*. Lexington: University of Kentucky. Used by permission.

	Read the responses.	
3	<p>Linus/Hilda hamaliza kazi za nyumbani badala yake huenda kucheza. Je, kwa kiasi gani unafanya kama Linus/Hilda?</p> <p>Soma majibu.</p> <p><i>Linus/Hilda does not finish his/her chores at home, instead he/she goes out and plays. How often do you behave like Linus/Hilda?</i></p> <p>Read the responses.</p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
4	<p>Jakaya/Zawadi anapona kazi ni ngumu huiacha na hajitahidi. Je, kwa kiasi gani unafanya kama Jakaya/Zawadi?</p> <p>Soma majibu iwapo mtoto atahitaji tena.</p> <p><i>When Jakaya/Zawadi finds that a task is hard, he/she gives up and stops trying. How often do you behave like Jakaya/Zawadi?</i></p> <p>Read the responses, as needed from this point to prompt the child.</p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
5	<p>Mashaka/Naoimi pale anapokuwa ameshindwa kazi kwa mara ya kwanza, huendelea kuirudia. Je, kwa kiasi gani unafanya kama Mashaka/Naoimi?</p> <p><i>Mashaka/Naoimi always carries on trying even after he/she failed on a task the first time, How often do you behave like Mashaka/Naoimi?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
6	<p>Ignas/Hadija huendelea kujaribu hata kama jambo analofanya ni gumu sana kwake. Je, kwa kiasi gani unafanya kama Ignas/Hadija?</p> <p><i>Ignas/Hadija always keeps trying even when what he is doing is very difficult. How often do you behave like Ignas/Hadija?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
7	<p>Damasi/Maria akiwa na kazi za shule wakati mwingine huwa hazifanyi. Je, kwa kiasi gani unafanya kama Damasi/Maria?</p> <p><i>When Damasi/Maria has school work, Damasi/Maria does not always do it. How often do you behave like Damasi/Maria?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>

8	<p>Isaya/Pendo mara zote anafanya kazi anayotakiwa kuifanya hata kama hajisikii kufanya hivyo. Je, kwa kiasi gani unafanya kama Isaya/Pendo?</p> <p><i>Isaya/Pendo always does what has to be done even if Isaya/Pendo does not feel like doing it. How often do you behave like Isaya/Pendo?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
<p>Sehemu IV: Kujitawala</p> <p>Section IV: Self-Control²</p>		
9	<p>Kila mara Ally/Naima anasahau vifaa anavyohitaji darasani nyumbani. Je, kwa kiasi gani unafanya kama Ally/Naima?</p> <p><i>Let me tell you about a child called Ally/Naima. He/She often forgets the things he/she needs for class at home. How often do you forget your things like Ally/Naima?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
1	<p>Musa/Rosi kila mara anaingilia kati maongezi ya wanafunzi wenzake. Je, kwa kiasi gani unafanya kama Musa/Rosi?</p> <p><i>Musa/Rosi often interrupts other children when they are talking. How often do you behave like Musa/Rosi?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
1	<p>Huseni/Gloria huongea kwa kiburi. Je, kwa kiasi gani unafanya kama Huseni/Gloria?</p> <p><i>Huseni/Gloria says cheeky things. How often do you behave like Huseni/Gloria?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
1	<p>Eriki/Anna hawezi kuona vitu anavyovitaka kwa kuwa chumba chake hakipangi vizuri. Je, kwa kiasi gani hali kama hiyo hukutokea?</p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes 1</p> <p>Mara nyingi / Often..... 2</p>

²Questions 20 – 27 were adapted from (Tsukayama, E., Duckworth, A. L., & Kim, B. (In press). Domain-specific impulsivity in school-age children. *Developmental Science*). Retrieved from: <https://sites.sas.upenn.edu/duckworth/pages/research> and <https://upenn.app.box.com/DSIS-C>.

	<p><i>Eriki/Anna cannot find things because his/her room is untidy. How often does this happen to you?</i></p>	<p>Kila siku / Every day 3 Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
1	<p>Doto/Subira aliudhiwa na akakasirika akiwa shuleni. Je, kwa kiasi gani unafanya kama Doto/Subira?</p> <p><i>Doto/Subira got upset and lost his/her temper at school. How often do you behave like Doto/Subira?</i></p>	<p>Sifanyi hivyo / Does not 0 Mara chache / Sometimes 1 Mara nyingi / Often..... 2 Kila siku / Every day 3 Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
1	<p>Joshua/Mwajuma kila mara husahau mwalimu anachomwambia. Je, kwa kiasi gani wewe unasahau kama Joshua/Mwajuma?</p> <p><i>Joshua/Mwajuma often forgets what he/she was told by the teacher. How often do you forget like Joshua/Mwajuma?</i></p>	<p>Sifanyi hivyo / Does not 0 Mara chache / Sometimes 1 Mara nyingi / Often..... 2 Kila siku / Every day 3 Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
1	<p>Joti/Lulu mara nyingine hasikilizi kwa sababu anafikiria mambo mengine. Je, kwa kiasi wewe hufikiria mambo mengine kama Joti/Lulu?</p> <p><i>Joti/Lulu sometimes does not listen because he/she is thinking about other things. How often do you get distracted like Joti/Lulu?</i></p>	<p>Sifanyi hivyo / Does not 0 Mara chache / Sometimes 1 Mara nyingi / Often..... 2 Kila siku / Every day 3 Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
1	<p>Walter/Rebeca alikosa heshima kwa wazazi wake alipokasirika. Je, kwa kiasi gani unafanya kama Walter/Rebeca?</p> <p><i>Walter/Rebeca was disrespectful to his/her parents when he/she was upset. How often do you behave like Walter/Rebeca?</i></p>	<p>Sifanyi hivyo / Does not 0 Mara chache / Sometimes 1 Mara nyingi / Often..... 2 Kila siku / Every day 3 Sijui /Amekataa kujibu / Don't know/refuse..... 888</p>
<p>Asante sana! Thank you very much!</p>		

Teacher/Head Teacher Consent Form

Dodoso la Mwalimu Mkuu/Mwalimu – Head/Teacher Questionnaire – Tanzania EGRA/ EGMA/SSME 2016

Fomu ya Ridhaa Mwalimu Mkuu/Mwalimu - Head/Teacher Consent Form

Habari, Jina langu ni / Hello, my name is _____.

Tunafanya kazi na Kampuni ya Data Vision kwa niaba ya Wizara ya Elimu Sayansi teknolojia na Ufundi ili kufanya utafiti mdogo kupima uwezo wa wanafunzi wa Darasa la 3 katika Kusoma na Kuhesabu katika baadhi ya Shule. Utafiti huu mdogo unaitwa 'Upimaji wa awali katika Kusoma (EGRA – Early Grade Reading Assessment na EGMA – Early Grade Mathematics Assessment). We are working with DataVision on behalf of the Ministry of Education, Science, and Technology to conduct a survey to assess the reading and mathematics ability of pupils in Standard 3 in a sample of schools. This survey is called the Early Grade Reading Assessment, or EGRA and Early Grade Mathematics Assessment, or EGMA.

- **Lengo la utafiti wa EGRA na EGMA ni kupima uwezo wa wanafunzi katika Kusoma na Kuhesabu. Tunakusanya pia taarifa kuhusu Shule na Walimu ili kujifunza zaidi kuhusu hali na utendaji unaoweza kuathiri wanafunzi katika kujifunza Kusoma na Kuhesabu.**The purpose of the EGRA survey is to assess the reading and mathematics ability of pupils. We are also gathering information about schools and school staff to learn more about conditions and practices that may affect children's reading and mathematics.
 - **Hii ni mojawapo kati ya Shule iliyoteuliwa katika utafiti huu mdogo. Ushiriki wako ni wa muhimu sana, vilevile hulazimishwi kushiriki kama haupo tayari. Kama umekubali kushiriki nitakuuliza maswali yanayoendana na shughuli zako za kawaida ukiwa kazini. Pia tutachunguza masomo ya Kiswahili na Hisabati yakifundishwa. Nitakuuliza maswali yatakayochukua muda kati ya dakika 15-20 na uchunguzi wa somo utachukua dakika 30.**This school was randomly selected for participation in this survey. Your participation is very important, but you do not have to participate if you do not wish to. If you agree to participate, I will ask you some questions regarding your normal activities at school and will observe a Kiswahili and mathematics classroom. My questions for you will take approximately 15-20 minutes and the observation will take 30 minutes.
 - **Jina lako halitaandikwa katika fomu hii wala kutajwa mahali popote katika, utafiti huu. Majumuisho katika matokeo ya utafiti huu wa EGRA na EGMA utakaofanywa katika shule nyingi, yatajadiliwa pamoja na mradi wa Data Vision, Wizara ya Elimu Sayansi teknolojia na Ufundi na Wadau wengine wa Elimu ili kubainisha maeneo yatakayohitaji msaada wa ziada kuboresha Kusoma na Kuhesabu katika madarasa ya ngazi ya Awali. Taarifa zitakazotolewa na Walimu katika Utafiti huu hazitawekwa bayana kuwa zimetolewa na shule fulani bali zitajumuishwa na taarifa kutoka Shule nyingine kama taarifa ya utafiti.** Your name will NOT be recorded on this form, nor mentioned anywhere in the survey data. The combined results of the EGRA and EGMA surveys conducted in many schools will be shared with DataVision, the Ministry of Education, Science, and Technology and other education stakeholders to identify areas where additional support may be needed to improve reading and mathematics in the early grades. Information provided in surveys will be anonymous and will not be reported by school, but will be combined with results from many other schools.
 - **Tunaamini hakutakuwa na madhara kwa wewe kushiriki katika utafiti huu.** We believe there is no risk to you in participating in this research.
 - **Hakuna manufaa binafsi utakayoyapata kwa wewe kushiriki katika mahojiano haya. Hata hivyo majibu yako yatasaidia katika kuboresha Kusoma na Kuhesabu katika madarasa ya ngazi za Awali.** You will not personally benefit from participating in this interview. However, your responses will be used to help support improvements in early grade reading and mathematics in Tanzania.
 - **Kama una swali lolote katika utafiti huu tafadhali wasiliana na:-**
If you have any questions regarding this study, please feel free to contact:
DataVision : Garden Road, Mikocheni Area. Plot No. 373. P.O. Box 9983
Dar es Salaam, Tanzania. +255 654 869 302
- Kwa mara nyingine tena, usishiriki katika utafiti kama haupo tayari. Mara tutakapoanza kama hutajibu swali hiyo ni ni sawa tu. Uko tayari kushiriki?** Once again, you do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that's all right. Are you willing to participate?

Ukubali kwa ridhaa ya Mwalimu Mkuu/Mwalimu kushiriki (Zungushia duara kama Mwalimu Mkuu/Mwalimu amekubali kwa ridhaa yake) Head/Teacher provided consent (Circle to indicate consent was received): **NDIYO/YES**

Head Teacher Questionnaire

General Instructions

-
- DO NOT READ THE ANSWER OPTIONS TO THE HEAD TEACHER UNLESS THE INSTRUCTIONS INDICATE TO DO SO.
- Wait for the Head Teacher to respond to each question, then select the answer that corresponds to his or her response.
- For most questions, only one response is permitted. The instructions indicate the exceptions.
- If the Head Teacher is not available, conduct the interview with the Assistant Head Teacher.
- Note that all instructions to the interviewer are in **bold letters**. Instructions to the Tangerine team are in **red letters**.

School Name <input type="text"/>										
School EMIS Number [If school is on mainland]	School Identification Code: [If main land] <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">P</td> <td style="width: 20px; text-align: center;">S</td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px; text-align: center;">-</td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> </tr> </table> <i>[PS + 4digits + "-" + 3digits]</i>	P	S					-			
P	S					-					
Region										
District										
Supervisor User Name <input type="text"/>										
Supervisor Signature <input type="text"/>										

1.	Muda wa kuwasili shuleni [Tumia saa 24-muda Saa: Dakika] Time of arrival at school [Use 24-hour time HH:MM]	<input type="text"/> : <input type="text"/>
2.	Interview date [Tarehe/ Mwezi/ Mwaka] [DD/MM/YY]	<input type="text"/> / <input type="text"/> / <input type="text"/>
3.	Una wadhifa gani hapa shuleni? [Swali kwa Mwalimu Mkuu] What is your position at the school? [Question asked to Head Teacher]	Mwalimu mkuu / Head Teacher 1 Mwalimu Mkuu msaidizi / Assistant Head Teacher .. 2 Nyingine / Other 3 Hajui/hajajibu / Don't know / Refuse..... 888
4.	[Je, Mwalimu mkuu/ mwalimu mkuu msaidizi/ mwalimu wa taaluma ni mwanamke?] [Is the Head Teacher / Assistant Head Teacher female?]	Hapana / No 0 Ndiyo / Yes..... 1
5.	Je ulihudhuria mafunzo ya stadi za kusoma, kuandika na kuhesabu? [Swali kwa Mwalimu Mkuu] Did you attend the 3Rs training? [Question asked to Head Teacher]	Hapana / No 0 Ndiyo / Yes..... 1 Hajui/Hajajibu / Don't know/Refuse 888
6.	Walimu wangapi wa darasa la 2 wanafundisha shule hii? [Swali kwa Mwalimu Mkuu] How many Standard 2 teachers teach at this school? [Question asked to Head Teacher]	Idadi ya walimu wa darasa la 2 / Number of Standard 2 teachers..... <input type="text"/>
7.	Je kuna walimu wangapi wa darasa la 2 waliopo leo? [Swali kwa Mwalimu Mkuu] [Idadi ilingane au iwe pungufu kama swali la juu] How many Standard 2 teachers are present today? [Question asked to Head Teacher] [Should be less than or equal to the previous question]	Idadi ya walimu wa darasa la pili waliopo / Number of Standard 2 teachers present <input type="text"/>

8.	<p>Je kuna mikondi mangapi ya darasa la 3 shuleni? [Swali kwa Mwalimu Mkuu]</p> <p>How many Standard 3 classes are there? [Question asked to Head Teacher]</p>	<p>Idadi ya madarasa ya 3 shuleni / Number of Standard 3 classes at the school..... <input type="text"/></p>
9.	<p>Je ni wasichana wangapi wa darasa la 3 wameandikishwa shuleni? [Swali kwa Mwalimu Mkuu]</p> <p>How many Standard 3 females are enrolled at this school? [Question asked to Head Teacher]</p>	<p>Idadi ya wasichana wa darasa la 3 walioandikishwa / Number of Standard 3 females enrolled at the school <input type="text"/></p>
10.	<p>Je ni wavulana wangapi wa darasa la 3 wameandikishwa shuleni? [Swali kwa Mwalimu Mkuu]</p> <p>How many Standard 3 males are enrolled at this school? [Question asked to Head Teacher]</p>	<p>Idadi ya wavulana wa darasa la 3 waliondikishwa shuleni / Number of Standard 3 males enrolled at the school <input type="text"/></p>
11.	<p>Je ni wasichana wangapi wa darasa la 3 wapo leo? [Chunguza kama mwezeshaji]</p> <p><i>[Idadi ilingane au iwe pungufu kama swali la juu]</i></p> <p>How many Standard 3 females are present today? [Observe directly]</p> <p><i>[Should be less than or equal to the previous question]</i></p>	<p>Idadi ya wasichana wa darasa la 3 waliopo shuleni leo / Number of Standard 3 females present today at the school <input type="text"/></p>
12.	<p>Je wapo wavulana wangapi wa darasa la 3 leo? [Chunguza kama mwezeshaji]</p> <p><i>[Idadi ilingane au iwe pungufu kama swali la juu]</i></p> <p>How many Standard 3 males are present today? [Observe directly]</p> <p><i>[Should be less than or equal to the previous question]</i></p>	<p>Idadi ya wavulana wa darasa la 3 waliopo shuleni leo / Number of Standard 3 males present today at the school <input type="text"/></p>
13.	<p>Je wasichana wangapi darasa la 3 walimaliza upimaji? [Muhtasari kabla ya kuondoka shuleni]</p>	<p>Idadi ya wasichana wa darasa la 3 waliomaliza upimaji / Number of Standard 3 females who completed the assessment <input type="text"/></p>

	How many Standard 3 females completed the assessment? [Summary before leaving the school]	
14.	Je ni wavulana wangapi darasa la 3 waliomaliza kupimwa? [Muhtasari kabla ya kuondoka shuleni] How many Standard 3 males completed the assessment? [Summary before leaving the school]	Idadi ya wavulana wa darasa la 3 waliomaliza kupimwa / Number of Standard 3 males who completed the assessment <input type="text"/>
15.	Je ni walimu wangapi wa darasa la 2 waliohojiwa na kuchunguzwa? [Muhtasari kabla ya kuondoka shuleni] How many Standard grade 2 teachers were interviewed and observed? [Summary before leaving the school]	Idadi ya walimu wa darasa la 2 waliohojiwa na kuchunguzwa / Number of Standard 2 teachers interviewed and observed..... <input type="text"/>
16.	Onesha muda timu iliondoka shuleni [Tumia saa 24-muda Saa: Dakika] Time the team departed the school [Use 24-hour time HH:MM]	<input type="text"/> : <input type="text"/>
Thank you very much! / Asante sana!		

Teacher Questionnaire

General Instructions

- Teachers selected for this interview **MUST** teach either mathematics or Kiswahili to the student population being studied. Do **NOT** interview teachers if they do not teach at least **ONE** of these subjects to children in these levels.
 - Ask the teacher to answer each question orally, as in an interview.
 - **DO NOT READ THE ANSWER OPTIONS TO THE TEACHER UNLESS THE INSTRUCTIONS INDICATE TO DO SO.**
 - Wait for the teacher to respond to each question, then select the answer that corresponds to his or her response.
 - For most questions, only one response is permitted. The instructions indicate the exceptions.
- Note that all instructions to interviewer are in **bold letters**. Instructions for Tangerine team are in **red letters**.

School Name <input type="text"/>										
School EMIS Number [If school is on mainland]	School Identification Code: [If main land] <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">P</td> <td style="width: 20px; text-align: center;">S</td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px; text-align: center;">-</td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> </tr> </table> <i>[PS + 4digits + "-" + 3digits]</i>	P	S					-			
P	S					-					
Region	_____										
District	_____										
Date of Visit	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 40px; text-align: center;">/</td> <td style="width: 40px; text-align: center;">/</td> </tr> </table> <input type="text" value="Date / Month/ Year"/> 3 May 2016 would be 03 / 05 / 2016	/	/								
/	/										
Assessor User Name <input type="text"/>										
Signature <input type="text"/>										

1.	<p>[Je, mwalimu ni mwanamke]</p> <p>[Is the teacher female?]</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes..... 1</p>
A	<p>Je unafundisha somo lipi / masomo yapi darasa la 2?</p> <p>Soma majibu. Weka tiki katika majibu yote.</p> <p>What subjects do you teach to the Standard 2 class?</p> <p>Read the responses.</p> <p>Tick ALL that apply.</p>	<p>Kusoma / Kiswahili Reading..... 1</p> <p>Kuandika / Kiswahili Writing..... 1</p> <p>Kusoma English / English Reading 1</p> <p>Kuandika English / English Writing..... 1</p> <p>Hisabati / Mathematics 1</p> <p>Elimu ya afya na mazingira / Health and Environment Education..... 1</p> <p>Michezo, kuchora na kuigiza / Games, Sports, and Fine and Performing Arts 1</p> <p>Elimu ya dini / Religious Studies..... 1</p> <p>Mengineyo / Other 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
2.	<p>Je, umefika kiwango gani cha juu cha elimu?</p> <p>USIMSOME majibu.</p> <p>Weka tiki katika jibu moja linalohusika.</p> <p>What is your highest level of academic education?</p> <p>Do NOT READ the options.</p> <p>Tick only ONE response.</p>	<p>Kidato cha sita / Form 6 1</p> <p>Cheti / Certificate 2</p> <p>Stashahada / Diploma 3</p> <p>Stashahada ya Juu / Advanced diploma..... 4</p> <p>Shahada / Bachelor's degree..... 5</p> <p>Shahada ya Uzamili / Master's degree 6</p> <p>Shahada ya Uzamivu / PhD..... 7</p> <p>Mengineyo / Other 8</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
3.	<p>Ni programu /mashirika gani yanafadhili mafunzo shuleni hapa?</p> <p>What programs / NGOs support training for the school?</p>	<p>Hakuna / none 0</p> <p>EQUIP (Dfid) 1</p> <p>LANES (GPE)..... 2</p> <p>UNICEF 3</p> <p>TZ 21(USAID)..... 4</p> <p>Mengineyo / Other 5</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>

4.	<p>Wakati ukiwa mafunzo ya walimu uliwahi kupata mafunzo rasmi ya kufundisha kusoma kuandika na kuhesabu katika darasa la kwanza na la pili?</p> <p>During your pre-service training, did you receive any specific training on how to teach reading, writing and arithmetic to early grade pupils?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes..... 1</p> <p>Hajui/Hajajibu / Don't know/Refuse 888</p>
5.	<p>Je umehudhuria mafunzo kazini kwa ajili ya marekebisho ya kufundisha stadi za KKK?</p> <p>Have you attended any in-service training on the 3Rs reforms?</p>	<p>Hapana / No 0</p> <p>→ Kama hapana, nenda swali la 6 / If no, skip to 6</p> <p>Ndiyo / Yes..... 1</p> <p>→ Kama ndiyo, nenda swali la 7 / If yes, skip to 7</p> <p>Hajui/Hajajibu / Don't know/Refuse 888</p>
6.	<p>Je kuna mwenzako aliyehudhuria mafunzo kazini kwa ajili ya kuwezesha stadi za KKK aliyekufundisha?</p> <p>Did one of your colleagues who attended in-service training on the 3Rs train you on the 3Rs approach?</p>	<p>Hapana / No 0</p> <p>→ Kama hapana, nenda swali la 10 / If no, skip to 10</p> <p>Ndiyo / Yes..... 1</p> <p>Hajui/Hajajibu / Don't know/Refuse 888</p>
7.	<p>Je mafunzo ya stadi za KKK yameleta matokeo tarajiwa?</p> <p>Was the 3Rs training effective?</p>	<p>Hapana / No 0</p> <p>→ Kama hapana, nenda swali la 8, na swali 10, si swali 9/ If no, go to question 8 and question 10, not 9</p> <p>Ndiyo / Yes..... 1</p> <p>Hajui/Hajajibu / Don't know/Refuse 888</p>
8.	<p>Je mafunzo ya stadi za KKK yangeweza kuboreshwaje ili kuleta matokeo bora zaidi?</p> <p>Weka tiki katika majibu yote.</p> <p>What could have made the 3Rs training more effective?</p> <p>Tick all that apply.</p>	<p>Mafunzo yawe kwa vikundi vidogo vidogo / Smaller training groups 1</p> <p>Kuwe na vitabu vya kiada vya wanafunzi wa KKK / Having 3Rs student textbooks..... 1</p> <p>Fursa ya kutayarisha vifaa vya kufundishia darasani / Opportunity to develop teaching aids for use in class1</p> <p>Meginyeo / Other 1</p> <p>Hajui/Hajajibu / Don't know/Refuse 888</p>

<p>9.</p>	<p>Nini kimefanya mafunzo ya stadi za KKK kuleta matokeo tarajiwa? Weka tiki katika majibu yote.</p> <p>What made the 3Rs training effective? Tick all that apply.</p>	<p>Uchambuzi wa mtaala na muhtasari wa KKK / Analysis of 3Rs curriculum and syllabus..... 1</p> <p>Uchambuzi na utumiaji wa mwongozo wa mwalimu wa kufundishia Kusoma, Kuandika na Kuhesabu / Analysis and use of 3Rs teacher guides..... 1</p> <p>Matayarisho ya andalio la somo na azimio la kazi / Preparation of lesson plan and scheme of work..... 1</p> <p>Kufaragua na kutumia zana za kufundishia na kujifunzia / Improvisation and use of teaching and learning aids 1</p> <p>Ufundishaji kiduchu / Micro teaching 1</p> <p>Mengineyo (Eleza bayana)/ Other 1</p> <p>Hajui/Hajajibu / Don't know/Refuse 888</p>
<p>Sasa ningependa kukuuliza maswali yanayohusiana na darasa lako na vile vile wanafunzi kwa mwaka huu.</p> <p>Now I would like to ask you some questions about your class and pupils this school year.</p>		
<p>10.</p>	<p>Je, unafundisha katika darasa mchanganyiko (la pili na la kwanza kwa pamoja)? Is the class that you teach a multi-grade class?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes..... 1</p> <p>Hajui/Hakuna jibu / Don't know/Refuse 888</p>
<p>11.</p>	<p>Tafadhali, nipatie daftari la Mahudhurio ya wanafunzi wako? Could I please see your pupil attendance register?</p>	<p>Hakuna daftari la Mahudhurio / Register was not available to be examined 0</p> <p>➔ Kama Hakuna daftari la la Mahudhurio, Nenda swali la 13 / If no register available, skip to 13</p> <p>Mahudhurio yanarekodiwa kila siku / Attendance records were completed daily 1</p> <p>Mahudhurio yanarekodiwa kila wiki / Attendance records were completed weekly 2</p> <p>Mahudhurio yanarekodiwa kila baada ya wiki mbili / Attendance records were completed biweekly 3</p> <p>Mahudhurio yanarekodiwa kwa mwezi / Attendance records were completed monthly 4</p> <p>Mengineyo / Other 5</p>
<p>12.</p>	<p>[Andika tarehe ya hivi karibuni ya mahudhurio ya wanafunzi kwa kufuata utaratibu ufuatao: (Siku/Mwezi/Mwaka)] [Record the date of the most recent attendance record entry. (DD/MM/YY)]</p>	<p>Panda: tarehe ya kufunguliwa shule ([...]) hadi sasa. Range: date school opened ([----])to current date</p> <p style="text-align: right;"> <input type="text"/>/ <input type="text"/>/ <input type="text"/> </p>

13.	<p>Kuna wanafunzi wangapi wavulana wameandikishwa kwenye darasa hili? How many boys are enrolled in this class?</p>	<p>Range: 3-digit number field in case class has more than 99. Range check: If >200, ask assessor to confirm number</p> <p>Wavulana / Boys..... <input type="text"/></p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
14.	<p>Kuna wanafunzi wangapi wasichana wameandikishwa kwenye darasa hili? How many girls are enrolled in this class?</p>	<p>Range: 3-digit number field in case class has more than 99. Range check: If >200, ask assessor to confirm number</p> <p>Wasichana / Girls..... <input type="text"/></p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
15.	<p>Kuna wanafunzi wangapi wavulana waliorudia katika darasa hili? How many boys in this class are repeaters?</p>	<p>Wavulana / Boys..... <input type="text"/></p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
16.	<p>Kuna wanafunzi wangapi wasichana waliorudia katika darasa hili? How many girls in this class are repeaters?</p>	<p>Wasichana / Girls..... <input type="text"/></p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
17.	<p>Kwa siku ya kawaida ni wanafunzi wangapi huwa hawahudhuri shuleni? On a typical day, how many pupils are absent?</p>	<p><input type="text"/></p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
18.	<p>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.</p>	<p><input type="text"/></p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
<p>Sasa napenda kukuuliza maswali yanayohusu usimamizi/ maelekezo unayopata kutoka kwa mwalimu mkuu au mwalimu mkuu msaidizi wa shule.</p> <p>Now I would like to ask you some questions about the supervision you receive from the Head Teacher or Assistant Head Teacher.</p>		

<p>19.</p>	<p>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?</p>	<p>Hapana / No 0 → Kama hapana, endelea swali la 21 / If no, skip to 21 Ndiyo / Yes..... 1 Hajui/hajajibu / Don't know/Refuse 888 → Kama Hajui/hajajibu, endelea swali la 21 / If don't know/refuse, skip to 21</p>
<p>20.</p>	<p>Kama ndiyo, ni mra ngapi kwa mwaka huu andalio lako limekaguliwa? Soma majibu. Weka tiki katika jibu moja. If yes, how often during this school year have your lesson plan been checked? Read the responses. Tick only ONE response.</p>	<p>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</p>
<p>21.</p>	<p>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.</p>	<p>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</p>

22.	<p>Tangu mwaka huu wa masomo umeanza, ni mara ngapi mwalimu mkuu au mwalimu mkuu msaidizi huangalia ufundishaji wako darasani?</p> <p>Soma majibu. Weka tiki katika jibu MOJA.</p> <p>Since the beginning of the school year, how frequently does the Head Teacher or Assistant Head Teacher observe your teaching?</p> <p>Read the responses. Tick only ONE response.</p>	<p>Hajawahi / Never 0</p> <p>Robo mwaka / Quarterly 3</p> <p>Kila mwezi / Monthly 4</p> <p>Kila wiki / Weekly 5</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
23.	<p>Tangu mwaka huu wa masomo umeanza, ni mara ngapi mwalimu wa taaluma hujadiliana na wewe kuhusu ufundishaji wako?</p> <p>Soma majibu. Weka tiki katika jibu MOJA.</p> <p>Since the beginning of the school year, how frequently does the Academic Teacher discuss your teaching with you?</p> <p>Read the responses. Tick only ONE response.</p>	<p>Hajawahi / Never 0</p> <p>Robo mwaka / Quarterly 3</p> <p>Kila mwezi / Monthly 4</p> <p>Kila wiki / Weekly 5</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
24.	<p>Tangu mwaka huu wa masomo umeanza, ni mara ngapi Afisa Elimu Kata amekutembelea?</p> <p>Soma majibu. Weka tiki katika jibu MOJA.</p> <p>Since the beginning of the school year, how frequently does the Ward Education Officer visit you?</p> <p>Read the responses. Tick only ONE response.</p>	<p>Hajawahi / Never 0</p> <p>Robo mwaka / Quarterly 3</p> <p>Kila mwezi / Monthly 4</p> <p>Kila wiki / Weekly 5</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>

25.	<p>Tangu mwaka huu wa masomo umeanza ni mara ngapi mkaguzi wa shule amekutembelea?</p> <p>Soma majibu. Weka tiki katika jibu MOJA.</p> <p>Since the beginning of the school year, how frequently does the School Inspector visit you?</p> <p>Read the responses. Tick only ONE response.</p>	<p>Hajawahi / Never 0</p> <p>Robo mwaka / Quarterly 3</p> <p>Kila mwezi / Monthly 4</p> <p>Kila wiki / Weekly 5</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
26.	<p>Una vifaa vya kutosha vya kufundishia na kujifunzia stadi za kusoma, kuandika na kuhesabu katika darasa lako?</p> <p>Do you have adequate materials in your classroom for teaching and learning the 3Rs?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
27.	<p>Je kuna vitabu vingapi kwa ajili ya darasa lenu?</p> <p>How many books are registered for your class?</p>	<p>Panga: Kama >200, mwambie msimamizi ahakikishe idadi.</p> <p>Range check: If >200, ask assessor to confirm number</p> <p>..... <input type="text"/></p>
28.	<p>Ni mara ngapi unachanganya lugha ya kikabila na Kiswahili katika mchakato wa ufundishaji na ujifunzaji? Kamwe, mara chache, mara kwa mara, muda wote</p> <p>Soma majibu weka tiki katika jibu MOJA.</p> <p>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.</p> <p>Read the responses. Tick only ONE response.</p>	<p>Kamwe / Never 0</p> <p>Mara chache / Occasionally 1</p> <p>Mara kwa mara / Often 2</p> <p>Muda wote / All of the time 3</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>

29.	<p>Nini kiwango cha stadi za kusoma kwa wanafunzi wako katika Kiswahili? Dhaifu, wastani, kiwango cha juu</p> <p>Soma majibu. Weka tiki katika jibu MOJA.</p> <p>How would you rate the reading skills of your pupils in KISWAHILI: Weak, Average or Strong?</p> <p>Read the responses. Tick only ONE response.</p>	<p>Dhaifu / Weak..... 0</p> <p>Wastani / Average 1</p> <p>kiwango cha juu / Strong..... 2</p> <p>Haihusiki – hafundishi kiswahili / Not applicable – does not teach Kiswahili..... 3</p> <p>Hajui/hajajibu / Don’t know/Refuse 888</p>
30.	<p>Nini kiwango cha stadi za kuandika kwa wanafunzi wako katika Kiswahili? Dhaifu, wastani, kiwango cha juu</p> <p>Soma majibu. Weka tiki katika jibu MOJA.</p> <p>How would you rate the writing skills of your pupils in KISWAHILI: Weak, Average or Strong?</p> <p>Read the responses. Tick only ONE response.</p>	<p>Dhaifu / Weak..... 0</p> <p>Wastani / Average 1</p> <p>Kiwango cha juu / Strong 2</p> <p>Haihusiki – hafundishi kiswahili / Not applicable – does not teach Kiswahili..... 3</p> <p>Hajui/hajajibu / Don’t know/Refuse 888</p>
31.	<p>Nini kiwango cha ujuzi cha wanafunzi wako katika somo la Hisabati?Dhaifu, wastani, au vizuri.</p> <p>Soma majibu. Weka tiki katika jibu MOJA.</p> <p>How would you rate the skills of your pupils in MATHEMATICS: Weak, Average or Strong?</p> <p>Read the responses. Tick only ONE response.</p>	<p>Dhaifu / Weak..... 0</p> <p>Wastani / Average 1</p> <p>Kiwango cha juu / Strong 2</p> <p>Haihusiki – hafundishi hesabu / Not applicable – does not teach Mathematics 3</p> <p>Hajui/hajajibu / Don’t know/Refuse 888</p>

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.	
<p>32. Unapima namna gani maendeleo ya taaluma ya wanafunzi? Usimsomee majibu.</p> <p>Weka tiki katika majibu yote aliyotoa.</p> <p>How do you measure your pupils' academic progress?</p> <p>Do NOT READ the options. Tick ALL that apply.</p>	<p>Majaribio / Written tests 1</p> <p>Tathimini ya mazungumzo / Oral evaluations 1</p> <p>Uchunguzi / Observation 1</p> <p>Mkoba wa kazi na kazi mradi / Portfolios and other projects 1</p> <p>Kazi za Nyumbani / Homework 1</p> <p>Karatasi ya mazoezi / Worksheets 1</p> <p>Tathmini ya mwisho wa muhula / End-of-term evaluation 1</p> <p>Mengineyo / Other..... 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
<p>33. Je unatathmini namna gani uelewa wa wanafunzi unapofundisha somo lako? Usimsomee majibu.</p> <p>Weka tiki katika majibu yote aliyotoa.</p> <p>How do you check for pupil understanding during the lesson?</p> <p>Do NOT READ the options. Tick ALL that apply.</p>	<p>Uliza maswali ya ufahamu mwanafunzi mmojammoja / Ask comprehension questions to individual students..... 1</p> <p>Uliza maswali ya ufahamu darasa zima / Ask comprehension questions to whole class 1</p> <p>Uliza maswali ya ufahamu wanafunzi katika vikundi / Ask comprehension questions to students in groups..... 1</p> <p>Wape wanafunzi kazi na kusahihisha majibu yao kabla ya somo kuisha / Give students a task and correct the responses before the end of the lesson..... 1</p> <p>Wape wanafunzi kazi na sahihisha majibu baada ya somo kuisha / Give students a task and correct the responses after the end of the lesson..... 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
<p>34. Unatumiaje matokeo ya wanafunzi ya upimaji wa kuzungumza na kuandika kuboresha ufundishaji wako? Usimsomee majibu.</p> <p>Weka tiki katika majibu yote aliyotoa.</p> <p>How do you use the results of pupils' oral and written assessments in your teaching?</p> <p>Do NOT READ the options. Tick ALL that apply.</p>	<p>Kuwapanga wanafunzi kwa madaraja / Grade pupils 1</p> <p>Kutathmini uelewa wa maudhui ya somo / Evaluate pupils' understanding of subject matter 1</p> <p>Kuandaa kazi za kufundishia na kujifunzia / Plan teaching and learning activities 1</p> <p>Kufundisha kwa kuzingatia mahitaji ya wanafunzi / Adapt teaching to better suit pupils' needs 1</p> <p>Kuwapanga wanafunzi katika makundi kulingana na uwezo / Arrange pupils in ability groups 1</p> <p>Mengineyo / Other..... 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>

35.	<p>Katika darasa lako, ni wazazi/walezi wangapi wanafuatilia mazoezi ya nyumbani ya watoto wao? Hakuna, baadhi, wengi, wote.</p> <p>Soma majibu. Weka tiki katika jibu MOJA.</p> <p>In your class, how many parents / guardians review pupils' homework? None, some, most or all?</p> <p>Read the responses. Tick only ONE response.</p>	<p>Hakuna / None 0</p> <p>Baadhi / Some 1</p> <p>Wengi / Most 2</p> <p>Wote / All 3</p> <p>Hajui/hajajibu / Don't know/refuse 888</p>
36.	<p>Je unaridhika kwa ujumla na ushiriki wa wazazi katika kazi za shule za watoto wao?</p> <p>Are you generally satisfied with parents' involvement in their children's schoolwork?</p>	<p>Hapana / No 0</p> <p>Ndiyo / Yes 1</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
37.	<p>Unategemea mwanafunzi akifika darasa la ngapi atakuwa anajua kusoma Kiswahili bila kusitasita (kwa ufasaha na kutumia alama za maneno (vituo))?</p> <p>Usimsomee majibu. Weka tiki katika jibu moja tu.</p> <p>At what class level do you expect children to read Kiswahili text fluently (accurately and to use punctuation marks correctly)?</p> <p>Do NOT READ the options. Tick only ONE response.</p>	<p>Darasa la 1 / Standard 1 1</p> <p>Darasa la 2 / Standard 2 2</p> <p>Darasa la 3 / Standard 3 3</p> <p>Darasa la 4 au zaidi / Standard 4 or higher 4</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
38.	<p>Unategemea mwanafunzi akifika darasa la ngapi atakuwa anajua kuandika hadithi fupi kwa ufasaha?</p> <p>Usimsomee majibu. Weka tiki katika jibu moja tu.</p> <p>At what class level do you expect children to write a coherent and comprehensible short story correctly?</p> <p>Do NOT READ the options. Tick only ONE response.</p>	<p>Darasa la 1 / Standard 1 1</p> <p>Darasa la 2 / Standard 2 2</p> <p>Darasa la 3 / Standard 3 3</p> <p>Darasa la 4 au zaidi / Standard 4 or higher 4</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>

Sasa nakuuliza maswali kuhusu usalama katika shule yako / Now I am going to ask you some questions about safety at your school.		
39.	Je kuna matatizo yoyote ya kiusalama hapa shuleni? Are there any security concerns at your school?	Hapana / No 0 → Kama hapana nenda swali la 41 / If no, skip to 41 Ndiyo / Yes 1 Hajui/hajajibu / Don't know/Refuse 888
40.	Kama ndiyo, fafaua. Weka tiki katika majibu yote. If yes, please explain. Tick all that apply.	Suala la jengo la shule (kuta, madirisha, paa, n.k.) / Issues with the structure of the school building (walls, windows, roof, etc.)..... 1 Suala la mazingira ya shule / Issues with the surrounding area 1 Kukosa mlinzi / Lack of guard..... 1 Kukosa ua / Lack of fence..... 1 Kukosa maji safi ya kunywa / Lack of clean drinking water 1 Mahusiano mabaya na wazazi/jumua / Poor relationships with parents/community 1 Wavamizi shuleni / Trespassers at the school 1 Wizi shuleni / Theft at school..... 1 Uharibifu wa mali za shule / Vandalism at school 1 Uhalifu mwingine / Other crime 1 Mengineyo (fafaua) / Other 1 Hajui/hajajibu / Don't know/Refuse 888
41.	Je kuna matatizo yoyote ya kiusalama kwa watoto hapa shuleni? Do you have any security concerns for your pupils at school?	Hapana / No 0 → Kama hapana nenda swali la 43/ If no, skip to 43 Ndiyo / Yes 1 Hajui/hajajibu / Don't know/Refuse 888

<p>42.</p>	<p>Kama ndiyo, fafanua. Weka tiki katika majibu yote. If yes, please explain. Tick all that apply.</p>	<p>Suala la jengo la shule (kuta, madirisha, paa, n.k.) / Issues with the structure school building (walls, windows, roof, etc.) 1 Suala la mazingira ya shule / Issues with the surrounding area 1 Kukosa mlinzi / Lack of guard..... 1 Kukosa ua / Lack of fence..... 1 Kukosa maji safi ya kunywa / Lack of clean drinking water 1 Mahusiano mabaya na wazazi/jumuia / Poor relationships with parents/community 1 Wavamizi shuleni / Trespassers at school..... 1 Ukatili shuleni / Bullying at school 1 Wizi shuleni / Theft at school..... 1 Uharibifu wa mali za shule / Vandalism at school 1 Uhalifu mwingine / Other crime 1 Mengineyo (fafanua) / Other 1 Hajui/hajajibu / Don't know/Refuse 888</p>
<p>43.</p>	<p>Je shule inatoa chakula kwa wanafunzi? Kama ndiyo, chakula gani? Weka tiki katika majibu yote. Does the school provide meals for the students? If yes, what meals? Tick all that apply.</p>	<p>Hapana / No 0 ➔ Kama hapana, nenda swali la 45 / If no, skip to 45 Ndiyo, kifungua kinywa / Yes, breakfast 1 Ndiyo, chakula cha mchana / Yes, lunch..... 1 Ndiyo, uji / Yes, porridge..... 1 Ndiyo, Meginyeo / Yes, other 1 Hajui/hajajibu / Don't know/Refuse 888</p>
<p>44.</p>	<p>Je wanafunzi wanalipia chakula? Do students pay for the meals?</p>	<p>Hapana / No 0 Ndiyo / Yes 1 Hajui/hajajibu / Don't know/Refuse 888</p>

<p>45.</p>	<p>Je kuna siku hukuwepo shuleni wiki iliyopita? Kama ndiyo kwa nini? Usimsomee majibu. Weka tiki katika jibu moja tu.</p> <p>Were you absent from school any day last week? If yes, why were you absent? Do NOT READ the options. Tick only ONE response.</p>	<p>Hapana, nilikuwepo siku zote shuleni wiki iliyopita / No, was not absent from school last week 0</p> <p>Ndiyo, nilikuwa mgonjwa / Yes, illness 1</p> <p>Ndiyo, nilikuwa na kazi nyingine / Yes work on other jobs 2</p> <p>Ndiyo, sijalipwa/malipo ni madogo/silipwi kwa wakati / Yes, do not get paid/pay insufficient/pay irregular..... 3</p> <p>Ndiyo, hakuna motisha / Yes, lack motivation 4</p> <p>Ndiyo, majukumu ya kifamilia / Yes, family responsibility5</p> <p>Ndiyo, tatizo la usafiri / Yes, no transportation 6</p> <p>Mengineyo / Other..... 7</p> <p>Hajui/hajajibu / Don't know/Refuse 888</p>
<p>Thank you very much. Asante Sana.</p>		

Classroom Inventory

General Instructions

Note that all instructions to the assessor are in **bold letters**. Instructions to the Tangerine team are in **red letters**.

School Name <input type="text"/>										
School EMIS Number [If school is on mainland]	School Identification Code: [If main land] <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">P</td> <td style="width: 20px; text-align: center;">S</td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px; text-align: center;">-</td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> </tr> </table> <i>[PS + 4digits + "-" + 3digits]</i>	P	S					-			
P	S					-					
Region	_____										
District	_____										
Date of Visit	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 30px; text-align: center;">/</td> <td style="width: 30px; text-align: center;">/</td> </tr> </table> <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Date / Month / Year</td> </tr> </table> 3 May 2016 would be 03 / 05 / 2016	/	/	Date / Month / Year							
/	/										
Date / Month / Year											
Assessor User Name <input type="text"/>										
Signature <input type="text"/>										

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

5.	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 <div style="text-align: right; border: 1px solid black; width: 100px; height: 20px; margin-left: auto;"></div>
6.	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 <div style="text-align: right; border: 1px solid black; width: 100px; height: 20px; margin-left: auto;"></div>
7.	Idadi ya wanafunzi wenye penseli au kalamu ya wino Number of students with pencil or pen	Panga: Kama > 200, mwambie msimamizi ahakikishe idadi. Range check: If >200, ask assessor to confirm number <div style="text-align: right; border: 1px solid black; width: 100px; height: 20px; margin-left: auto;"></div>
Uchunguzi ufuatao unahusu mazingira ya darasa na mwalimu. / The following observations relate to the classroom environment and the teacher.		
8.	Je kuna maktaba darasani? Is there a library in the classroom?	Hapana / No 0 ➔ Kama hapana, nenda swali la 10 / if no, skip to 10. Ndiyo / Yes 1
9.	Kuna vitabu vingapi/vijitabu ambavyo siyo vya kiada vilivyopo vipo (visivyofungiwa kabatini) kwa wanafunzi kusoma? 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
10.	Je kazi za wanafunzi zimebandikwa ukutani? Is student work displayed on the walls?	Hapana / No 0 Ndiyo / Yes 1
11.	Je zana za kufundishia zimeoneshwa ukutani?	Hapana / No 0

	Are instructional materials displayed on the walls?	Ndiyo / Yes 1
12.	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
13.	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 Mtaala wa Elimu ya Msingi Darasa la I na la II / 3Rs Syllabus 1 Mwongozo wa mwalimu wa kufundishia stadi za kusoma na kuandika / 3Rs Teacher guide for Reading and Writing 1 Mwongozo wa mwalimu wa kufundishia Kuhesabu Darasa la I na la II / 3Rs Teacher guide for Mathematics 1 Kadi za namba / Number cards 1 Michezo ya kihesabu / Manipulatives for mathematics.... 1 Kadi za herufi / Letter cards..... 1 Kadi za maneno / Word cards 1 Picha za maneno / Picture words 1 Chati za maneno / Word charts 1 Chati za herufi / Letter charts 1 Kadi za vitabu / Card books..... 1
14.	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 17 → If refuse/Does not have, skip to 17 Ndiyo / Yes..... 1
15.	[Chunguza daftari la maandalio la mwalimu]. Je daftari lina maandalio ya mwalimu?	Hapana / No..... 0 → Kama hana nenda 17 → If no, skip to 17

	<p>[Ask to look in the teacher’s lesson plan book.]</p> <p>Does the lesson plan book have lesson plans prepared by the teacher?</p>	Ndiyo / Yes..... 1		
16.	<p>Je mwalimu mkuu ametia saini kwenye andalio la hivi karibuni la mwalimu?</p> <p>Is the most recent lesson plan entry signed by the Head Teacher?</p>	Hapana / No..... 0		
		Ndiyo / Yes..... 1		
17.	<p>Angalia ratiba ya mwalimu na oneshwa kama anafuata mwongozo wa kufundisha stadi za Kusoma, Kuandika na Kuhesabu.</p> <p>Kumbuka: Mtaala wa Elimu ya Msingi wa darasa la I na la II umetenga muda wa saa 5 kwa wiki kwa kusoma, saa 3 kwa kuandika na saa 4 kwa kuhesabu.</p> <p>Look at the teacher’s timetable and indicate if the timetable follows the 3Rs guidance for Reading, Writing, and Mathematics.</p> <p>NOTE: The 3Rs curriculum specifies that teachers should allot 5 hours per week for reading, 3 hours per week for writing, and 4 hours per week for mathematics.</p>	Somo / Subject	Hapana / No	Ndiyo / Yes
		Kusoma: Saa 5 kwa wiki / Reading: 5 hours per week	0	1
		Kuandika: Saa 3 kwa wiki / Writing: 3 hours per week	0	1
		Kuhesabu: Saa 4 kwa wiki / Mathematics: 4 hours per week	0	1
18.	<p>Je mwalimu analo azimio la kazi?</p> <p>Does the teacher have a scheme of work?</p>	Hapana / No..... 0		
		Ndiyo / Yes..... 1		
19.	<p>Je chumba cha darasa kina mwanga wa kutosha kwa wanafunzi na mwalimu kuona ubao na vifaa vyao?</p> <p>Does the classroom have adequate lighting for students and teacher to see the blackboard and their materials?</p>	Hapana / No..... 0		
		Ndiyo / Yes..... 1		
20.	<p>Mwisho. [Tumia muda wa saa 24 HH:MM]</p> <p>Ending time [Use 24-hour time HH:MM]</p>	<input type="text"/> : <input type="text"/>		

Classroom Observation: Kiswahili

School Name <input type="text"/>											
School EMIS Number [If school is on mainland]	School Identification Code: [If main land] <table border="1"> <tr> <td>P</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> </table> <i>[PS + 4digits + "-" + 3digits]</i>	P	S						-			
P	S						-					
Region	_____											
District	_____											
Date of Visit	<input type="text"/> / <input type="text"/> / <input type="text"/> <input type="text"/> Date / Month / Year 3 May 2016 would be 03 / 05 / 2016											
Assessor User Name <input type="text"/>											
Signature <input type="text"/>											

Angalia andalio la somo la leo. Andika mada katika nafasi hapo chini iliyoandaliwa kwenye somo hilo. Utatumia habari hii baada ya uchunguzi ili kujua kama mwalimu amefuata mada aliyoandalia kwenye somo la leo. /

Look at the teacher's lesson plan for the day. Make a note in the space below of what content is planned for today's lesson. You will use this information at the end of the observation to indicate whether the teacher followed the content planned for today's lesson.

1.	Je ni vipi mwalimu ameweza kufuatilia uelewa wa wanafunzi? <i>How well does the teacher monitor the pupils' understanding?</i>	
	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? <i>How well does the teacher support the pupils' understanding?</i>	
	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 lisilo sahihi lililotolewa au halihusiki / No incorrect response given or not applicable	
3.	Ushiriki wa wanafunzi <i>Pupil participation</i>	
	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 or make guesses.)	
4.	Majadiliano ya wanafunzi <i>Pupil discussion</i>	
	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 and/or 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. <i>What proportion of pupils are able to respond correctly to questions, including reading with fluency when asked to read?</i>	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%)

Je mada iliyofundishwa ilifuata andalio la somo la leo la mwalimu? / Did the lesson content follow what was described for today's lesson from the teacher's lesson plans? Ndiyo / Yes Hapana / No Haihusiki / Not applicable

Je somo liliisha baada ya dakika 30? / Did the lesson last 30 minutes? Ndiyo / Yes Hapana / No

Classroom Observation: Mathematics

School Name <input type="text"/>										
School EMIS Number [If school is on mainland]	School Identification Code: [If main land] <table border="1"> <tr> <td>P</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> </table> [PS + 4digits + "-" + 3digits]	P	S					-			
P	S					-					
Region	_____										
District	_____										
Date of Visit	<input type="text"/> / <input type="text"/> / <input type="text"/> <input type="text"/> Date / Month / Year 3 May 2016 would be 03 / 05 / 2016										
Assessor User Name <input type="text"/>										
Signature <input type="text"/>										

Angalia andalio la somo la leo. Andika mada katika nafasi hapo chini iliyoandaliwa kwenye somo hilo. Utatumia habari hii baada ya uchunguzi ili kujua kama mwalimu amefuata mada aliyoandalia kwenye somo la leo. /

Look at the teacher's lesson plan for the day. Make a note in the space below of what content is planned for today's lesson. You will use this information at the end of the observation to indicate whether the teacher followed the content planned for today's lesson.

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 and 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										
Kufuatilia na kutathmini wanafunzi / Monitoring pupils and assessments	Darasa zima / Whole class										
	Vikundi vidogo vidogo / Small group										
	Mmoja mmoja / Individual										
Mwalimu hayupo darasani / Teacher is not in the classroom											

1.	Je ni vipi mwalimu ameweza kufuatilia uelewa wa wanafunzi? <i>How well did the teacher monitor the pupils' understanding?</i>	
	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? <i>How well did the teacher support the pupils' understanding?</i>	
	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 lisilo sahihi lililotolewa au halihusiki / No incorrect response given or not applicable	
3.	Ushiriki wa wanafunzi <i>Pupil participation</i>	
	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 and/or make guesses.)	
4.	Majadiliano ya wanafunzi <i>Pupil discussion</i>	
	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 and/or 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. <i>What proportion of pupils are able to respond correctly to questions, including reading with fluency when asked to read?</i>	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%)

Je mada iliyofundishwa ilifuata andalio la somo la leo la mwalimu? / Did the lesson content follow what was described for today's lesson from the teacher's lesson plans? Ndiyo / Yes Hapana / No Haihusiki / Not applicable

Je somo liliisha baada ya dakika 30? / Did the lesson last 30 minutes? Ndiyo / Yes Hapana / No

Annex C: Technical Details About Instrument Reliability and Validity Testing

The research team conducted an assessment of internal consistency to evaluate reliability. Internal consistency is an appropriate and standard classical evaluation approach for cross-sectional data, and when combined with item-level evaluative psychometric methods, provides insight regarding item and/or subtask functioning. Internal consistency (Cronbach, 1951) is the average correlation of all possible half-scale divisions and is frequently provided in published assessment psychometrics. The range of the internal consistency statistic is from zero to one, where higher values are desired, and a value of zero indicates inconsistency of measurement. As a general guideline, Cronbach’s alpha should be at least 0.70 for adequacy, and coefficients closer to 1 indicate a good assessment (Aron et al., 2013).

The Cronbach’s alpha coefficient was computed by using the Stata analytics software, which produced *Tables C-1 and C-2*, separated by reading and mathematics subtasks. The first two columns of the tables provide general subtask information, including the subtask name and the number of students accounted for within the subtask. The next three columns of the tables provide interrelationship information, including item-test correlations (i.e., the correlation between a subtask and the entire scale), item-rest correlations (i.e., the correlation between a subtask and the scale that is formed by all other subtasks), and the Cronbach’s alpha (previously discussed). Overall, the subtask scores show good reliability statistics (Cronbach’s alpha of at least 0.80), with alpha score of 0.94 for reading subtasks and an alpha score of 0.88 for mathematics subtasks.

Table C-1. Cronbach’s Alpha Coefficients for Reading Subtasks

Reading Subtasks	Number of Students	Item-Test Correlation	Item-Rest Correlation	Cronbach’s alpha
Syllable Sounds score (percentage correct)	7,763	0.9280	0.8876	0.9168
Non-word (invented word) score (percentage correct)	7,764	0.9234	0.8865	0.9203
Oral Reading Fluency score (percentage correct)	7,765	0.9523	0.9207	0.9091
Reading Comprehension score (percentage correct)	7,758	0.8944	0.8216	0.9302
Dictation score (percentage correct)	7,763	0.8146	0.7098	0.9488
			Alpha	0.9394

Table C-2. Cronbach's Alpha Coefficients for Mathematics Subtasks

Mathematics Subtasks	Number of Students	Item-Test Correlation	Item-Rest Correlation	Cronbach's Alpha
Quantity Comparison score (percentage correct)	7,763	0.7747	0.6733	0.8649
Missing Number score (percentage correct)	7,761	0.7279	0.6568	0.8709
Word Problems score (percentage correct)	7,765	0.7153	0.5872	0.8773
Addition (Level 1) score (percentage correct)	7,763	0.8225	0.7579	0.8563
Addition (Level 2) score (percentage correct)	7,254	0.8132	0.7072	0.8628
Subtraction (Level 1) score (percentage correct)	7,763	0.8286	0.7659	0.8555
Subtraction (Level 2) score (percentage correct)	76,589	0.7528	0.6464	0.8683
			Alpha	0.8822

Annex D: Sample Sizes

Although it is a common belief that sample sizes must represent a specific proportion of the population (10 percent is frequently cited), sample sizes should not be calculated based on a simple percentage. This practice may result in unnecessarily large and costly samples or insufficiently large and imprecise samples. Fortunately, statisticians can calculate an appropriate sample size that will provide the study with the desired level of precision for a given level of variance.

Simple analogies can sometimes help to explain abstract concepts. In this case, we can think of our population as a pot of soup that needs to be tasted (or sampled) for salt. The typical way to taste the soup is pick up a spoon, use it to stir the soup, and then take a sip of the soup from the spoon. Now suppose you had two pots of soup cooking simultaneously: one was a very big pot of soup, and the other was very small pot. Regardless of the size of the pot, only one spoonful from each pot is needed to taste the soup. A larger spoon is not needed for the larger pot of soup; instead, just a sample from each pot is needed to taste the soup. Similarly, with sampling, just enough information is needed to get a “taste” of what that population is like, regardless of how large or small it is.

Sampling statisticians have a way to calculate the ideal size for that spoon or, in our case, the sample. Statisticians evaluate a number of different factors when calculating the required sample. Variance, or differences in student performance, is one of those factors. In countries with very low variance in student performance, only a relatively small sample size is needed to generate results that are representative of the original population. Taking this to extremes, if we were working in a country where students all performed identically, then only a sample of one student would be needed. Of course, we know that identical performance is never the case, especially not in Tanzania. To understand the level of variance in student performance, we relied on Tanzania’s 2013 Early Grade Reading Assessment (EGRA) to estimate the expected level of variation and, in turn, calculate the desired sample size.

The sample is anticipated to be able to report the estimated percentage of Standard 3 students reaching benchmark within each region with a predicted 95 percent confidence interval band of approximately ± 6.5 percent of students reaching benchmark. The national estimate should have an even tighter 95 percent confidence interval band of approximately ± 2.0 percent of students reaching benchmark.

Our calculations, based on the previous data from the *National Baseline Assessment for 3Rs (Reading, Writing, and Arithmetic) Using EGRA, Early Grade Mathematics Assessment (EGMA), and Snapshot of School Management Effectiveness (SSME)*, allows us to know with confidence that the sample size of our study will provide sufficient and rigorous data about the population of students in Tanzania.

Annex E: Inter-Rater Reliability Results

To ensure inter-rater reliability, during each day of data collection, two assessors in each Assessment Team were asked to survey one additional student. During this assessment, one person was the lead assessor, who administered the Early Grade Reading Assessment (EGRA) on the tablet as it would normally be done. The second assessor was a “listener,” who did not speak throughout the survey but still marked the students’ responses on a tablet while following along. After the EGRA was administered, the two assessors were able to compare and contrast what they had each marked for the student’s response to determine where there were inconsistencies and how to fix them.

The assessment contained only EGRA items. Overall, the assessors were in consistent agreement. Of all of the subtasks’ items combined, all assessors agreed approximately 98 percent of the time overall.

Annex F. Revised Life Skills Instrument

Life Skills, Tanzania 2016

Dodoso la Mwanafunzi kuhusu Stadi za Maisha / Student Life Skills questionnaire.

“Nitakuuliza maswali yanayokuhusu wewe zaidi. Hakuna jibu sahihi au kosa kwa hiyo tafadhali uwe mkweli kwa kadri unavyoweza. Pia hakuna mtu yeyote atakayejua kuwa haya ni majibu yako.” / “I’m now going to ask you some more questions about yourself. There are no right or wrong answers so please be as honest as possible and please try to answer all questions. Also, remember that no one will know that these are your answers.”

[Haya ni maswali yanayomhusu mtu binafsi, kwa hiyo ni muhimu USIONYESHE hisia au kutoa mrejesho wowote mwanafunzi anapojibu.] [As these are personal questions, it is very important that you NOT show any emotion or reaction to any of the children’s responses.]

[Kwa kila swali katika hadithi tumia jina la jinsi ya mwanafunzi unayemhoji] [For each question use the name in the story that is the same as the gender of the student you are interviewing]

<p>Katika sehemu hii nitakusomea maelezo ya wanafunzi tofauti. Tafadhali sikiliza kwa makini maelezo haya na kisha niambie ni mara ngapi unajisikia au unatenda kama mtoto huyo. Ninaposema ni mara ngapi, ningependa uniambie kama hua unatabia kama hizi sifanyi hivyo, mara chache, mara nyingi, au kila siku. Hakuna jibu sahihi au kosa. Naomba uwe mkweli katika majibu yako kwani itatusaidia kuelewa jinsi ya kuwasaidia wanafunzi kwenye masomo yao.</p> <p><i>In this section I’m going to read you descriptions of different children. Please listen carefully to each description and then in each case I want you to tell me how frequently you feel or behave like that child. So when I say how frequently, I want you to tell me whether you do not feel or behave like this, you feel or behave like this sometimes, often, or every day. There are no right or wrong answers. Please just be honest in your responses as this will give us a better understanding of how to help children with their schoolwork.</i></p>		
<p>Sehemu I: Ujasiri wa kitaaluma</p> <p>Section I: Academic Grit¹</p>		
1.	<p>Ngoja nikuambie kuhusu kijana anayeitwa Bakari/Amina. Bakari/Amina anafanya kazi kwa bidii kila mara. Je, kwa kiasi gani unafanya kama Bakari/Amina?</p> <p>Soma majibu.</p> <p><i>Let me tell you about a child called Bakari/Amina. He/She always works very hard. How often do you behave like Bakari/Amina?</i></p> <p>Read the responses.</p>	<p>Sifanyi hivyo / Does not..... 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui/Amekataa kujibu / Don’t know/refuse 888</p>
2.	<p>Daudi/Hawa anamaliza kufanya kazi zote za nyumbani. Je, kwa kiasi gani unafanya kama Daudi/Hawa?</p> <p>Soma majibu.</p> <p><i>Daudi/Hawa always completes all his/her chores at home. How often do you behave like Daudi/Hawa?</i></p> <p>Read the responses.</p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don’t know/refuse 888</p>

¹ Questions 1, 2, and 4–8 were adapted from Rojas, J.P., J.A. Reser, E.L. Usher, and M.D. Toland. 2012. *Psychometric properties of the Academic Grit Scale*. Lexington: University of Kentucky. Used by permission.

3.	<p>Linus/Hilda hamalizi kazi za nyumbani badala yake huenda kucheza. Je, kwa kiasi gani unafanya kama Linus/Hilda?</p> <p>Soma majibu.</p> <p><i>Linus/Hilda does not finish his/her chores at home, instead he/she goes out and plays. How often do you behave like Linus/Hilda?</i></p> <p>Read the responses.</p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>
4.	<p>Jakaya/Zawadi anapona kazi ni ngumu huiacha na haitahidi. Je, kwa kiasi gani unafanya kama Jakaya/Zawadi?</p> <p>Soma majibu iwapo mtoto atahitaji tena.</p> <p><i>When Jakaya/Zawadi finds that a task is hard, he/she gives up and stops trying. How often do you behave like Jakaya/Zawadi?</i></p> <p>Read the responses, as needed from this point to prompt the child.</p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>
5.	<p>Mashaka/Naomi pale anapokuwa ameshindwa kazi kwa mara ya kwanza, huendelea kuirudia. Je, kwa kiasi gani unafanya kama Mashaka/Naomi?</p> <p><i>Mashaka/Naomi always carries on trying even after he/she failed on a task the first time, How often do you behave like Mashaka/Naomi?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>
6.	<p>Ignas/Hadija huendelea kujaribu hata kama jambo analofanya ni gumu sana kwake. Je, kwa kiasi gani unafanya kama Ignas/Hadija?</p> <p><i>Ignas/Hadija always keeps trying even when what he is doing is very difficult. How often do you behave like Ignas/Hadija?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>
7.	<p>Damasi/Maria akiwa na kazi za shule wakati mwingine huwa hazifanyi. Je, kwa kiasi gani unafanya kama Damasi/Maria?</p> <p><i>When Damasi/Maria has school work, Damasi/Maria does not always do it. How often do you behave like Damasi/Maria?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>

8.	<p>Isaya/Pendo mara zote anafanya kazi anayotakiwa kuifanya hata kama hajisikii kufanya hivyo. Je, kwa kiasi gani unafanya kama Isaya/Pendo?</p> <p><i>Isaya/Pendo always does what has to be done even if Isaya/Pendo does not feel like doing it. How often do you behave like Isaya/Pendo?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>
<p>Sehemu IV: Kujitawala</p> <p>Section IV: Self-Control²</p>		
9.	<p>Translation will need to be revised.</p> <p><i>Let me tell you about a child called Ally/Naima. He/She remembers to bring the things he/she needs for class to school. How often do you remember your things like Ally/Naima?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>
10.	<p>Translation will need to be revised.</p> <p><i>Musa/Rosi never starts talking while other children are talking. How often do you behave like Musa/Rosi?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>
11.	<p>Translation will need to be revised.</p> <p><i>Huseni/Gloria says kind things to others. How often do you behave like Huseni/Gloria?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>
12.	<p>Translation will need to be revised.</p> <p><i>Eriki/Anna can always find his/her things because his/her room is tidy. How often does this happen to you?</i></p>	<p>Sifanyi hivyo / Does not 0</p> <p>Mara chache / Sometimes..... 1</p> <p>Mara nyingi / Often..... 2</p> <p>Kila siku / Every day..... 3</p> <p>Sijui /Amekataa kujibu / Don't know/refuse 888</p>

² Questions 20–27 were adapted from Tsukayama, E., A.L. Duckworth, and B. Kim. 2013. Domain-specific impulsivity in school-age children. *Developmental Science*:1–16

13.	Translation will need to be revised. <i>Doto/Subira keeps his/her temper at school even when he/she gets upset. How often do you behave like Doto/Subira?</i>	Sifanyi hivyo / Does not 0 Mara chache / Sometimes..... 1 Mara nyingi / Often..... 2 Kila siku / Every day..... 3 Sijui /Amekataa kujibu / Don't know/refuse 888
14.	Translation will need to be revised. <i>Joshua/Mwajuma always remembers what he/she was told by the teacher. How often do you remember like Joshua/Mwajuma?</i>	Sifanyi hivyo / Does not 0 Mara chache / Sometimes..... 1 Mara nyingi / Often..... 2 Kila siku / Every day..... 3 Sijui /Amekataa kujibu / Don't know/refuse 888
15.	Translation will need to be revised. <i>Joti/Lulu can always listen and never gets distracted by other things. How often do you get distracted like Joti/Lulu?</i>	Sifanyi hivyo / Does not 0 Mara chache / Sometimes..... 1 Mara nyingi / Often..... 2 Kila siku / Every day..... 3 Sijui /Amekataa kujibu / Don't know/refuse 888
16.	Translation will need to be revised. <i>Walter/Rebeca was respectful to his/her parents even when he/she was upset. How often do you behave like Walter/Rebeca?</i>	Sifanyi hivyo / Does not 0 Mara chache / Sometimes..... 1 Mara nyingi / Often..... 2 Kila siku / Every day..... 3 Sijui /Amekataa kujibu / Don't know/refuse 888
<p>Asante sana! Thank you very much!</p>		

Annex G. Regional Reports

Tanzania Early Grade Reading Assessment, Regional Analysis: Arusha

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Arusha with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

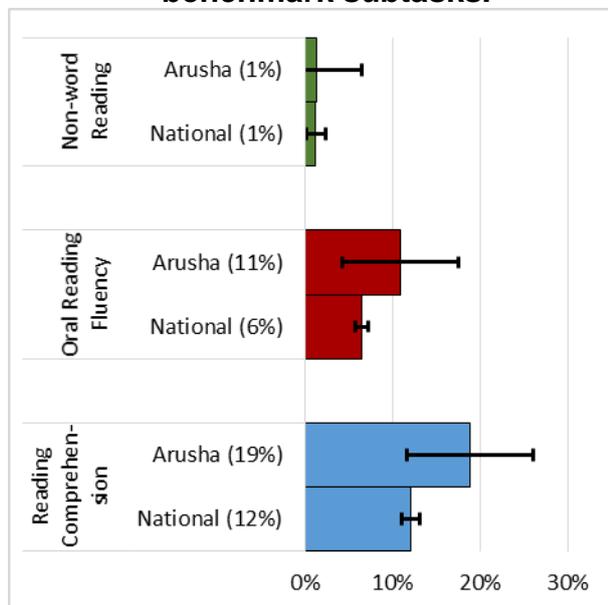


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

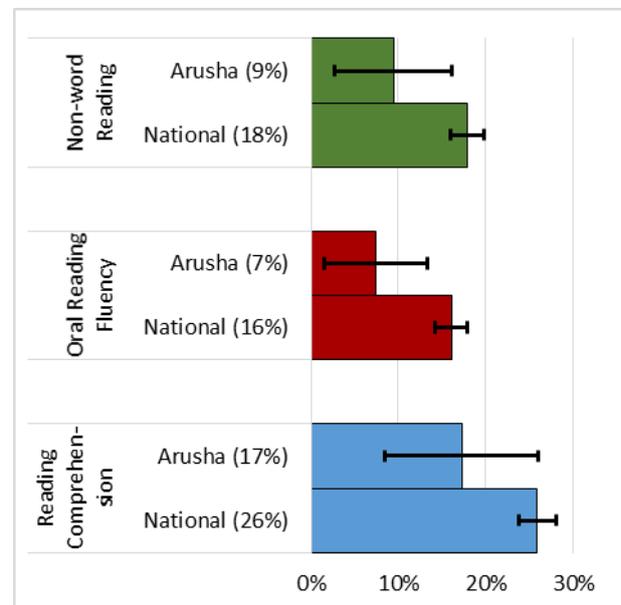


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

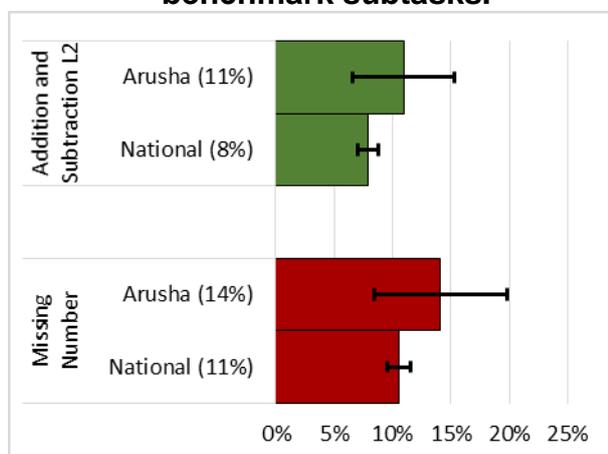
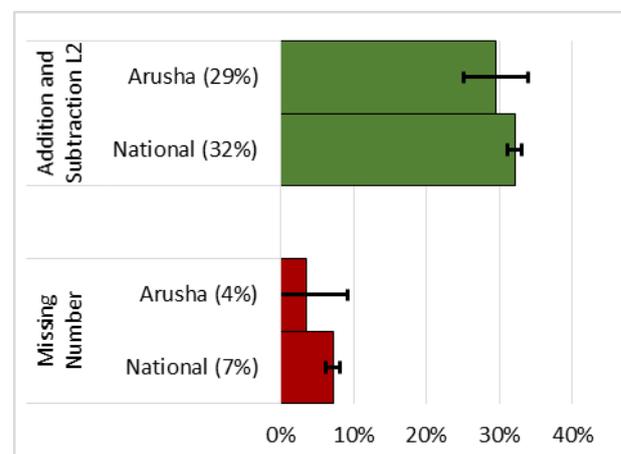


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Arusha is better than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Arusha is similar to the performance by students on a national level.

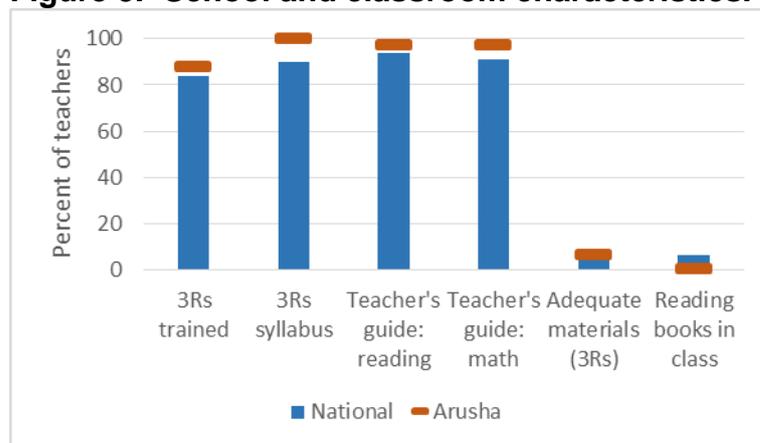
Parental involvement in students' schooling was found to vary in Arusha: although 41% of students read to someone at home daily, 68% of students receive help with their homework when they need it. However, 17% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Arusha
Student reads at home every day	22%	41%
Student receives help at home with homework	60%	68%
Teacher satisfied with parental involvement	17%	17%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 88%.
- Most teachers in Arusha reported having the 3Rs syllabus (100%), the 3Rs reading teacher's guide (97%), and the 3Rs mathematics (97%) teacher's guide.
- Few teachers in Arusha (6%) believed that they had adequate materials to teach the 3Rs, and few classes (0%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (94%) in Arusha reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Arusha (27%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Arusha allocated the appropriate amount of class time (as specified by the 3Rs) to reading (94%), writing (94%), and mathematics (97%). However, when they were observed teaching lessons, 94% and 87% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 100% and 100% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Arusha
5 hours of reading per week	82%	94%
3 hours of writing per week	83%	94%
4 hours of mathematics per week	83%	97%
30-minute lesson: Reading	70%	94%
30-minute lesson: Mathematics	77%	87%
Follow the teacher's lesson plan: Reading	75%	100%
Follow the teacher's lesson plan: Mathematics	79%	100%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 83% of teachers in Arusha reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 96% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Dar Es Salaam

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Dar Es Salaam with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

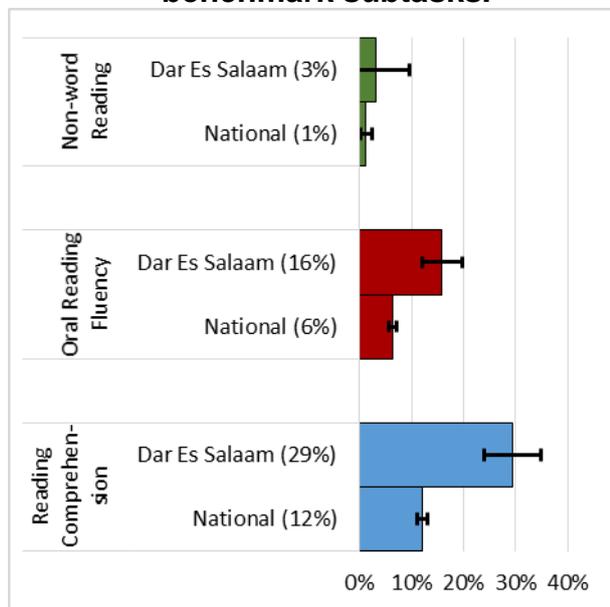


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

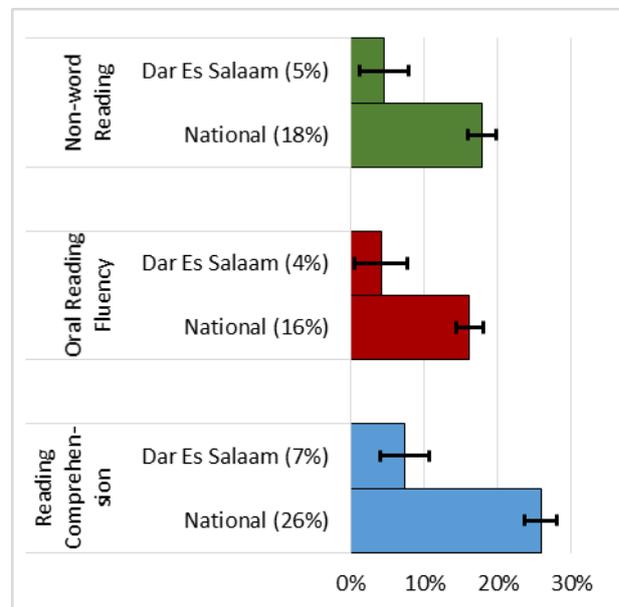


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

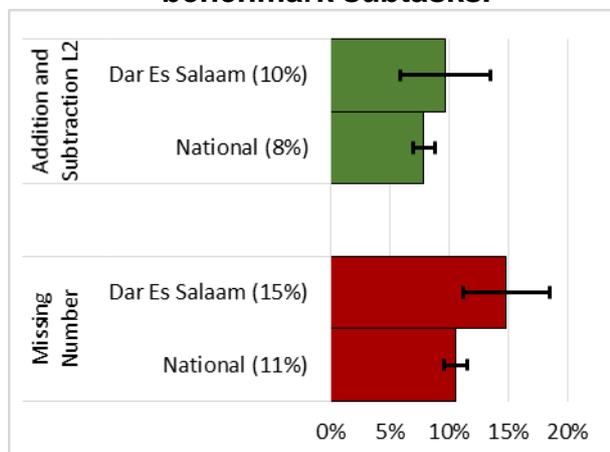
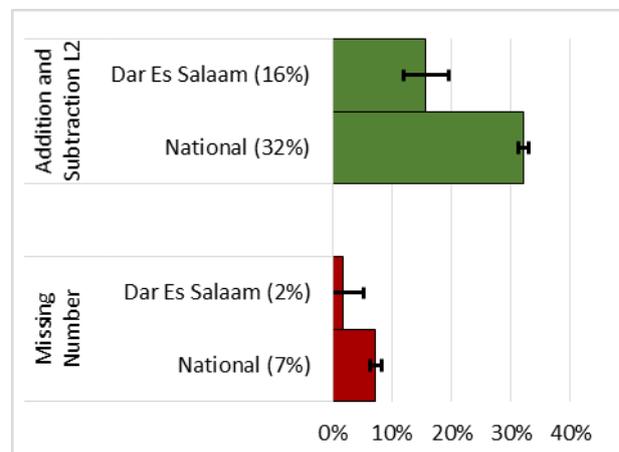


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Dar Es Salaam is better than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Dar Es Salaam is better than the performance by students on a national level.

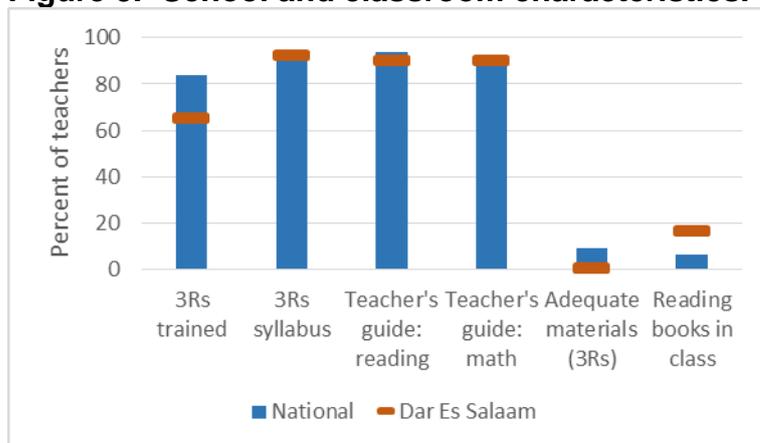
Parental involvement in students' schooling was found to vary in Dar Es Salaam: although 22% of students read to someone at home daily, 65% of students receive help with their homework when they need it. However, 24% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Dar Es Salaam
Student reads at home every day	22%	22%
Student receives help at home with homework	60%	65%
Teacher satisfied with parental involvement	17%	24%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 65%.
- Most teachers in Dar Es Salaam reported having the 3Rs syllabus (92%), the 3Rs reading teacher's guide (90%), and the 3Rs mathematics (90%) teacher's guide.
- Few teachers in Dar Es Salaam (0%) believed that they had adequate materials to teach the 3Rs, and few classes (16%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (84%) in Dar Es Salaam reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Dar Es Salaam (21%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Dar Es Salaam allocated the appropriate amount of class time (as specified by the 3Rs) to reading (84%), writing (82%), and mathematics (87%). However, when they were observed teaching lessons, 79% and 81% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 78% and 80% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Dar Es Salaam
5 hours of reading per week	82%	84%
3 hours of writing per week	83%	82%
4 hours of mathematics per week	83%	87%
30-minute lesson: Reading	70%	79%
30-minute lesson: Mathematics	77%	81%
Follow the teacher's lesson plan: Reading	75%	78%
Follow the teacher's lesson plan: Mathematics	79%	80%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 76% of teachers in Dar Es Salaam reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 97% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

In addition, 97% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Dodoma

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Dodoma with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

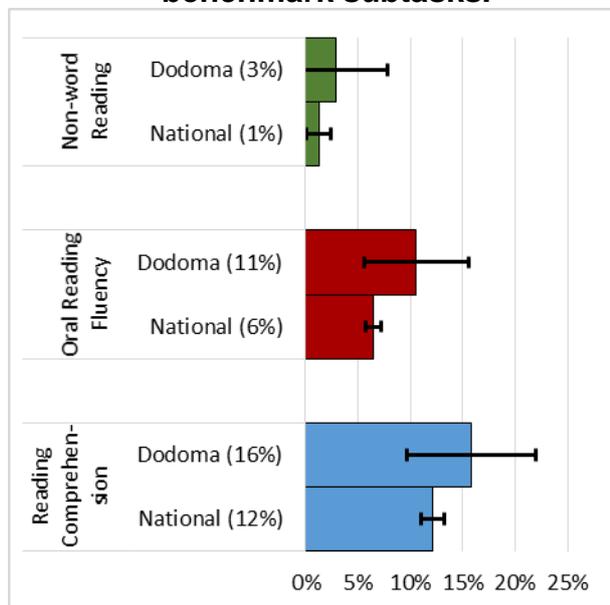


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

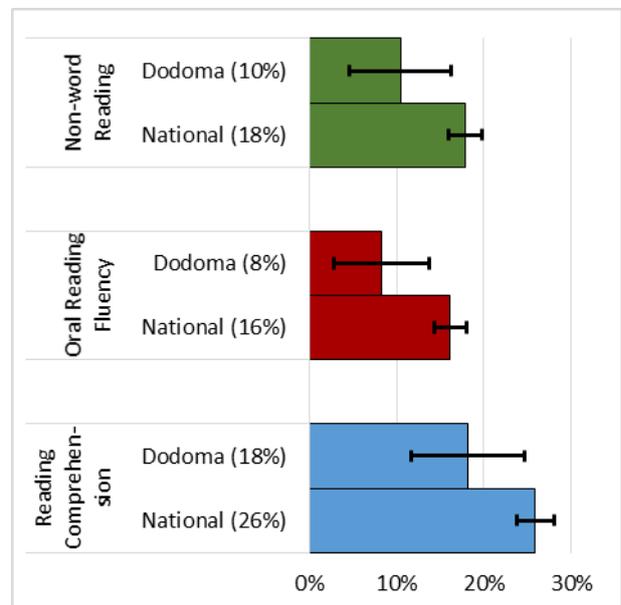


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

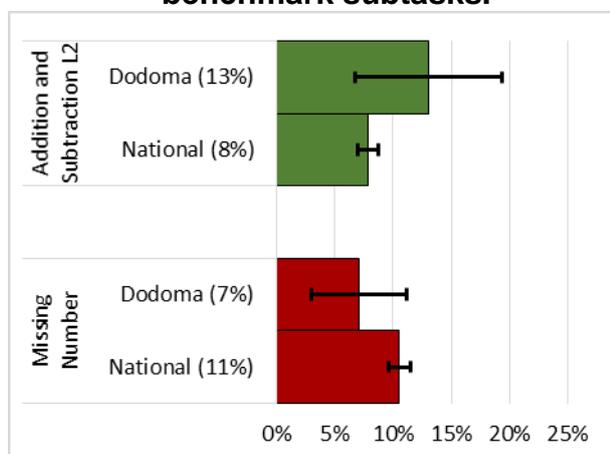
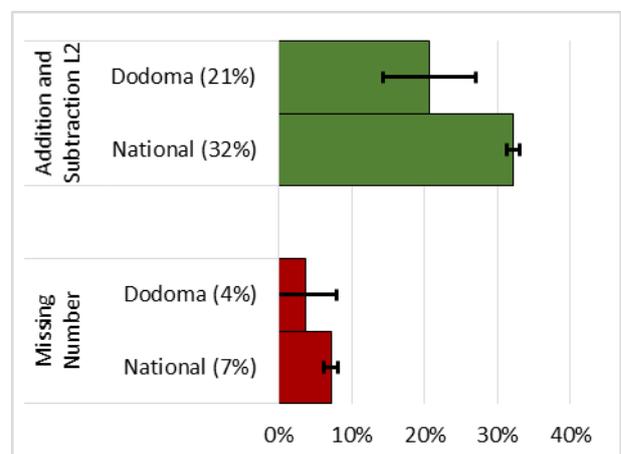


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Dodoma is better than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Dodoma is similar to the performance by students on a national level.

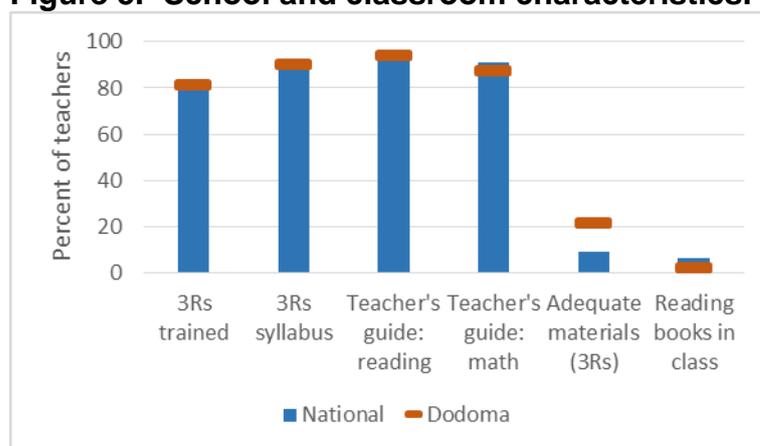
Parental involvement in students' schooling was found to vary in Dodoma: although 41% of students read to someone at home daily, 61% of students receive help with their homework when they need it. However, 16% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Dodoma
Student reads at home every day	22%	41%
Student receives help at home with homework	60%	61%
Teacher satisfied with parental involvement	17%	16%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 81%.
- Most teachers in Dodoma reported having the 3Rs syllabus (90%), the 3Rs reading teacher's guide (94%), and the 3Rs mathematics (87%) teacher's guide.
- Few teachers in Dodoma (21%) believed that they had adequate materials to teach the 3Rs, and few classes (2%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (79%) in Dodoma reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Dodoma (40%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Dodoma allocated the appropriate amount of class time (as specified by the 3Rs) to reading (79%), writing (81%), and mathematics (82%). However, when they were observed teaching lessons, 93% and 97% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 88% and 71% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Dodoma
5 hours of reading per week	82%	79%
3 hours of writing per week	83%	81%
4 hours of mathematics per week	83%	82%
30-minute lesson: Reading	70%	93%
30-minute lesson: Mathematics	77%	97%
Follow the teacher's lesson plan: Reading	75%	88%
Follow the teacher's lesson plan: Mathematics	79%	71%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 74% of teachers in Dodoma reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 93% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Geita

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Geita with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

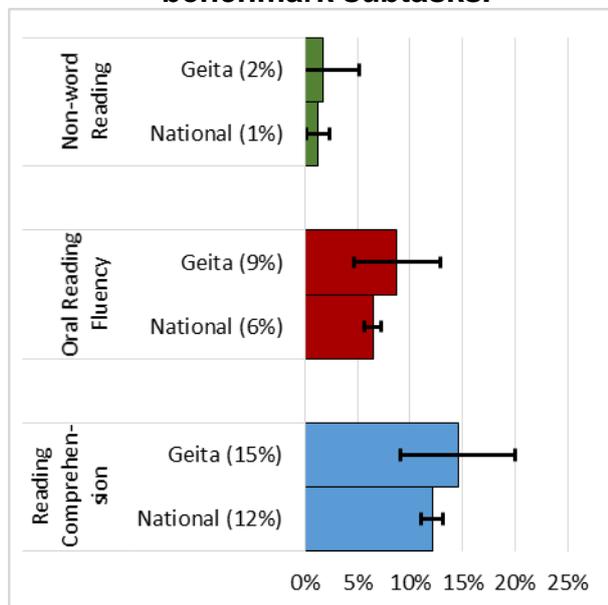


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

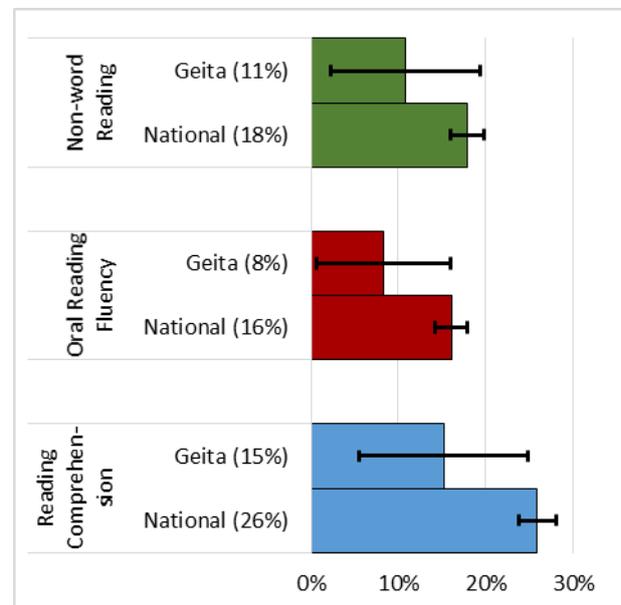


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

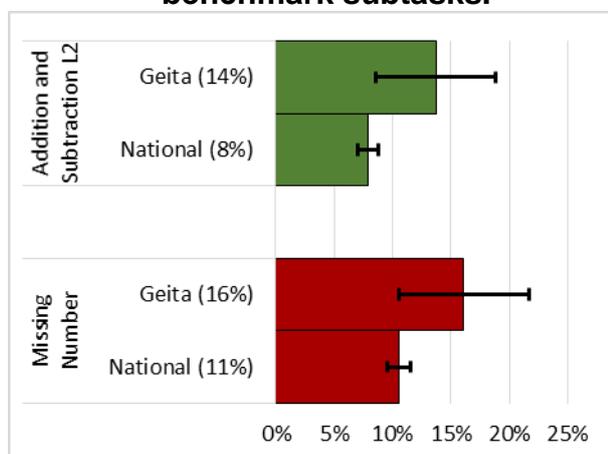
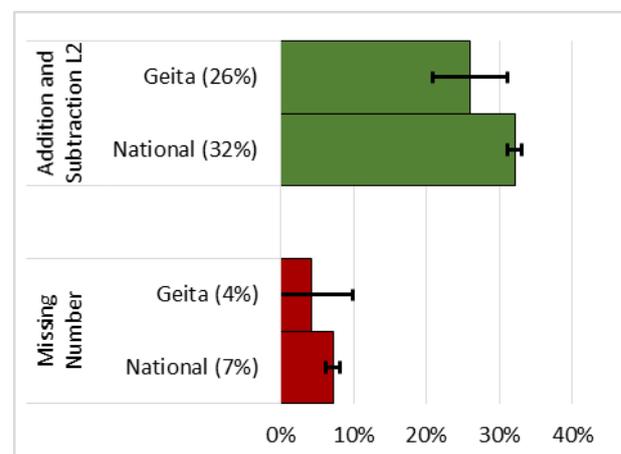


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Geita is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Geita is better than the performance by students on a national level.

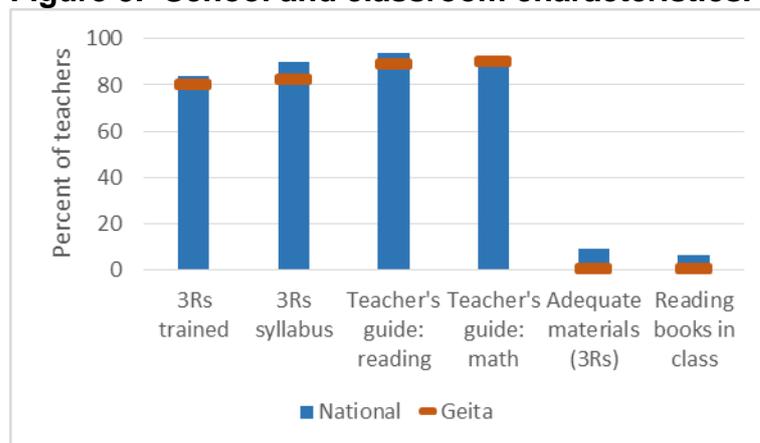
Parental involvement in students' schooling was found to vary in Geita: although 19% of students read to someone at home daily, 51% of students receive help with their homework when they need it. However, 3% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Geita
Student reads at home every day	22%	19%
Student receives help at home with homework	60%	51%
Teacher satisfied with parental involvement	17%	3%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 80%.
- Most teachers in Geita reported having the 3Rs syllabus (82%), the 3Rs reading teacher's guide (89%), and the 3Rs mathematics (90%) teacher's guide.
- Few teachers in Geita (0%) believed that they had adequate materials to teach the 3Rs, and few classes (0%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (85%) in Geita reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Geita (41%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Geita allocated the appropriate amount of class time (as specified by the 3Rs) to reading (85%), writing (81%), and mathematics (88%). However, when they were observed teaching lessons, 89% and 80% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 54% and 64% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Geita
5 hours of reading per week	82%	85%
3 hours of writing per week	83%	81%
4 hours of mathematics per week	83%	88%
30-minute lesson: Reading	70%	89%
30-minute lesson: Mathematics	77%	80%
Follow the teacher's lesson plan: Reading	75%	54%
Follow the teacher's lesson plan: Mathematics	79%	64%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 32% of teachers in Geita reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 54% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Iringa

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Iringa with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

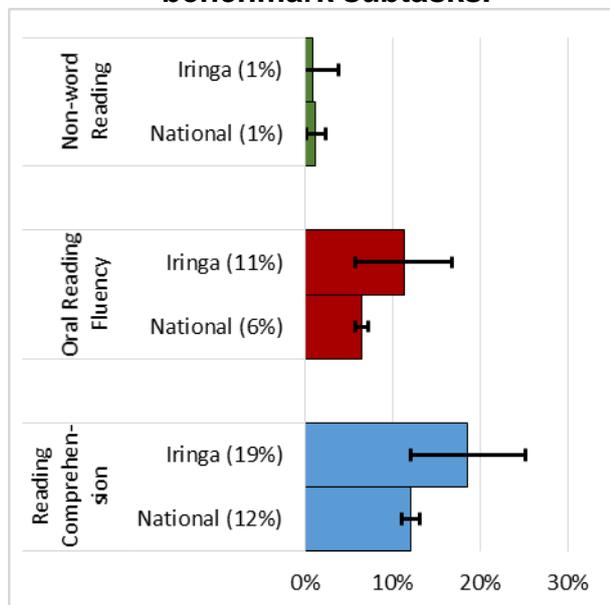


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

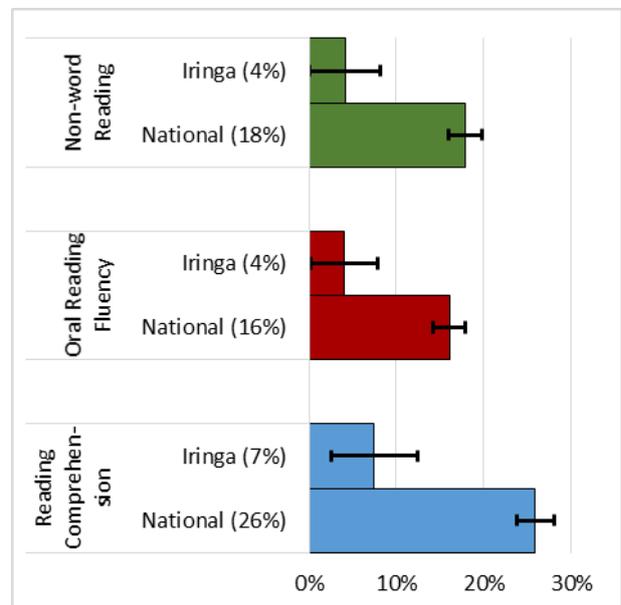


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

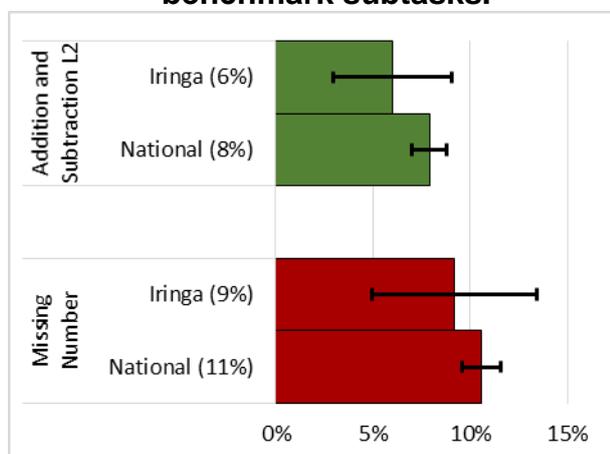
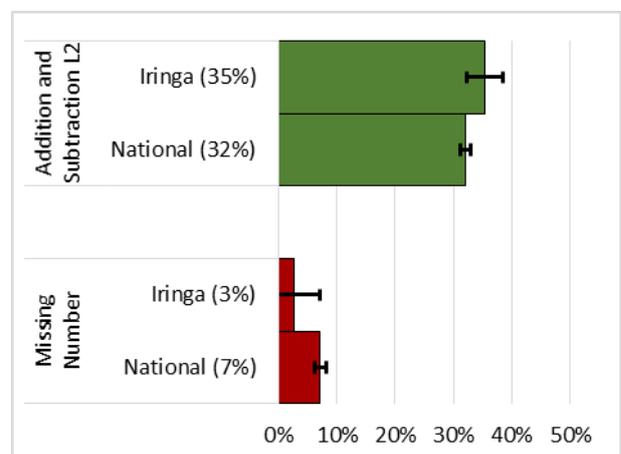


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Iringa is better than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Iringa is similar to the performance by students on a national level.

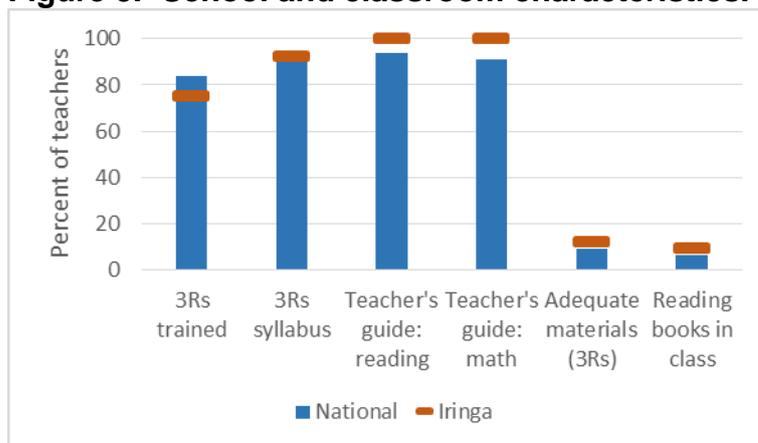
Parental involvement in students' schooling was found to vary in Iringa: although 34% of students read to someone at home daily, 62% of students receive help with their homework when they need it. However, 39% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Iringa
Student reads at home every day	22%	34%
Student receives help at home with homework	60%	62%
Teacher satisfied with parental involvement	17%	39%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 75%.
- Most teachers in Iringa reported having the 3Rs syllabus (92%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Iringa (12%) believed that they had adequate materials to teach the 3Rs, and few classes (9%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (100%) in Iringa reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Iringa (31%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Iringa allocated the appropriate amount of class time (as specified by the 3Rs) to reading (100%), writing (100%), and mathematics (100%). However, when they were observed teaching lessons, 64% and 55% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 96% and 100% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Iringa
5 hours of reading per week	82%	100%
3 hours of writing per week	83%	100%
4 hours of mathematics per week	83%	100%
30-minute lesson: Reading	70%	64%
30-minute lesson: Mathematics	77%	55%
Follow the teacher's lesson plan: Reading	75%	96%
Follow the teacher's lesson plan: Mathematics	79%	100%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 46% of teachers in Iringa reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 90% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Kagera

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Kagera with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

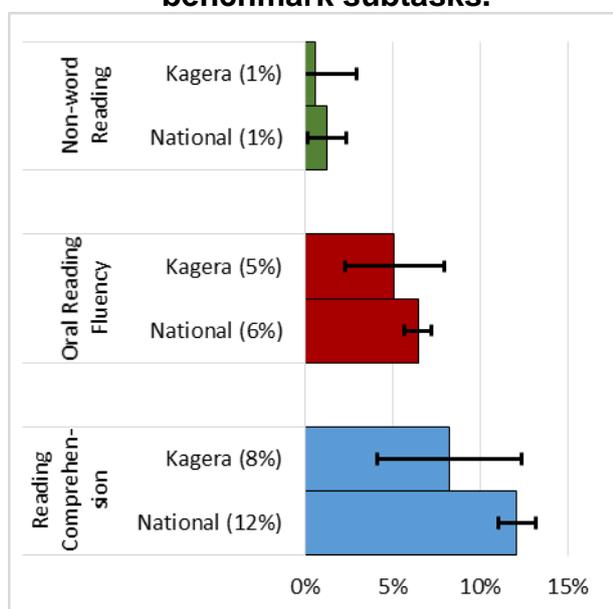


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

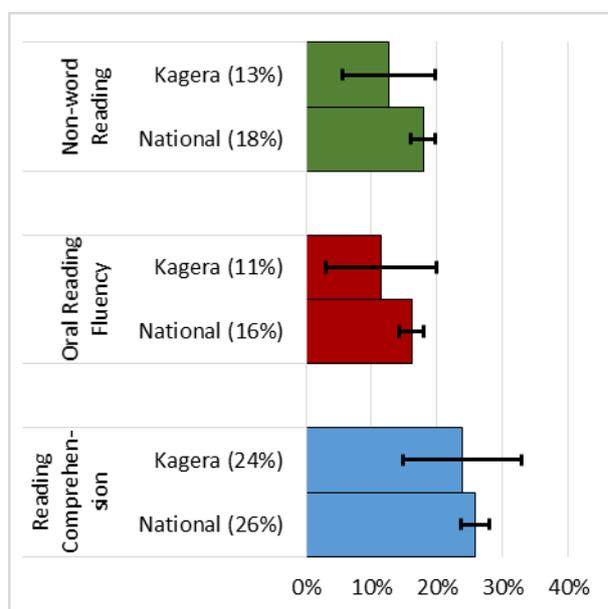


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

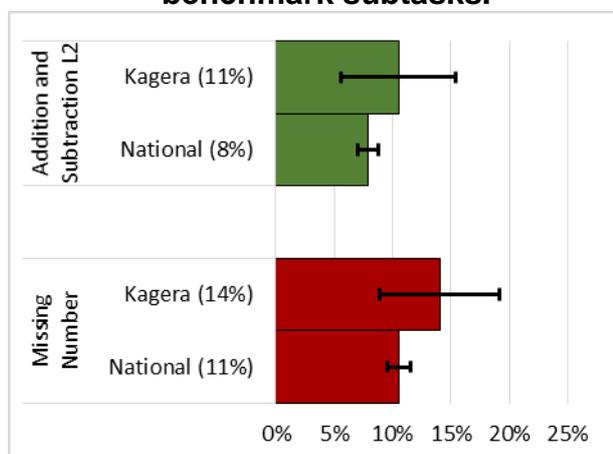
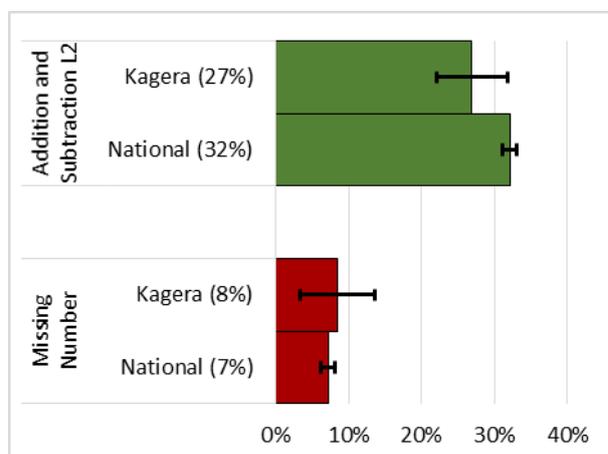


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Kagera is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Kagera is similar to the performance by students on a national level.

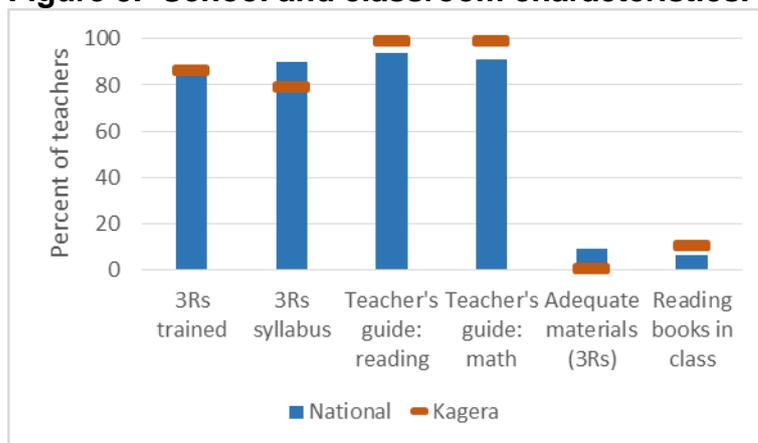
Parental involvement in students' schooling was found to vary in Kagera: although 19% of students read to someone at home daily, 67% of students receive help with their homework when they need it. However, 18% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Kagera
Student reads at home every day	22%	19%
Student receives help at home with homework	60%	67%
Teacher satisfied with parental involvement	17%	18%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 86%.
- Most teachers in Kagera reported having the 3Rs syllabus (79%), the 3Rs reading teacher's guide (99%), and the 3Rs mathematics (99%) teacher's guide.
- Few teachers in Kagera (0%) believed that they had adequate materials to teach the 3Rs, and few classes (10%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (79%) in Kagera reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Kagera (30%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Kagera allocated the appropriate amount of class time (as specified by the 3Rs) to reading (79%), writing (82%), and mathematics (79%). However, when they were observed teaching lessons, 69% and 87% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 82% and 90% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Kagera
5 hours of reading per week	82%	79%
3 hours of writing per week	83%	82%
4 hours of mathematics per week	83%	79%
30-minute lesson: Reading	70%	69%
30-minute lesson: Mathematics	77%	87%
Follow the teacher's lesson plan: Reading	75%	82%
Follow the teacher's lesson plan: Mathematics	79%	90%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 54% of teachers in Kagera reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 93% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Katavi

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Katavi with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

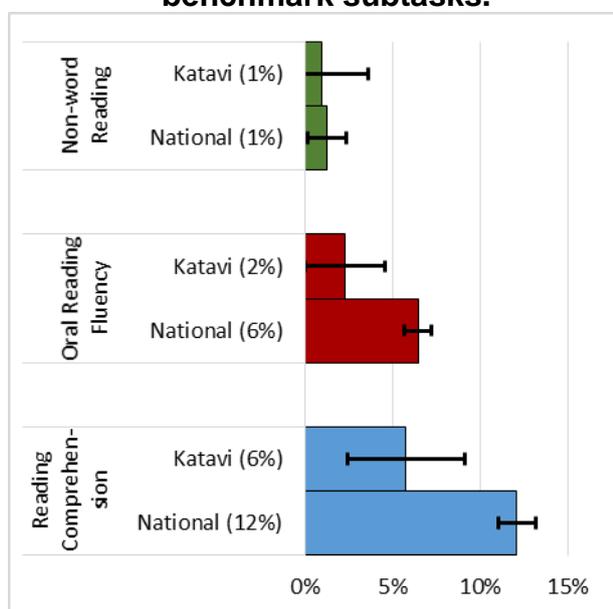


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

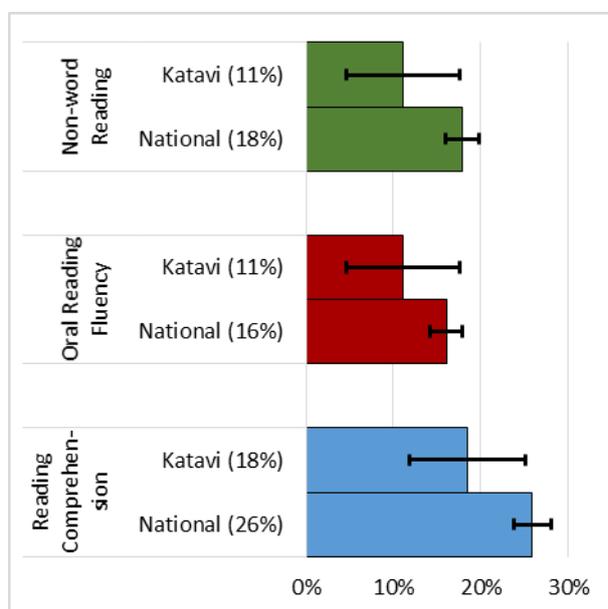


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

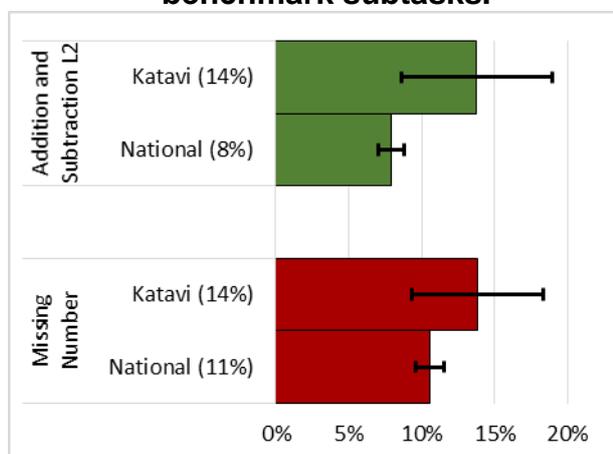
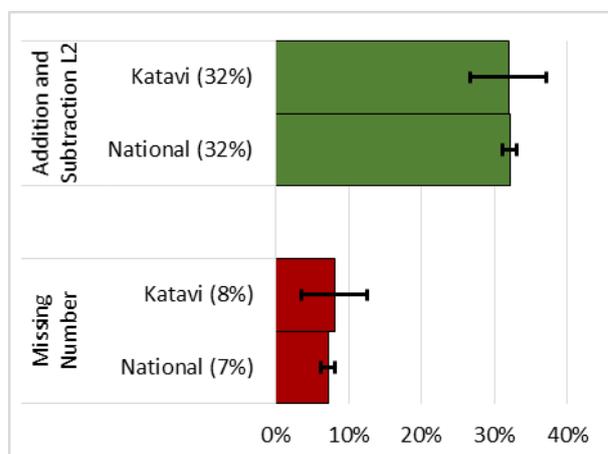


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Katavi is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Katavi is similar to the performance by students on a national level.

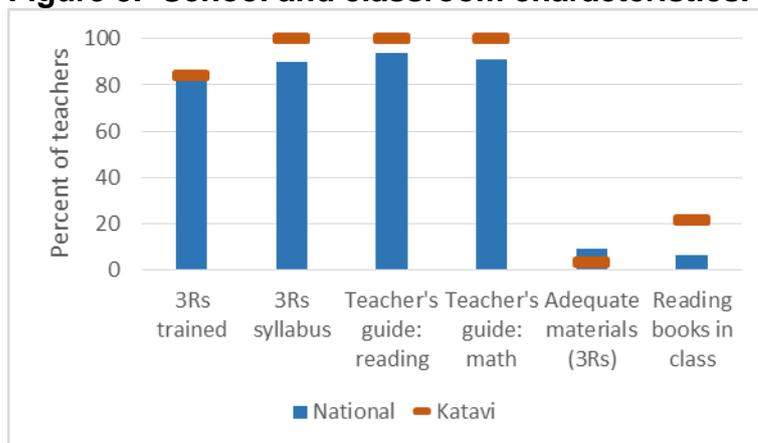
Parental involvement in students' schooling was found to vary in Katavi: although 21% of students read to someone at home daily, 54% of students receive help with their homework when they need it. However, 34% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Katavi
Student reads at home every day	22%	21%
Student receives help at home with homework	60%	54%
Teacher satisfied with parental involvement	17%	34%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 84%.
- Most teachers in Katavi reported having the 3Rs syllabus (100%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Katavi (3%) believed that they had adequate materials to teach the 3Rs, and few classes (21%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (88%) in Katavi reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Katavi (39%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Katavi allocated the appropriate amount of class time (as specified by the 3Rs) to reading (88%), writing (78%), and mathematics (83%). However, when they were observed teaching lessons, 59% and 64% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 68% and 67% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Katavi
5 hours of reading per week	82%	88%
3 hours of writing per week	83%	78%
4 hours of mathematics per week	83%	83%
30-minute lesson: Reading	70%	59%
30-minute lesson: Mathematics	77%	64%
Follow the teacher's lesson plan: Reading	75%	68%
Follow the teacher's lesson plan: Mathematics	79%	67%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 72% of teachers in Katavi reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 93% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Kigoma

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Kigoma with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

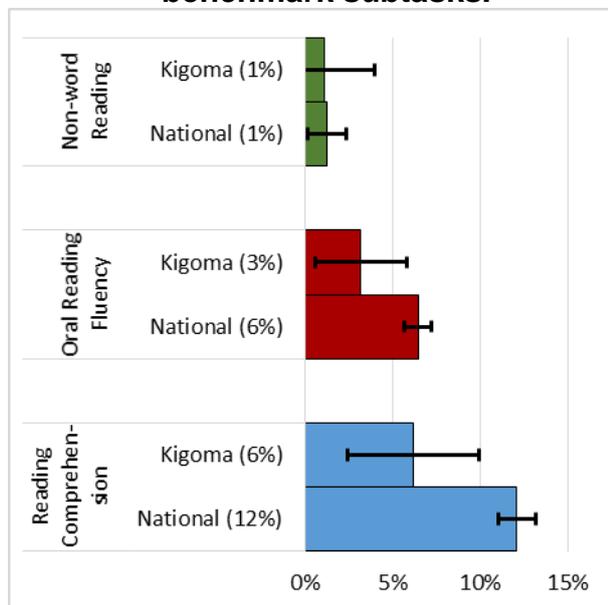


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

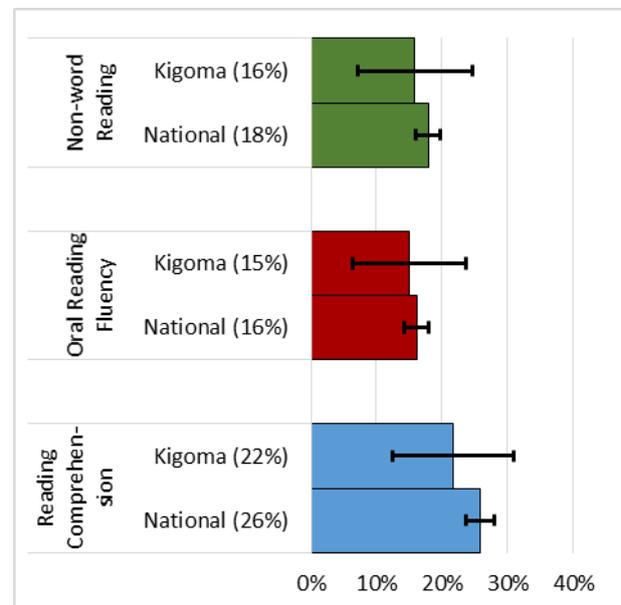


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

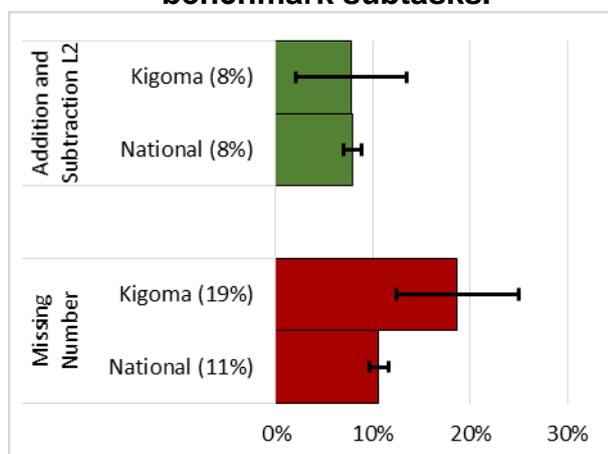
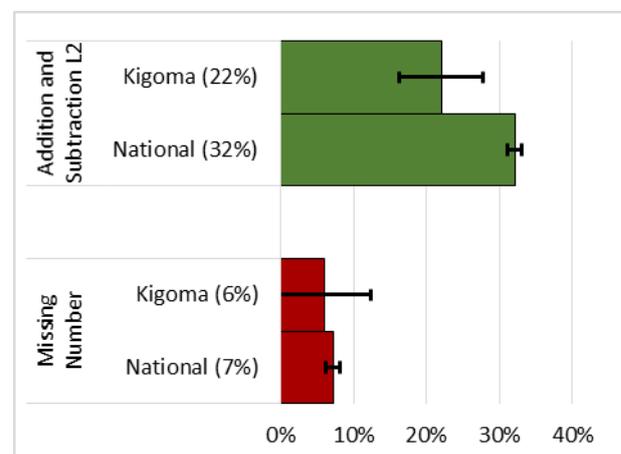


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Kigoma is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Kigoma is similar to the performance by students on a national level.

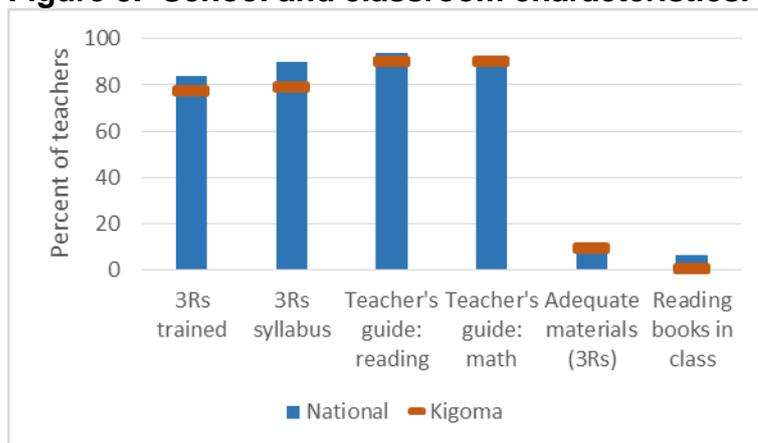
Parental involvement in students' schooling was found to vary in Kigoma: although 17% of students read to someone at home daily, 63% of students receive help with their homework when they need it. However, 5% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Kigoma
Student reads at home every day	22%	17%
Student receives help at home with homework	60%	63%
Teacher satisfied with parental involvement	17%	5%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 77%.
- Most teachers in Kigoma reported having the 3Rs syllabus (79%), the 3Rs reading teacher's guide (90%), and the 3Rs mathematics (90%) teacher's guide.
- Few teachers in Kigoma (9%) believed that they had adequate materials to teach the 3Rs, and few classes (0%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, approximately half of the students (55%) in Kigoma reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Kigoma (35%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, approximately half of the teachers' lesson timetables in Kigoma allocated the appropriate amount of class time (as specified by the 3Rs) to reading (55%), writing (55%), and mathematics (55%). However, when they were observed teaching lessons, 63% and 89% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 64% and 73% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Kigoma
5 hours of reading per week	82%	55%
3 hours of writing per week	83%	55%
4 hours of mathematics per week	83%	55%
30-minute lesson: Reading	70%	63%
30-minute lesson: Mathematics	77%	89%
Follow the teacher's lesson plan: Reading	75%	64%
Follow the teacher's lesson plan: Mathematics	79%	73%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 58% of teachers in Kigoma reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 71% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Kilimanjaro

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Kilimanjaro with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

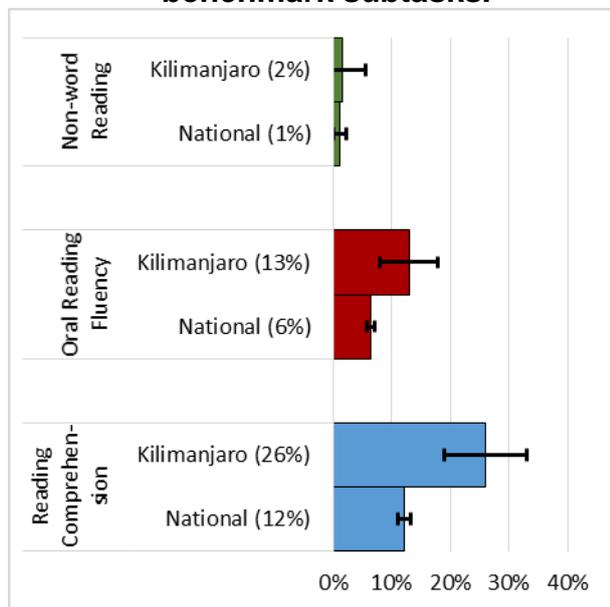


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

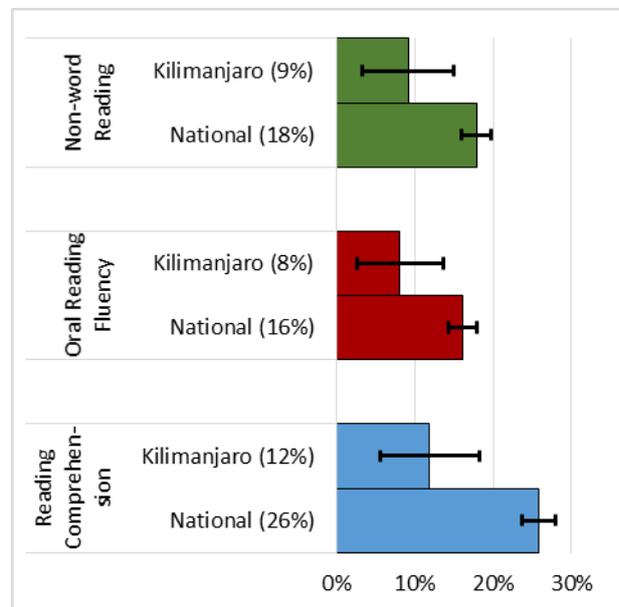


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

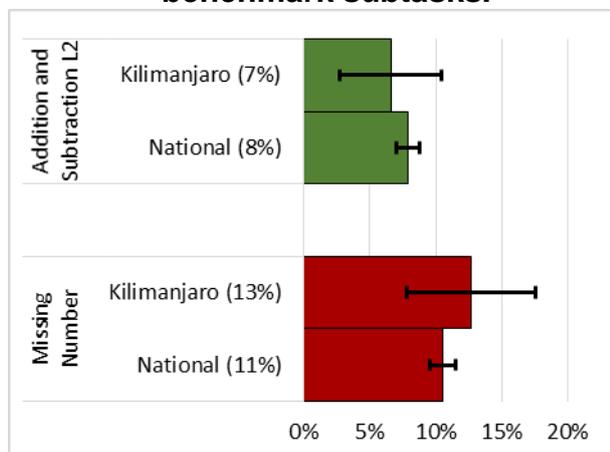
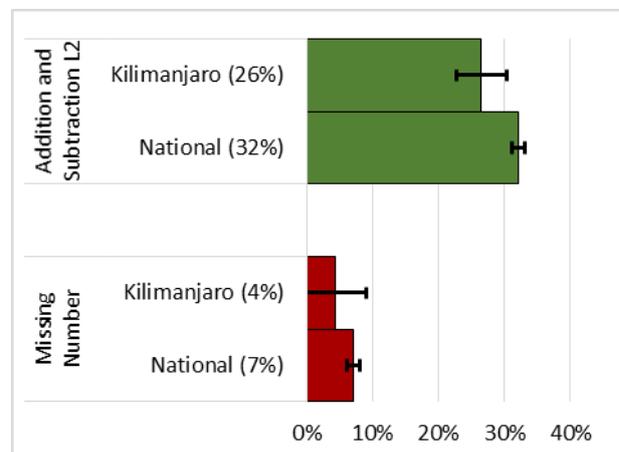


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Kilimanjaro is better than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Kilimanjaro is similar to the performance by students on a national level.

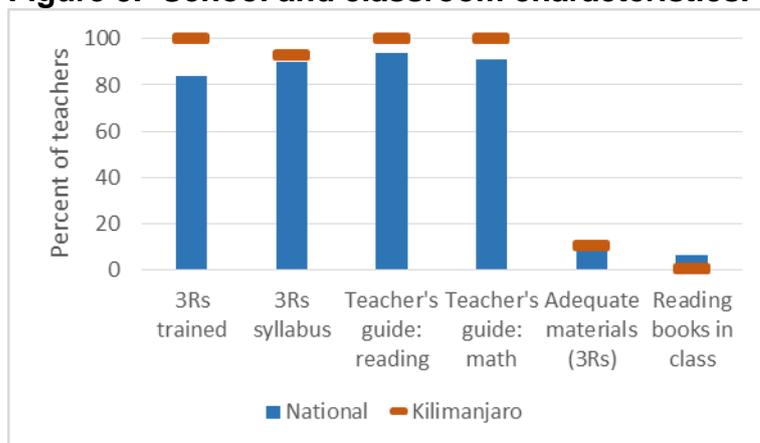
Parental involvement in students' schooling was found to vary in Kilimanjaro: although 41% of students read to someone at home daily, 73% of students receive help with their homework when they need it. However, 23% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Kilimanjaro
Student reads at home every day	22%	41%
Student receives help at home with homework	60%	73%
Teacher satisfied with parental involvement	17%	23%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 100%.
- Most teachers in Kilimanjaro reported having the 3Rs syllabus (93%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Kilimanjaro (10%) believed that they had adequate materials to teach the 3Rs, and few classes (0%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (77%) in Kilimanjaro reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Kilimanjaro (36%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Kilimanjaro allocated the appropriate amount of class time (as specified by the 3Rs) to reading (77%), writing (84%), and mathematics (84%). However, when they were observed teaching lessons, 71% and 80% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 75% and 81% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools.

To this end, 58% of teachers in Kilimanjaro reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 65% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Table 2. Time spent on the 3Rs.

Indicator	National	Kilimanjaro
5 hours of reading per week	82%	77%
3 hours of writing per week	83%	84%
4 hours of mathematics per week	83%	84%
30-minute lesson: Reading	70%	71%
30-minute lesson: Mathematics	77%	80%
Follow the teacher's lesson plan: Reading	75%	75%
Follow the teacher's lesson plan: Mathematics	79%	81%

Tanzania Early Grade Reading Assessment, Regional Analysis: Lindi

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Lindi with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

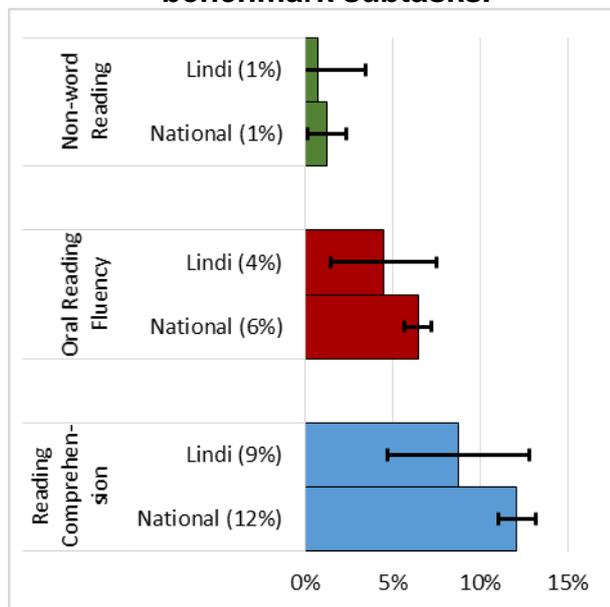


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

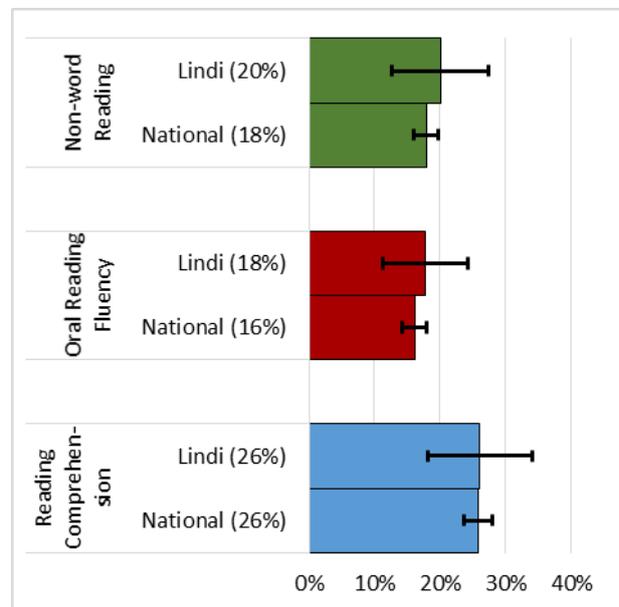


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

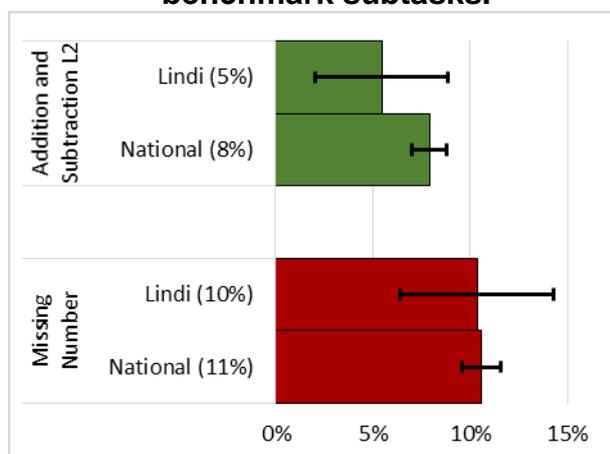
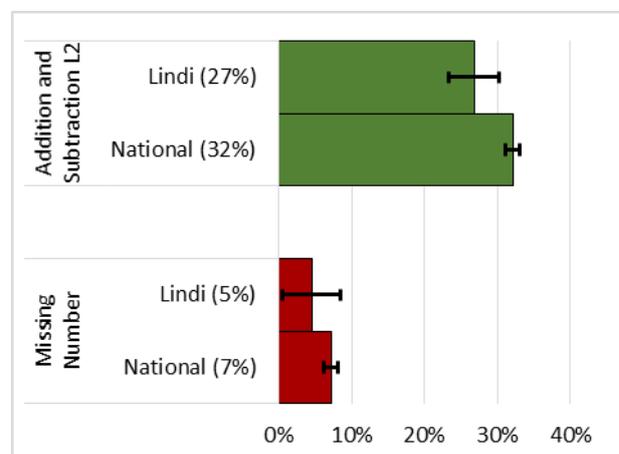


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Lindi is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Lindi is similar to the performance by students on a national level.

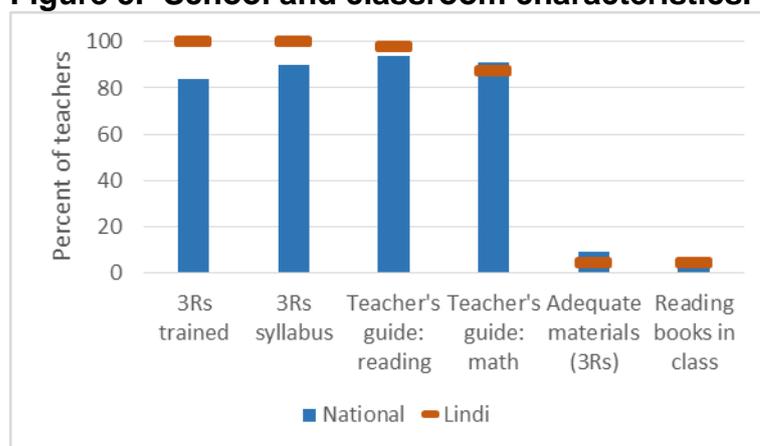
Parental involvement in students' schooling was found to vary in Lindi: although 20% of students read to someone at home daily, 55% of students receive help with their homework when they need it. However, 38% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Lindi
Student reads at home every day	22%	20%
Student receives help at home with homework	60%	55%
Teacher satisfied with parental involvement	17%	38%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 100%.
- Most teachers in Lindi reported having the 3Rs syllabus (100%), the 3Rs reading teacher's guide (98%), and the 3Rs mathematics (87%) teacher's guide.
- Few teachers in Lindi (4%) believed that they had adequate materials to teach the 3Rs, and few classes (4%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (60%) in Lindi reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Lindi (23%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Lindi allocated the appropriate amount of class time (as specified by the 3Rs) to reading (60%), writing (72%), and mathematics (55%). However, when they were observed teaching lessons, 52% and 62% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 71% and 61% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Lindi
5 hours of reading per week	82%	60%
3 hours of writing per week	83%	72%
4 hours of mathematics per week	83%	55%
30-minute lesson: Reading	70%	52%
30-minute lesson: Mathematics	77%	62%
Follow the teacher's lesson plan: Reading	75%	71%
Follow the teacher's lesson plan: Mathematics	79%	61%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 64% of teachers in Lindi reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 58% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Manyara

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Manyara with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

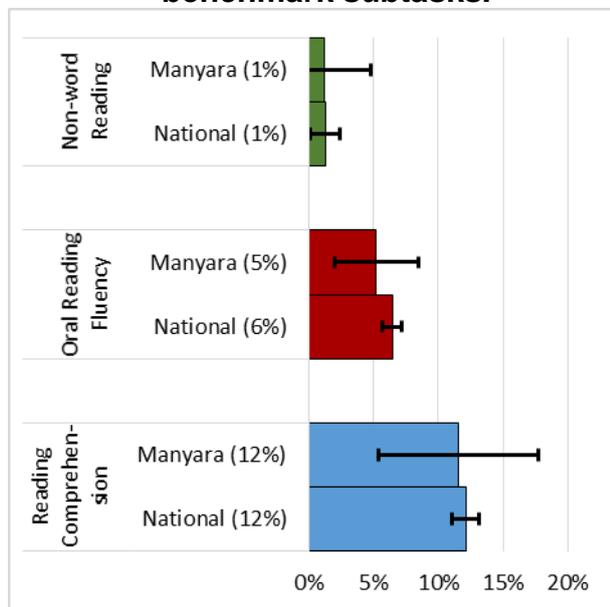


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

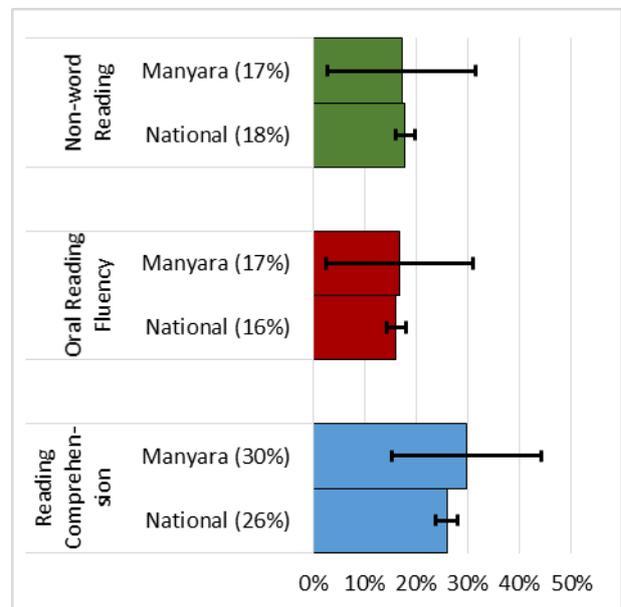


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

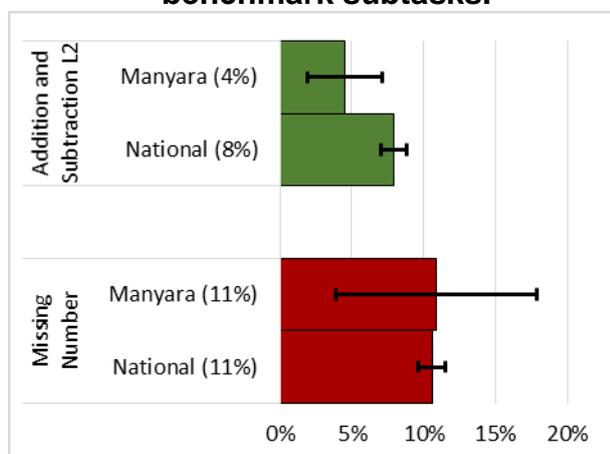
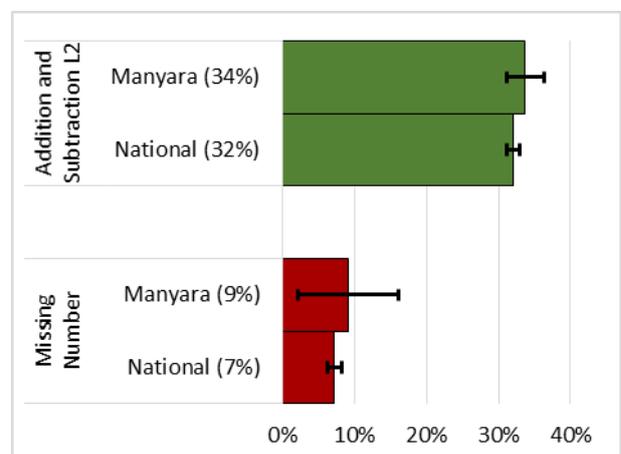


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Manyara is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Manyara is similar to the performance by students on a national level.

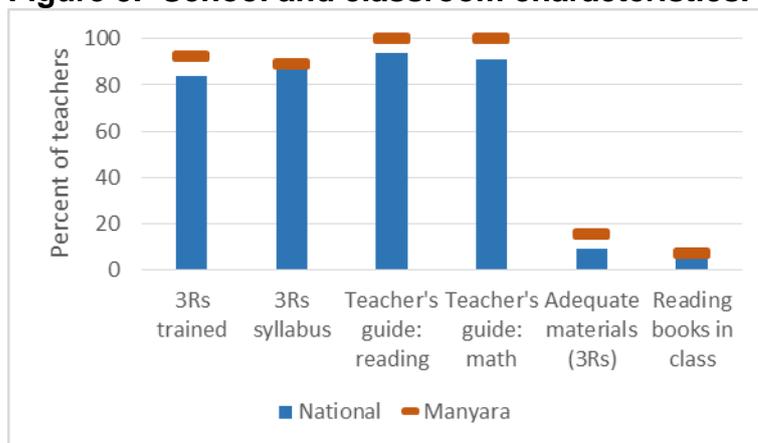
Parental involvement in students' schooling was found to vary in Manyara: although 22% of students read to someone at home daily, 66% of students receive help with their homework when they need it. However, 14% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Manyara
Student reads at home every day	22%	22%
Student receives help at home with homework	60%	66%
Teacher satisfied with parental involvement	17%	14%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 92%.
- Most teachers in Manyara reported having the 3Rs syllabus (89%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Manyara (15%) believed that they had adequate materials to teach the 3Rs, and few classes (7%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (84%) in Manyara reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Manyara (24%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Manyara allocated the appropriate amount of class time (as specified by the 3Rs) to reading (84%), writing (93%), and mathematics (86%). However, when they were observed teaching lessons, 75% and 77% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 64% and 72% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Manyara
5 hours of reading per week	82%	84%
3 hours of writing per week	83%	93%
4 hours of mathematics per week	83%	86%
30-minute lesson: Reading	70%	75%
30-minute lesson: Mathematics	77%	77%
Follow the teacher's lesson plan: Reading	75%	64%
Follow the teacher's lesson plan: Mathematics	79%	72%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 89% of teachers in Manyara reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 85% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Mara

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Mara with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

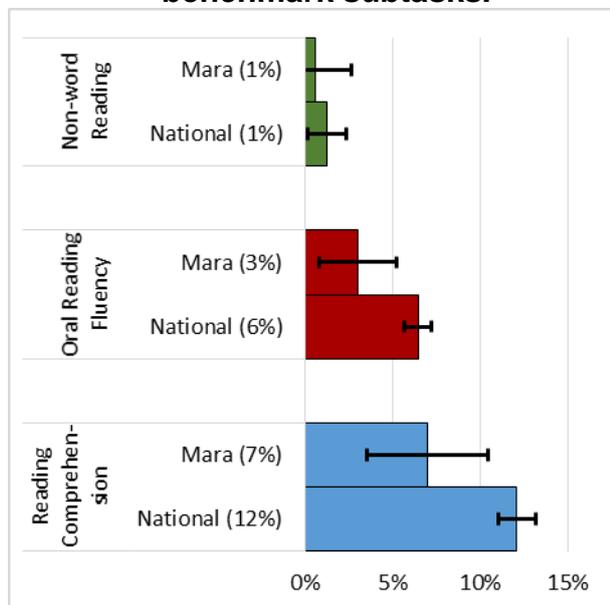


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

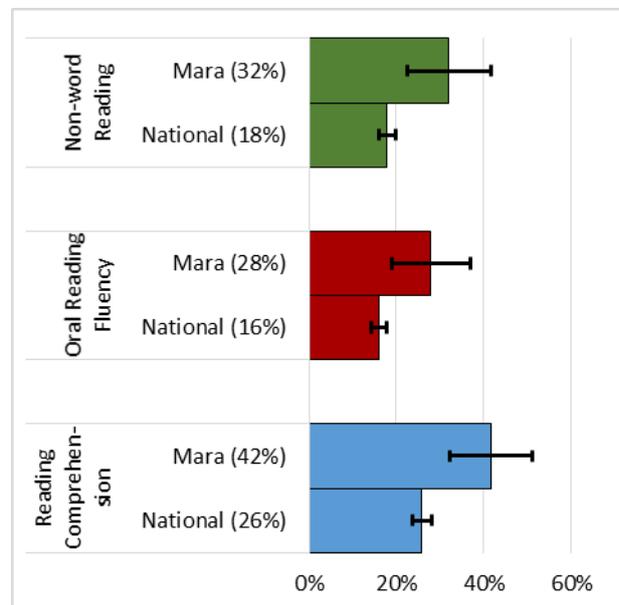


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

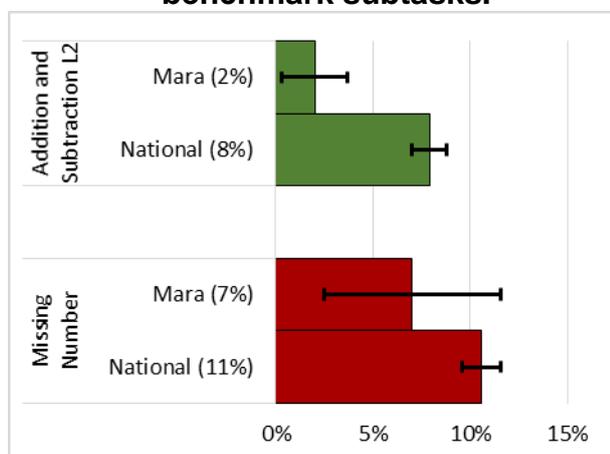
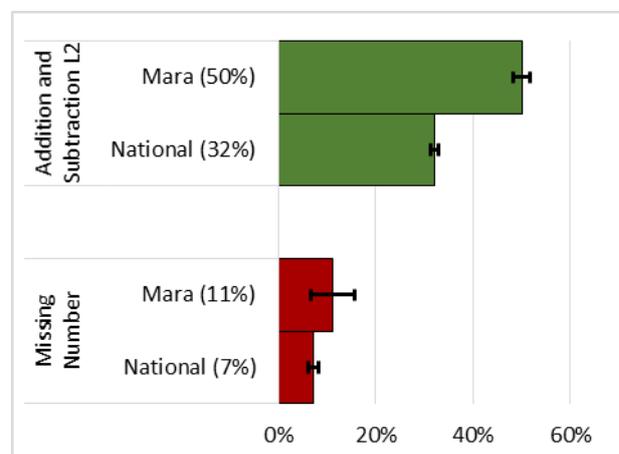


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Mara is worse than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Mara is worse than the performance by students on a national level.

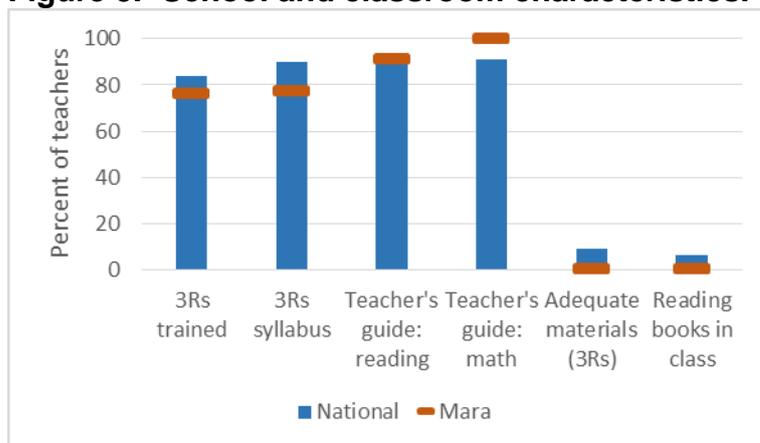
Parental involvement in students' schooling was found to vary in Mara: although 36% of students read to someone at home daily, 56% of students receive help with their homework when they need it. However, 35% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Mara
Student reads at home every day	22%	36%
Student receives help at home with homework	60%	56%
Teacher satisfied with parental involvement	17%	35%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 76%.
- Most teachers in Mara reported having the 3Rs syllabus (77%), the 3Rs reading teacher's guide (91%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Mara (0%) believed that they had adequate materials to teach the 3Rs, and few classes (0%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (61%) in Mara reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Mara (33%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, approximately half of the teachers' lesson timetables in Mara allocated the appropriate amount of class time (as specified by the 3Rs) to reading (61%), writing (51%), and mathematics (51%). However, when they were observed teaching lessons, 70% and 82% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 74% and 81% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Mara
5 hours of reading per week	82%	61%
3 hours of writing per week	83%	51%
4 hours of mathematics per week	83%	51%
30-minute lesson: Reading	70%	70%
30-minute lesson: Mathematics	77%	82%
Follow the teacher's lesson plan: Reading	75%	74%
Follow the teacher's lesson plan: Mathematics	79%	81%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 76% of teachers in Mara reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 64% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Mbeya

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Mbeya with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

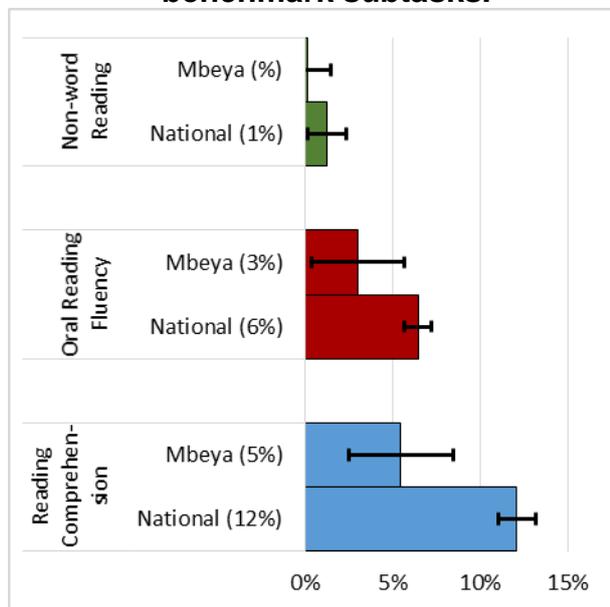


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

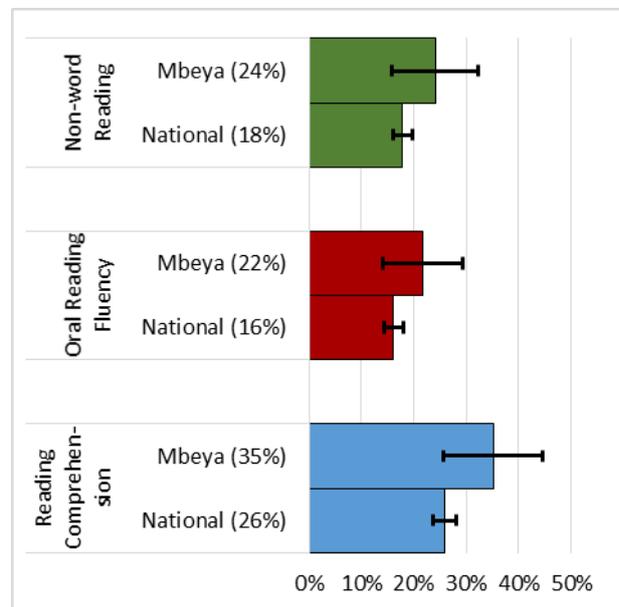


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

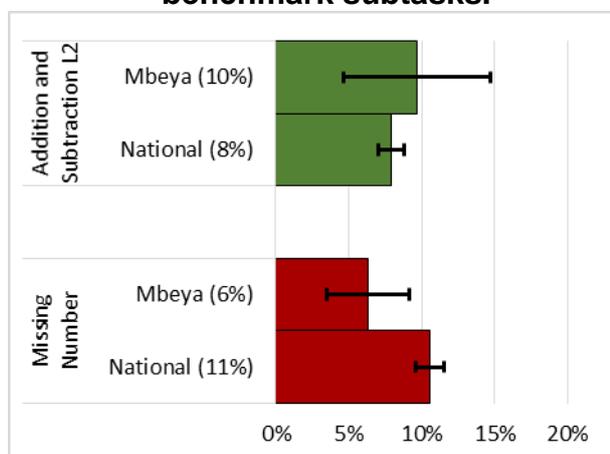
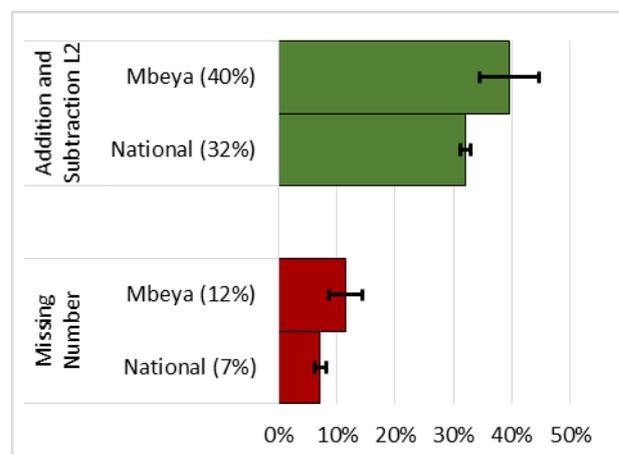


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Mbeya is worse than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Mbeya is similar to the performance by students on a national level.

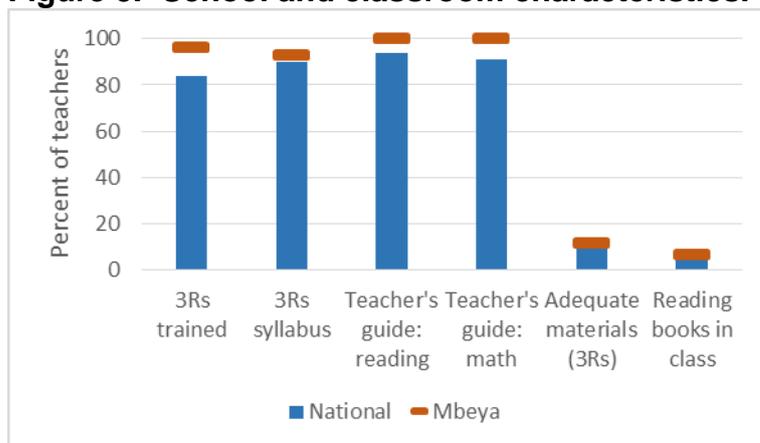
Parental involvement in students' schooling was found to vary in Mbeya: although 24% of students read to someone at home daily, 59% of students receive help with their homework when they need it. However, 14% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Mbeya
Student reads at home every day	22%	24%
Student receives help at home with homework	60%	59%
Teacher satisfied with parental involvement	17%	14%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 96%.
- Most teachers in Mbeya reported having the 3Rs syllabus (93%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Mbeya (11%) believed that they had adequate materials to teach the 3Rs, and few classes (6%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (100%) in Mbeya reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Mbeya (16%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Mbeya allocated the appropriate amount of class time (as specified by the 3Rs) to reading (100%), writing (100%), and mathematics (100%). However, when they were observed teaching lessons, 49% and 70% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 78% and 89% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Mbeya
5 hours of reading per week	82%	100%
3 hours of writing per week	83%	100%
4 hours of mathematics per week	83%	100%
30-minute lesson: Reading	70%	49%
30-minute lesson: Mathematics	77%	70%
Follow the teacher's lesson plan: Reading	75%	78%
Follow the teacher's lesson plan: Mathematics	79%	89%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 46% of teachers in Mbeya reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 86% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Morogoro

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Morogoro with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

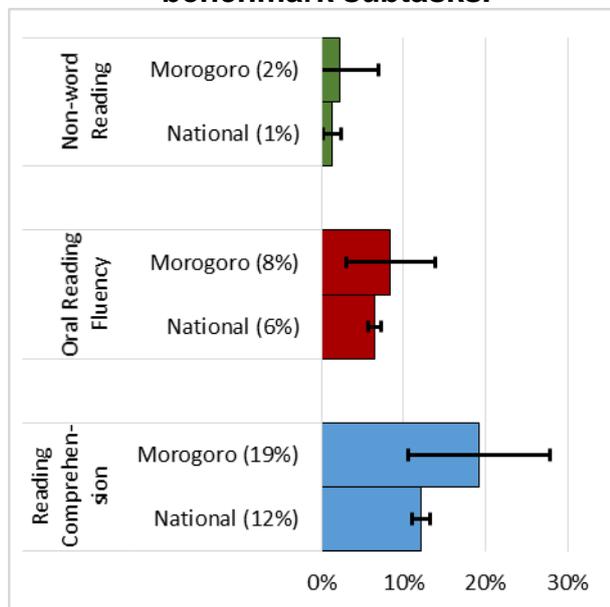


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

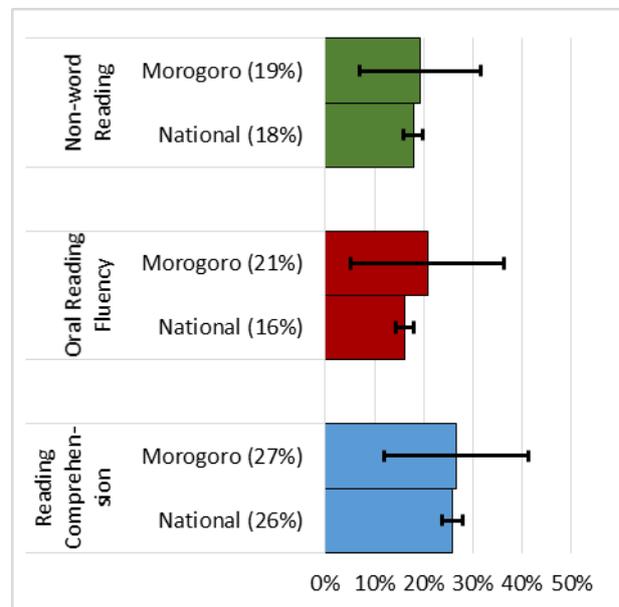


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

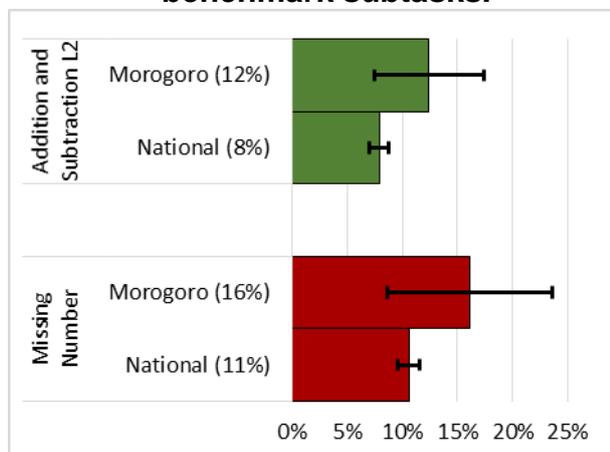
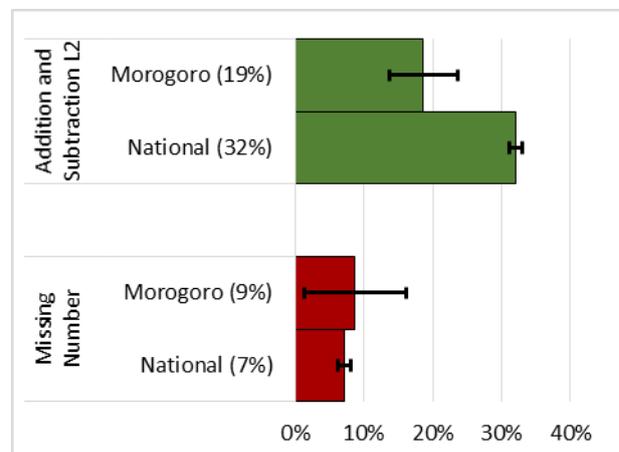


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Morogoro is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Morogoro is better than the performance by students on a national level.

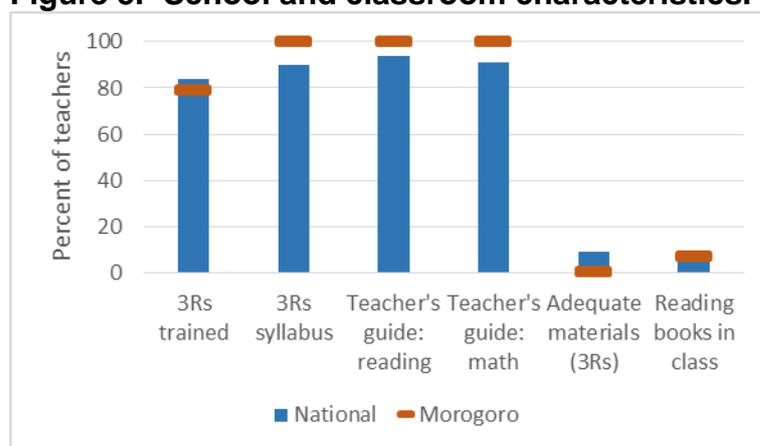
Parental involvement in students' schooling was found to vary in Morogoro: although 17% of students read to someone at home daily, 56% of students receive help with their homework when they need it. However, 12% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Morogoro
Student reads at home every day	22%	17%
Student receives help at home with homework	60%	56%
Teacher satisfied with parental involvement	17%	12%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 79%.
- Most teachers in Morogoro reported having the 3Rs syllabus (100%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Morogoro (0%) believed that they had adequate materials to teach the 3Rs, and few classes (7%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (82%) in Morogoro reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Morogoro (28%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Morogoro allocated the appropriate amount of class time (as specified by the 3Rs) to reading (82%), writing (75%), and mathematics (78%). However, when they were observed teaching lessons, 81% and 81% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 50% and 58% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Morogoro
5 hours of reading per week	82%	82%
3 hours of writing per week	83%	75%
4 hours of mathematics per week	83%	78%
30-minute lesson: Reading	70%	81%
30-minute lesson: Mathematics	77%	81%
Follow the teacher's lesson plan: Reading	75%	50%
Follow the teacher's lesson plan: Mathematics	79%	58%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 52% of teachers in Morogoro reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 76% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Mtwara

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Mtwara with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

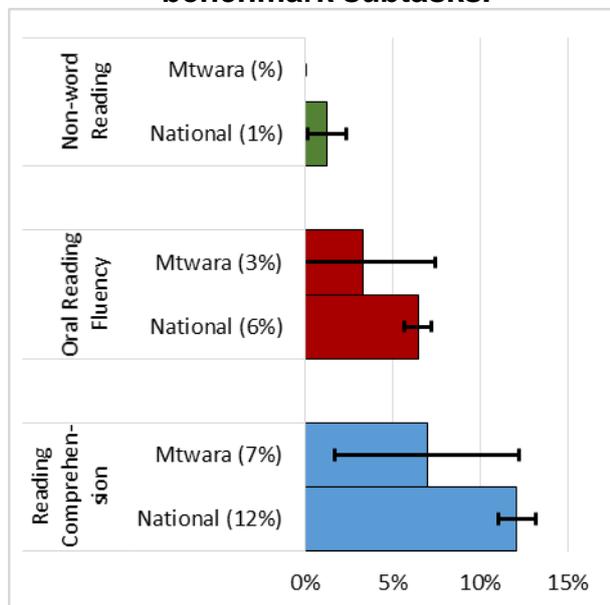


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

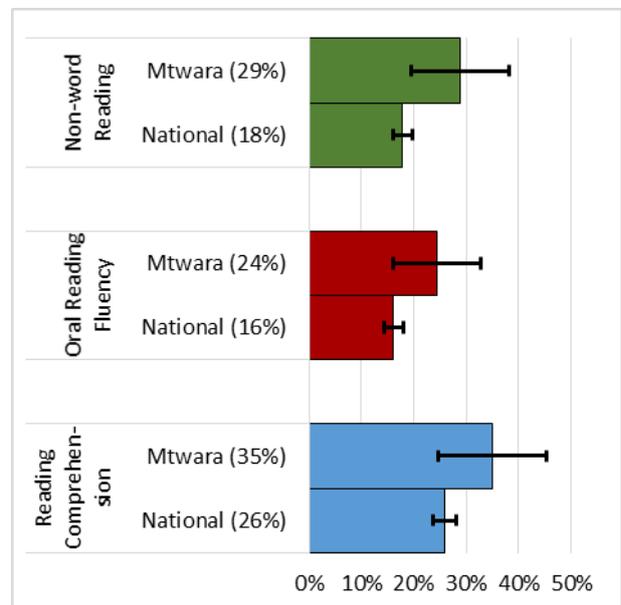


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

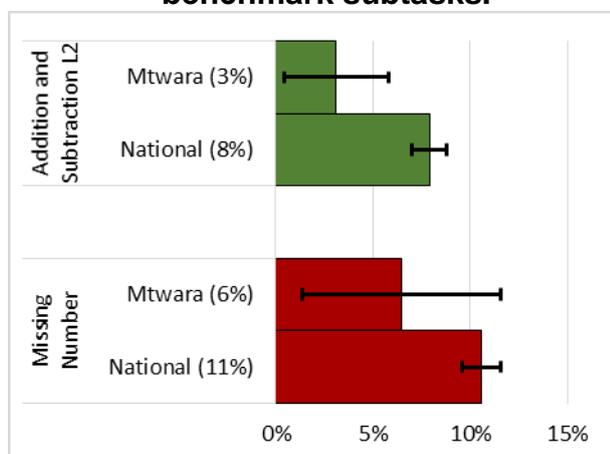
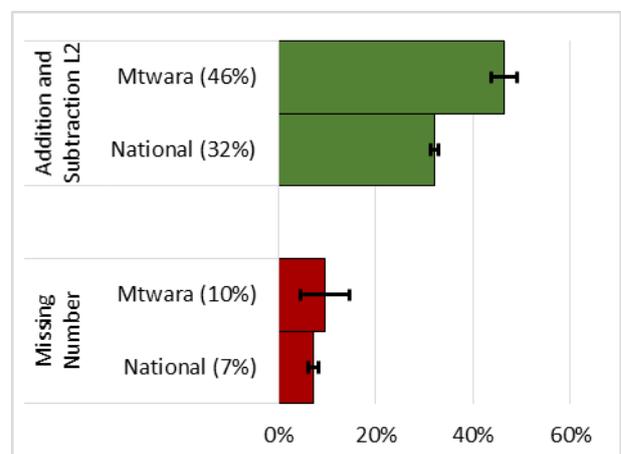


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Mtwara is worse than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Mtwara is worse than the performance by students on a national level.

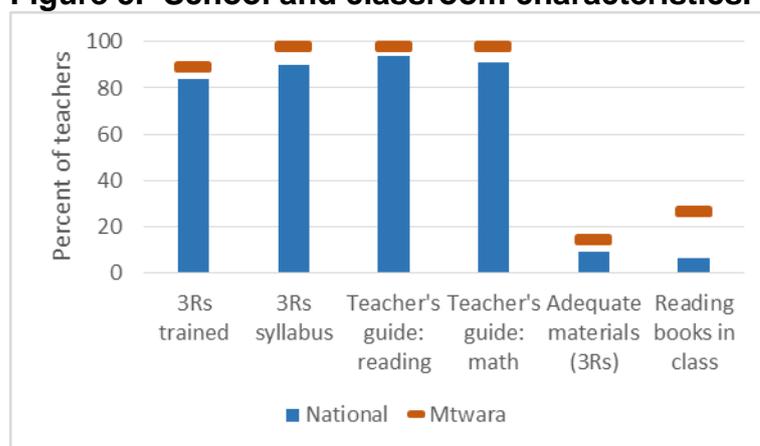
Parental involvement in students' schooling was found to vary in Mtwara: although 19% of students read to someone at home daily, 61% of students receive help with their homework when they need it. However, 20% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Mtwara
Student reads at home every day	22%	19%
Student receives help at home with homework	60%	61%
Teacher satisfied with parental involvement	17%	20%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 89%.
- Most teachers in Mtwara reported having the 3Rs syllabus (98%), the 3Rs reading teacher's guide (98%), and the 3Rs mathematics (98%) teacher's guide.
- Few teachers in Mtwara (14%) believed that they had adequate materials to teach the 3Rs, and few classes (26%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (66%) in Mtwara reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Mtwara (17%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Mtwara allocated the appropriate amount of class time (as specified by the 3Rs) to reading (66%), writing (65%), and mathematics (66%). However, when they were observed teaching lessons, 57% and 81% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 32% and 48% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Mtwara
5 hours of reading per week	82%	66%
3 hours of writing per week	83%	65%
4 hours of mathematics per week	83%	66%
30-minute lesson: Reading	70%	57%
30-minute lesson: Mathematics	77%	81%
Follow the teacher's lesson plan: Reading	75%	32%
Follow the teacher's lesson plan: Mathematics	79%	48%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 55% of teachers in Mtwara reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 25% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Mwanza

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Mwanza with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

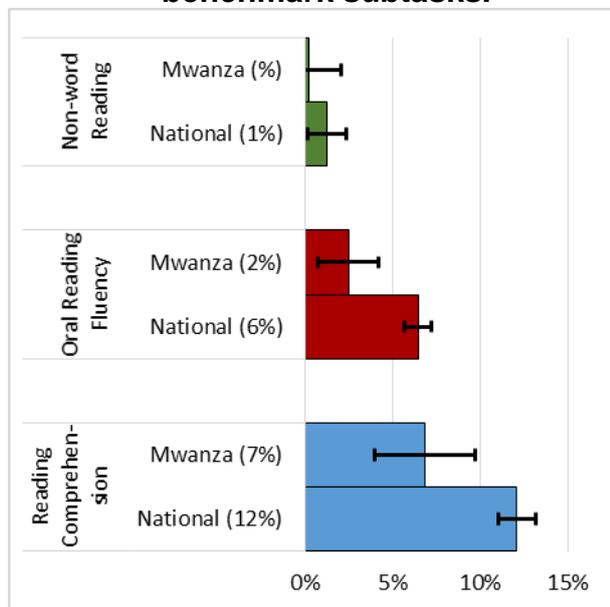


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

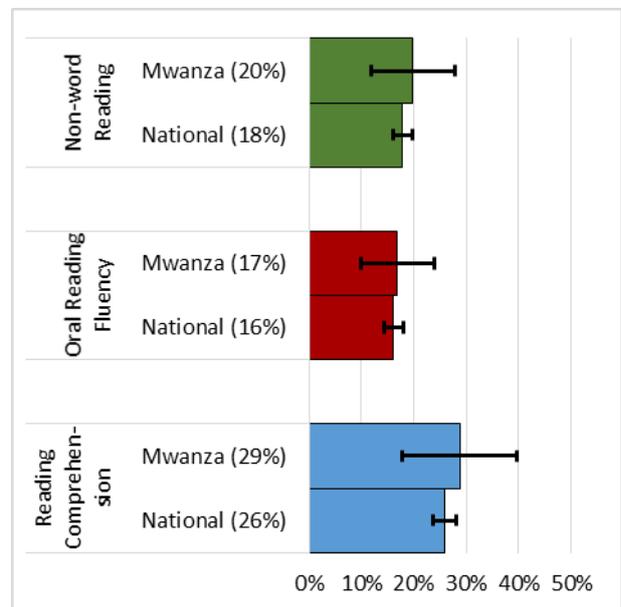


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

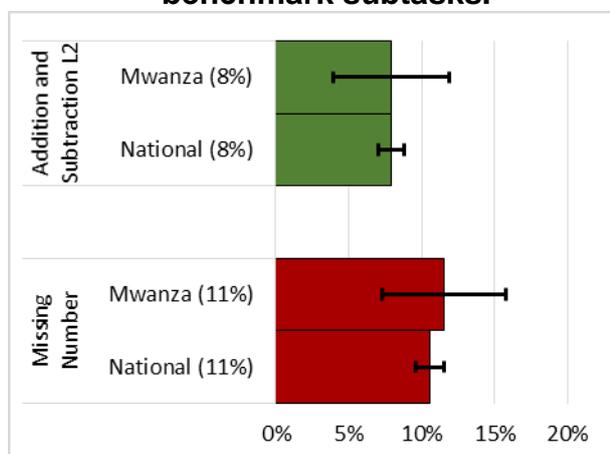
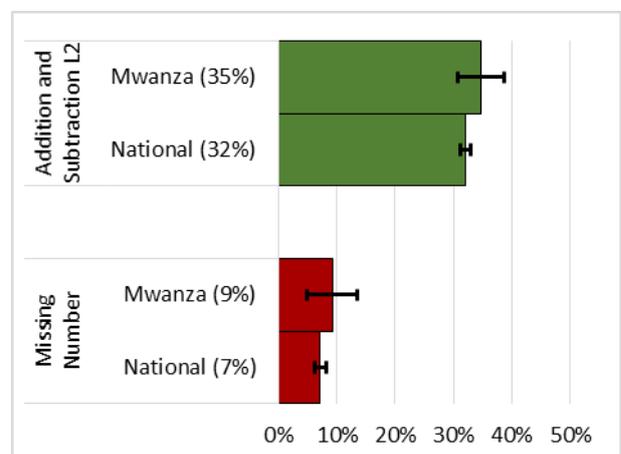


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Mwanza is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Mwanza is similar to the performance by students on a national level.

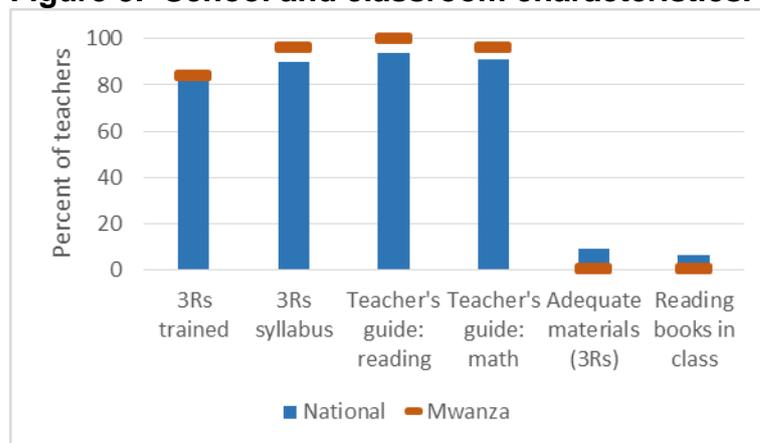
Parental involvement in students' schooling was found to vary in Mwanza: although 20% of students read to someone at home daily, 65% of students receive help with their homework when they need it. However, 3% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Mwanza
Student reads at home every day	22%	20%
Student receives help at home with homework	60%	65%
Teacher satisfied with parental involvement	17%	3%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 84%.
- Most teachers in Mwanza reported having the 3Rs syllabus (96%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (96%) teacher's guide.
- Few teachers in Mwanza (0%) believed that they had adequate materials to teach the 3Rs, and few classes (0%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (75%) in Mwanza reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Mwanza (24%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Mwanza allocated the appropriate amount of class time (as specified by the 3Rs) to reading (75%), writing (79%), and mathematics (86%). However, when they were observed teaching lessons, 73% and 84% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 86% and 97% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools.

To this end, 65% of teachers in Mwanza reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 83% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Table 2. Time spent on the 3Rs.

Indicator	National	Mwanza
5 hours of reading per week	82%	75%
3 hours of writing per week	83%	79%
4 hours of mathematics per week	83%	86%
30-minute lesson: Reading	70%	73%
30-minute lesson: Mathematics	77%	84%
Follow the teacher's lesson plan: Reading	75%	86%
Follow the teacher's lesson plan: Mathematics	79%	97%

Tanzania Early Grade Reading Assessment, Regional Analysis: Njombe

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Njombe with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

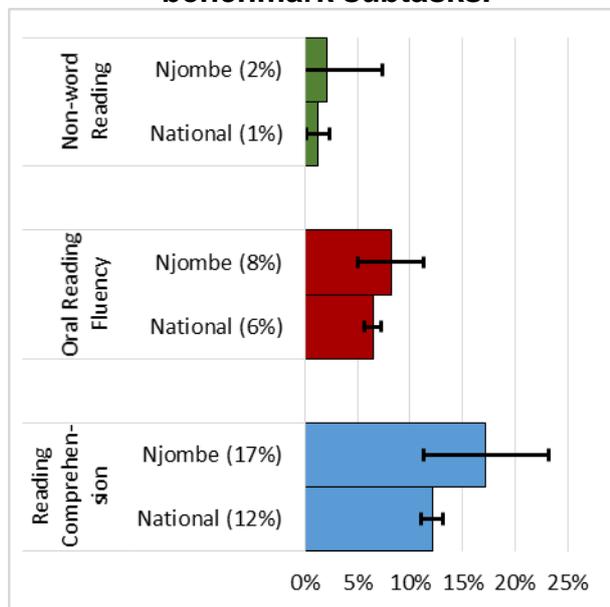


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

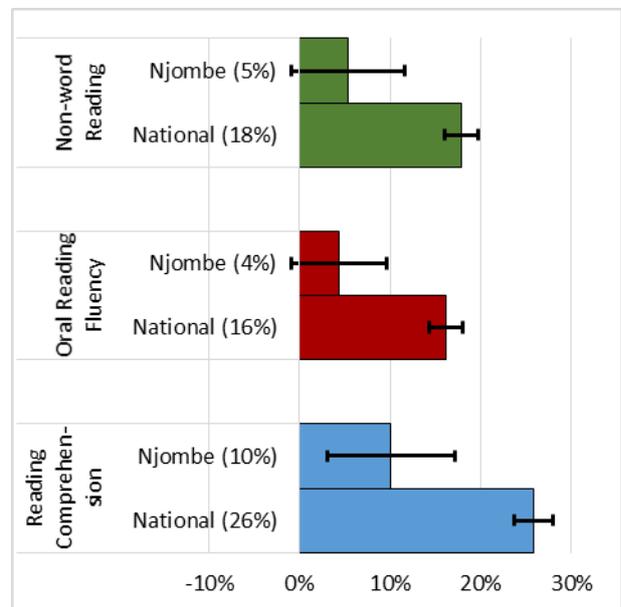


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

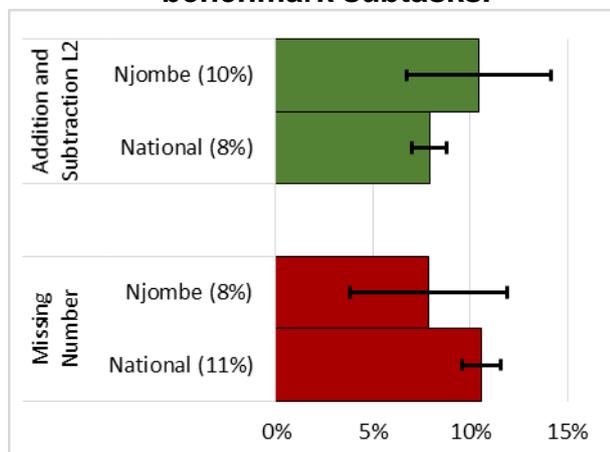
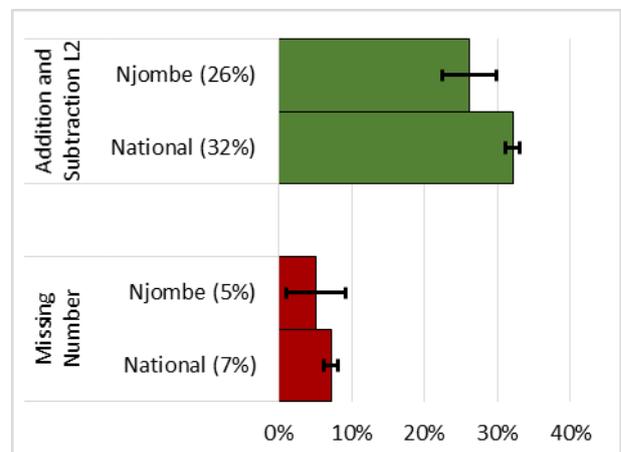


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Njombe is better than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Njombe is similar to the performance by students on a national level.

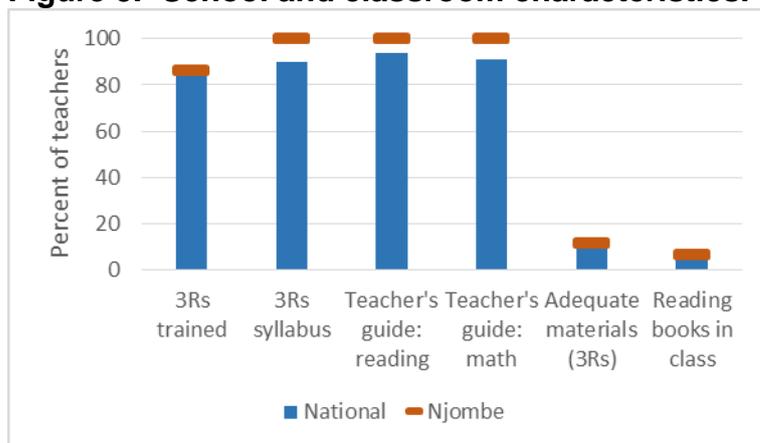
Parental involvement in students' schooling was found to vary in Njombe: although 10% of students read to someone at home daily, 63% of students receive help with their homework when they need it. However, 21% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Njombe
Student reads at home every day	22%	10%
Student receives help at home with homework	60%	63%
Teacher satisfied with parental involvement	17%	21%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 86%.
- Most teachers in Njombe reported having the 3Rs syllabus (100%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Njombe (11%) believed that they had adequate materials to teach the 3Rs, and few classes (6%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (88%) in Njombe reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, approximately half of the students in Njombe (49%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Njombe allocated the appropriate amount of class time (as specified by the 3Rs) to reading (88%), writing (94%), and mathematics (88%). However, when they were observed teaching lessons, 86% and 92% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 80% and 81% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Njombe
5 hours of reading per week	82%	88%
3 hours of writing per week	83%	94%
4 hours of mathematics per week	83%	88%
30-minute lesson: Reading	70%	86%
30-minute lesson: Mathematics	77%	92%
Follow the teacher's lesson plan: Reading	75%	80%
Follow the teacher's lesson plan: Mathematics	79%	81%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 42% of teachers in Njombe reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 72% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Pwani

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Pwani with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

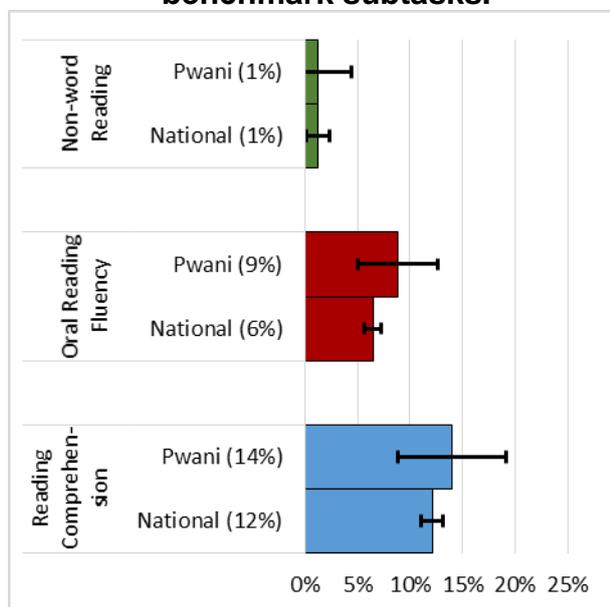


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

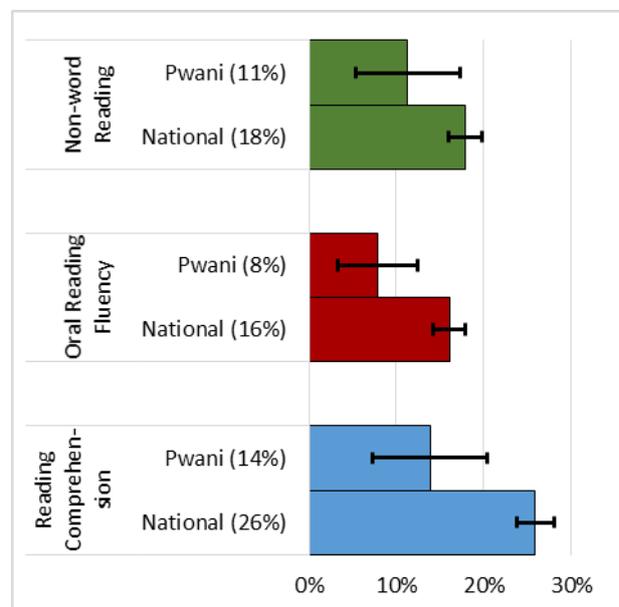


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

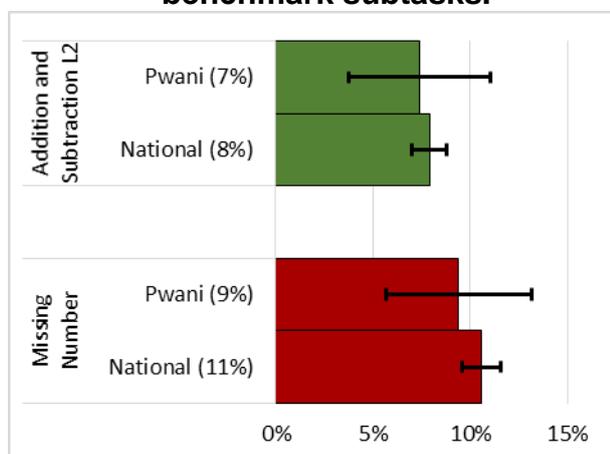
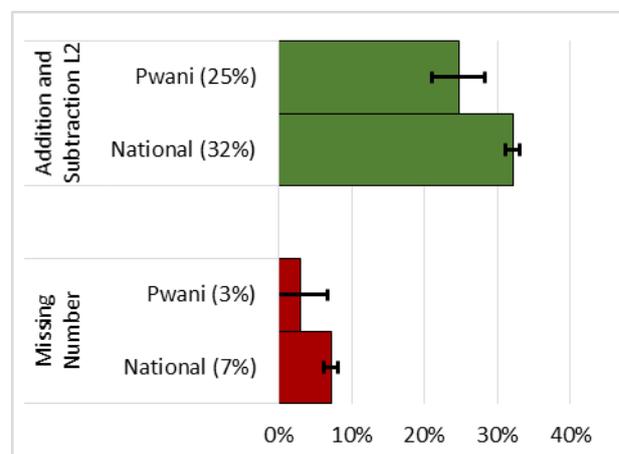


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Pwani is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Pwani is similar to the performance by students on a national level.

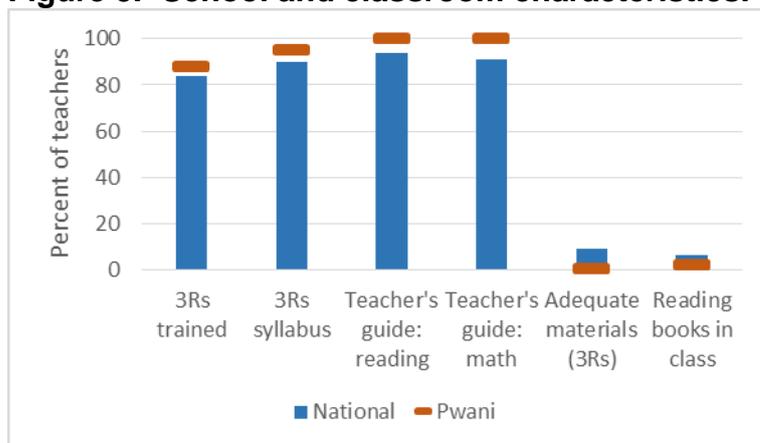
Parental involvement in students' schooling was found to vary in Pwani: although 19% of students read to someone at home daily, 45% of students receive help with their homework when they need it. However, 11% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Pwani
Student reads at home every day	22%	19%
Student receives help at home with homework	60%	45%
Teacher satisfied with parental involvement	17%	11%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 88%.
- Most teachers in Pwani reported having the 3Rs syllabus (95%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Pwani (0%) believed that they had adequate materials to teach the 3Rs, and few classes (2%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (86%) in Pwani reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Pwani (27%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Pwani allocated the appropriate amount of class time (as specified by the 3Rs) to reading (86%), writing (86%), and mathematics (86%). However, when they were observed teaching lessons, 59% and 56% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 77% and 81% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Pwani
5 hours of reading per week	82%	86%
3 hours of writing per week	83%	86%
4 hours of mathematics per week	83%	86%
30-minute lesson: Reading	70%	59%
30-minute lesson: Mathematics	77%	56%
Follow the teacher's lesson plan: Reading	75%	77%
Follow the teacher's lesson plan: Mathematics	79%	81%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 54% of teachers in Pwani reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 75% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Rukwa

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Rukwa with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

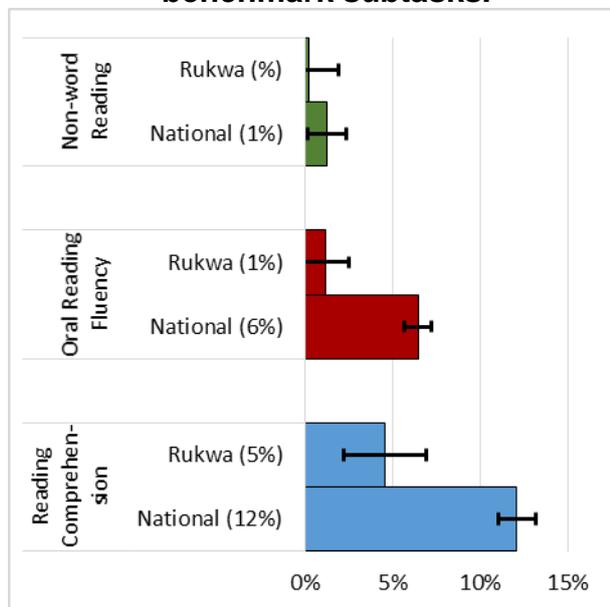


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

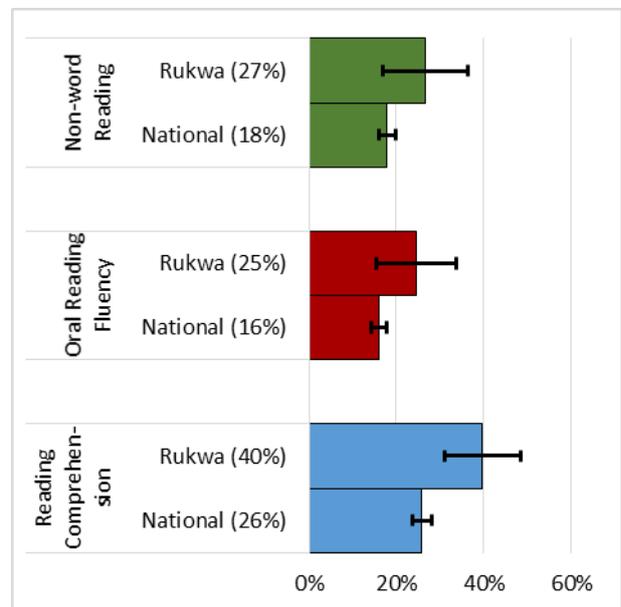


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

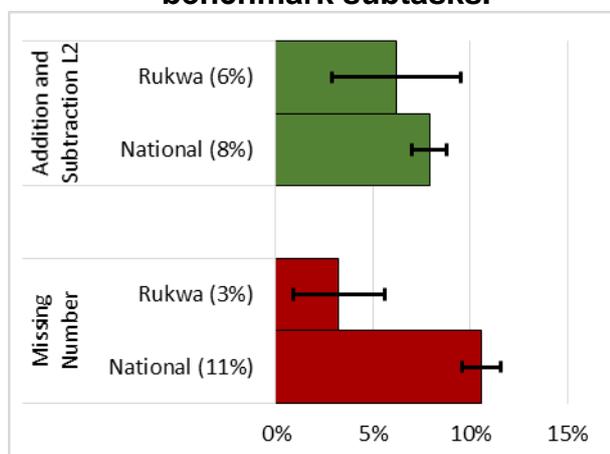
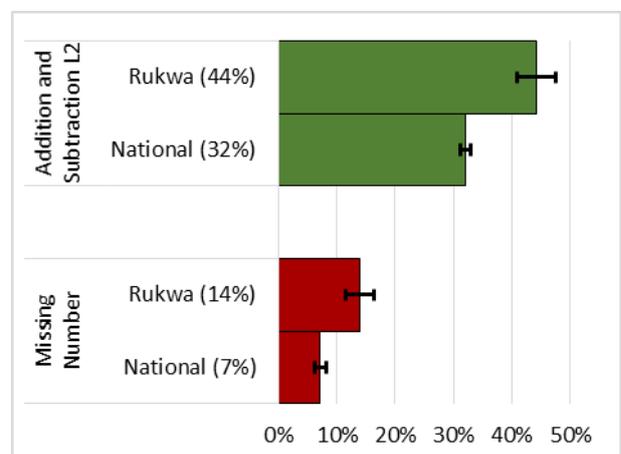


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Rukwa is worse than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Rukwa is similar to the performance by students on a national level.

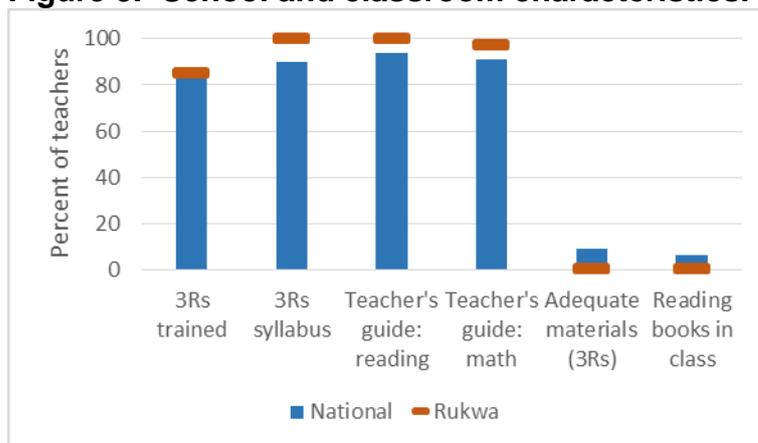
Parental involvement in students' schooling was found to vary in Rukwa: although 13% of students read to someone at home daily, 46% of students receive help with their homework when they need it. However, 2% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Rukwa
Student reads at home every day	22%	13%
Student receives help at home with homework	60%	46%
Teacher satisfied with parental involvement	17%	2%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 85%.
- Most teachers in Rukwa reported having the 3Rs syllabus (100%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (97%) teacher's guide.
- Few teachers in Rukwa (0%) believed that they had adequate materials to teach the 3Rs, and few classes (0%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (86%) in Rukwa reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Rukwa (26%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Rukwa allocated the appropriate amount of class time (as specified by the 3Rs) to reading (86%), writing (90%), and mathematics (89%). However, when they were observed teaching lessons, 44% and 58% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 72% and 85% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Rukwa
5 hours of reading per week	82%	86%
3 hours of writing per week	83%	90%
4 hours of mathematics per week	83%	89%
30-minute lesson: Reading	70%	44%
30-minute lesson: Mathematics	77%	58%
Follow the teacher's lesson plan: Reading	75%	72%
Follow the teacher's lesson plan: Mathematics	79%	85%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 62% of teachers in Rukwa reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 73% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Ruvuma

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Ruvuma with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

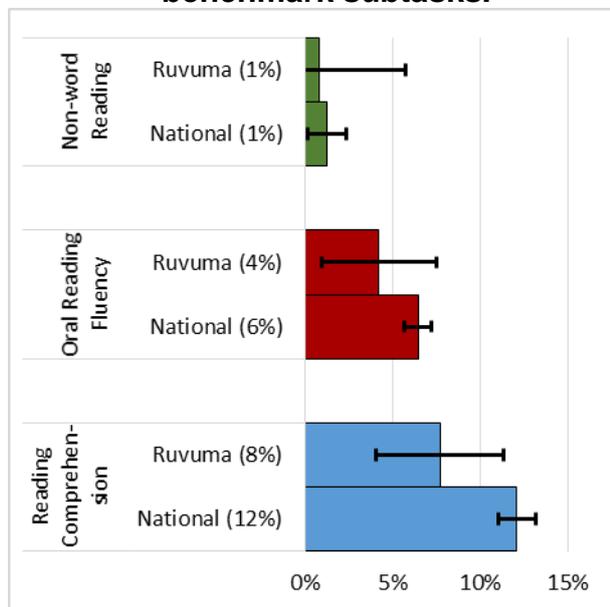


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

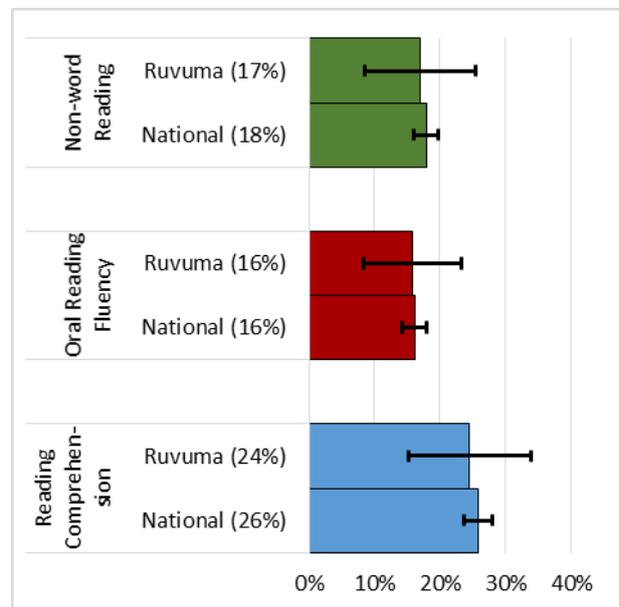


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

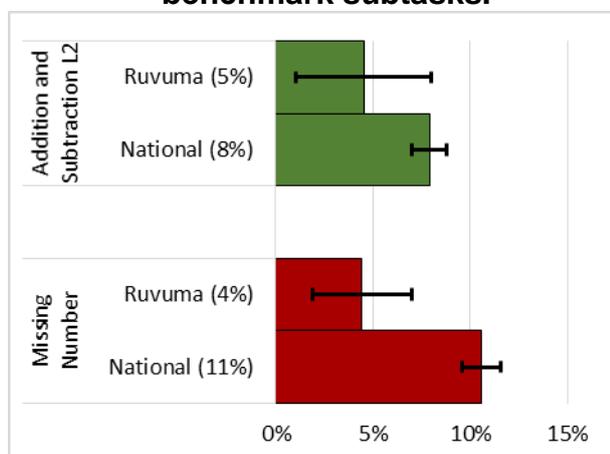
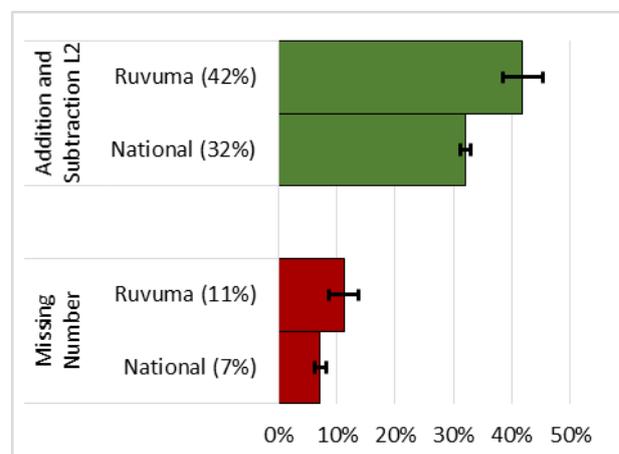


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Ruvuma is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Ruvuma is worse than the performance by students on a national level.

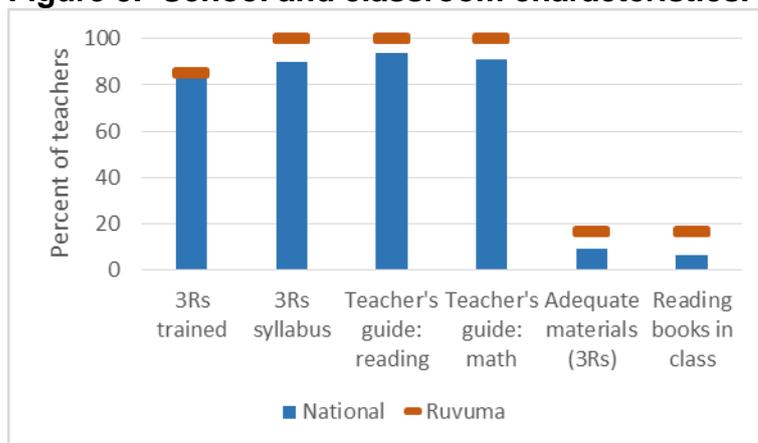
Parental involvement in students' schooling was found to vary in Ruvuma: although 21% of students read to someone at home daily, 66% of students receive help with their homework when they need it. However, 19% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Ruvuma
Student reads at home every day	22%	21%
Student receives help at home with homework	60%	66%
Teacher satisfied with parental involvement	17%	19%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 85%.
- Most teachers in Ruvuma reported having the 3Rs syllabus (100%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (100%) teacher's guide.
- Few teachers in Ruvuma (16%) believed that they had adequate materials to teach the 3Rs, and few classes (16%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (94%) in Ruvuma reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Ruvuma (24%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Ruvuma allocated the appropriate amount of class time (as specified by the 3Rs) to reading (94%), writing (100%), and mathematics (100%). However, when they were observed teaching lessons, 89% and 96% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 85% and 77% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Ruvuma
5 hours of reading per week	82%	94%
3 hours of writing per week	83%	100%
4 hours of mathematics per week	83%	100%
30-minute lesson: Reading	70%	89%
30-minute lesson: Mathematics	77%	96%
Follow the teacher's lesson plan: Reading	75%	85%
Follow the teacher's lesson plan: Mathematics	79%	77%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 56% of teachers in Ruvuma reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 64% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Shinyanga

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Shinyanga with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

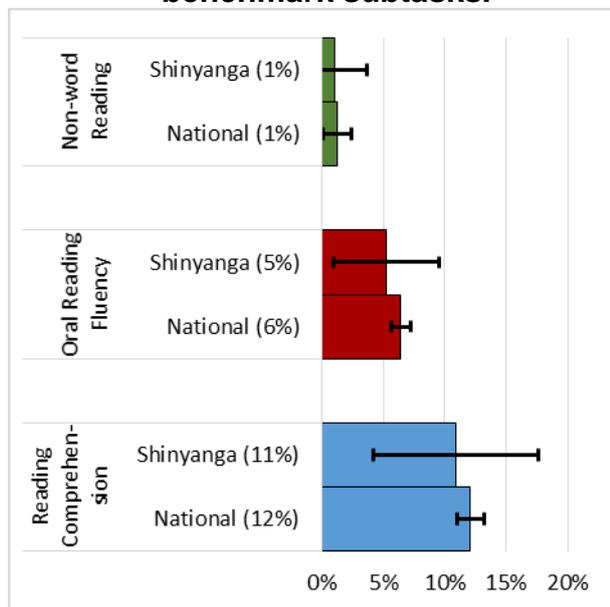


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

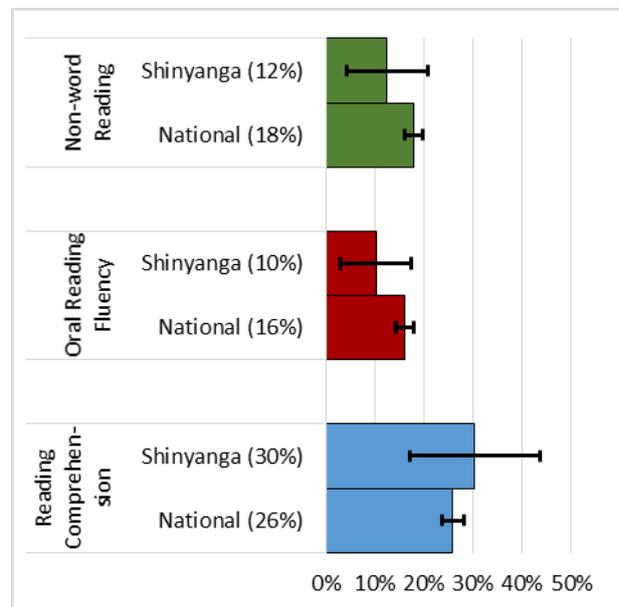


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

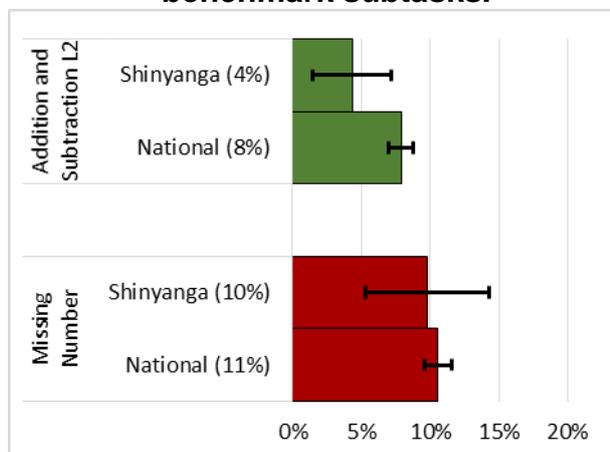
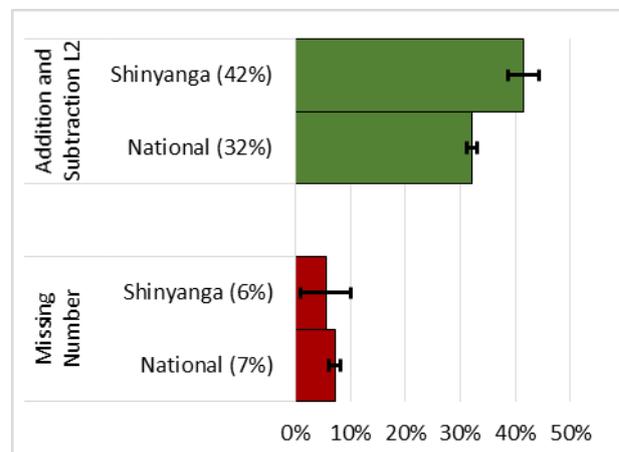


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Shinyanga is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Shinyanga is worse than the performance by students on a national level.

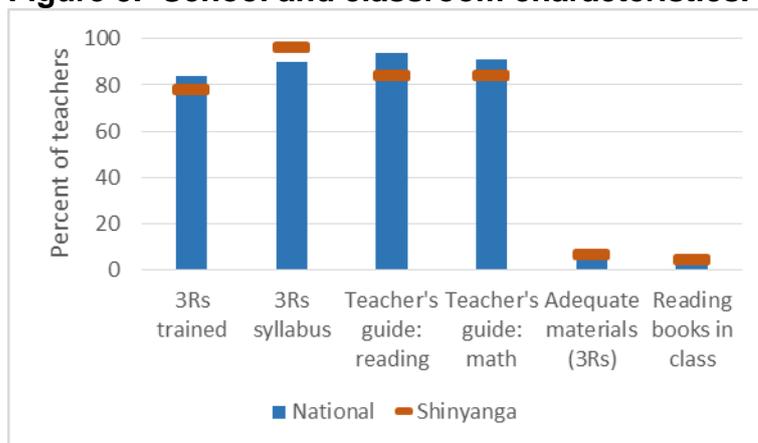
Parental involvement in students' schooling was found to vary in Shinyanga: although 25% of students read to someone at home daily, 63% of students receive help with their homework when they need it. However, 15% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Shinyanga
Student reads at home every day	22%	25%
Student receives help at home with homework	60%	63%
Teacher satisfied with parental involvement	17%	15%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 78%.
- Most teachers in Shinyanga reported having the 3Rs syllabus (96%), the 3Rs reading teacher's guide (84%), and the 3Rs mathematics (84%) teacher's guide.
- Few teachers in Shinyanga (6%) believed that they had adequate materials to teach the 3Rs, and few classes (5%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (70%) in Shinyanga reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Shinyanga (16%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Shinyanga allocated the appropriate amount of class time (as specified by the 3Rs) to reading (70%), writing (72%), and mathematics (71%). However, when they were observed teaching lessons, 79% and 73% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 66% and 68% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools.

To this end, 58% of teachers in Shinyanga reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 78% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Table 2. Time spent on the 3Rs.

Indicator	National	Shinyanga
5 hours of reading per week	82%	70%
3 hours of writing per week	83%	72%
4 hours of mathematics per week	83%	71%
30-minute lesson: Reading	70%	79%
30-minute lesson: Mathematics	77%	73%
Follow the teacher's lesson plan: Reading	75%	66%
Follow the teacher's lesson plan: Mathematics	79%	68%

Tanzania Early Grade Reading Assessment, Regional Analysis: Simiyu

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Simiyu with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

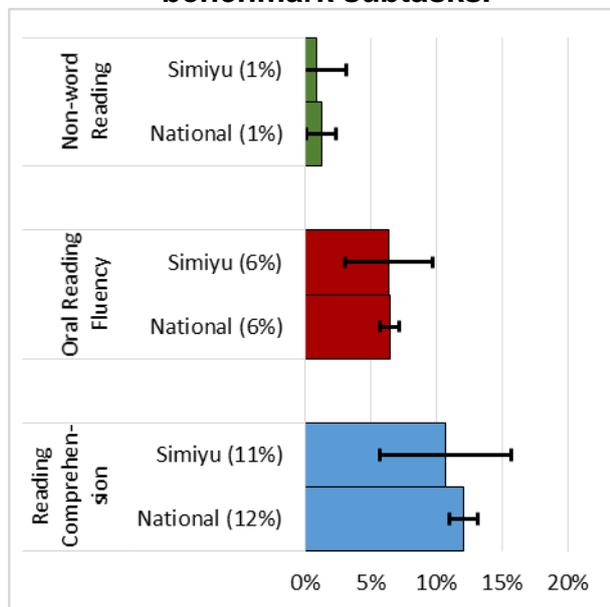


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

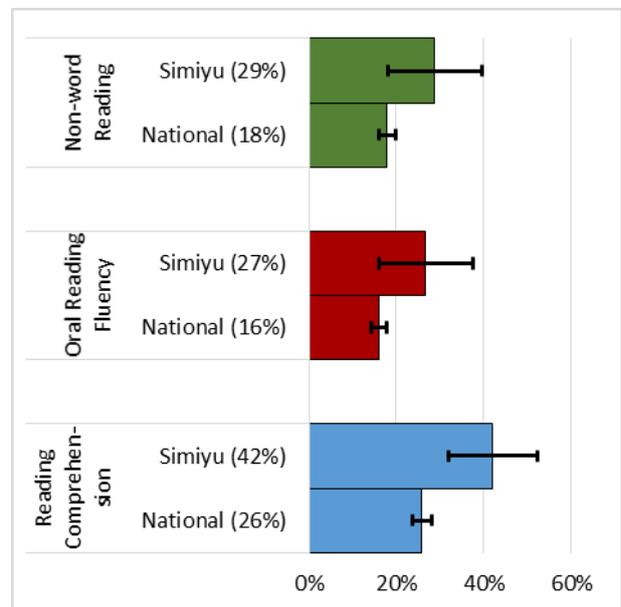


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

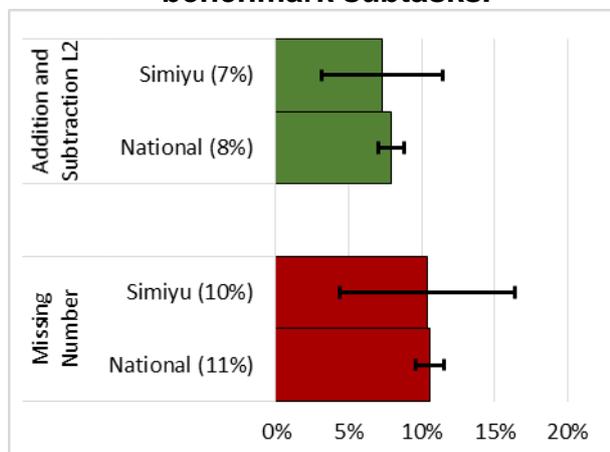
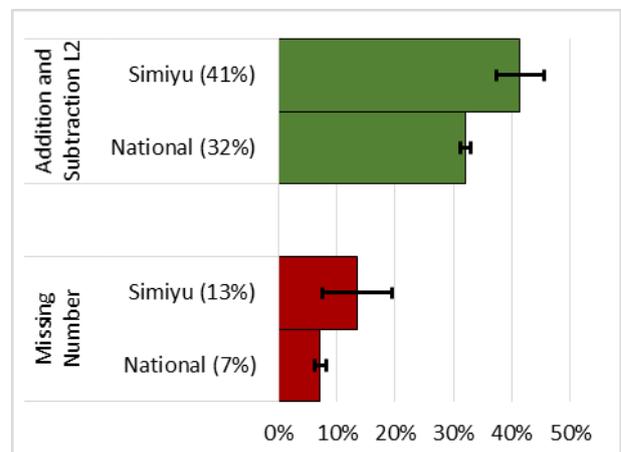


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Simiyu is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Simiyu is similar to the performance by students on a national level.

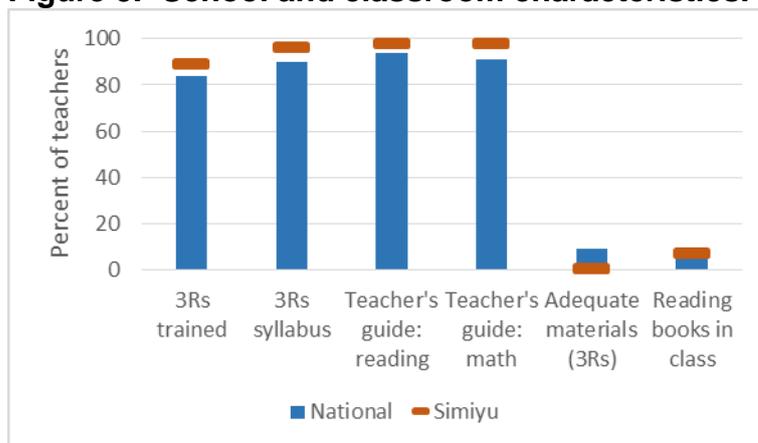
Parental involvement in students' schooling was found to vary in Simiyu: although 18% of students read to someone at home daily, 59% of students receive help with their homework when they need it. However, 11% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Simiyu
Student reads at home every day	22%	18%
Student receives help at home with homework	60%	59%
Teacher satisfied with parental involvement	17%	11%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 89%.
- Most teachers in Simiyu reported having the 3Rs syllabus (96%), the 3Rs reading teacher's guide (98%), and the 3Rs mathematics (98%) teacher's guide.
- Few teachers in Simiyu (0%) believed that they had adequate materials to teach the 3Rs, and few classes (7%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (95%) in Simiyu reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Simiyu (19%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Simiyu allocated the appropriate amount of class time (as specified by the 3Rs) to reading (95%), writing (95%), and mathematics (95%). However, when they were observed teaching lessons, 70% and 83% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 76% and 82% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Simiyu
5 hours of reading per week	82%	95%
3 hours of writing per week	83%	95%
4 hours of mathematics per week	83%	95%
30-minute lesson: Reading	70%	70%
30-minute lesson: Mathematics	77%	83%
Follow the teacher's lesson plan: Reading	75%	76%
Follow the teacher's lesson plan: Mathematics	79%	82%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 64% of teachers in Simiyu reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 87% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Singida

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Singida with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

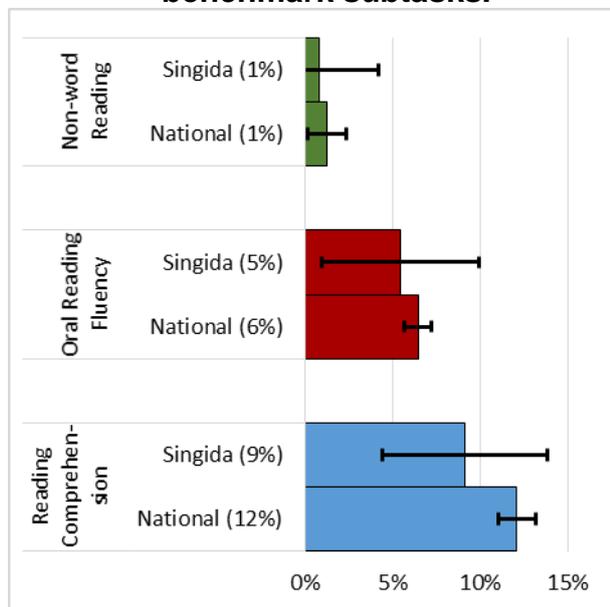


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

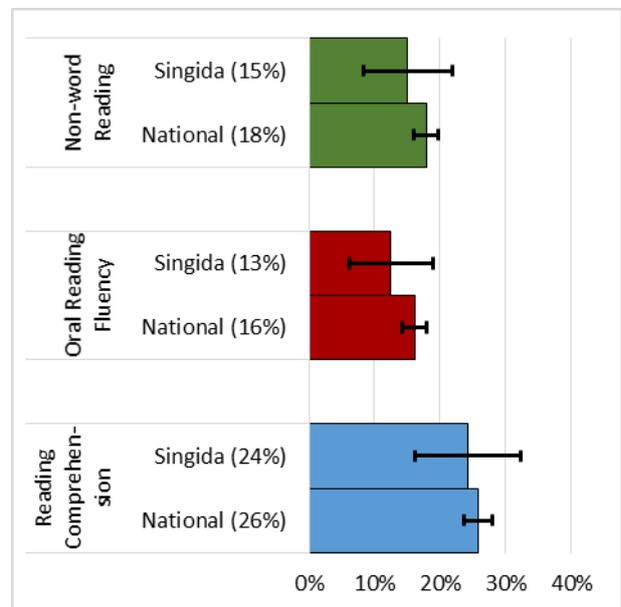


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

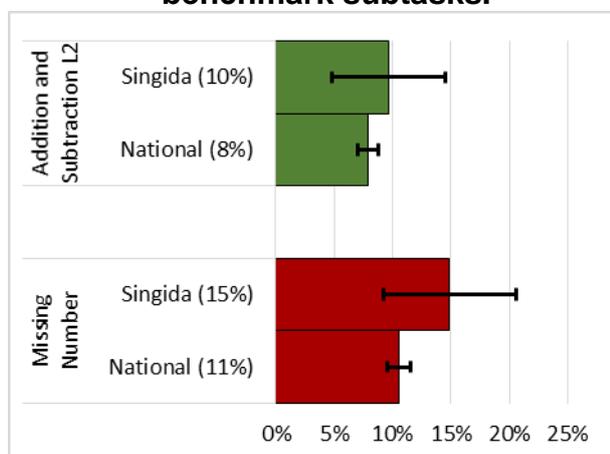
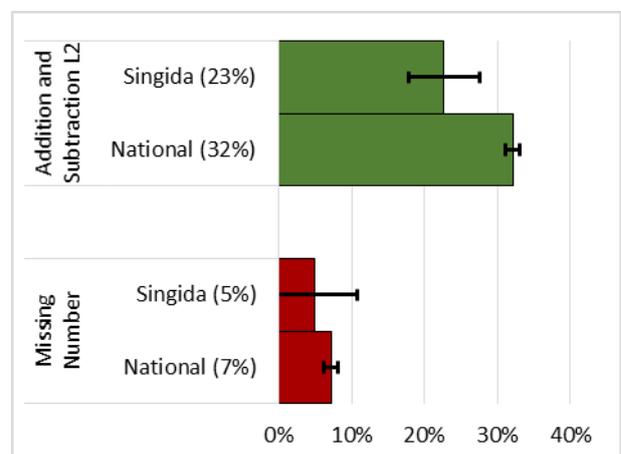


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Singida is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Singida is similar to the performance by students on a national level.

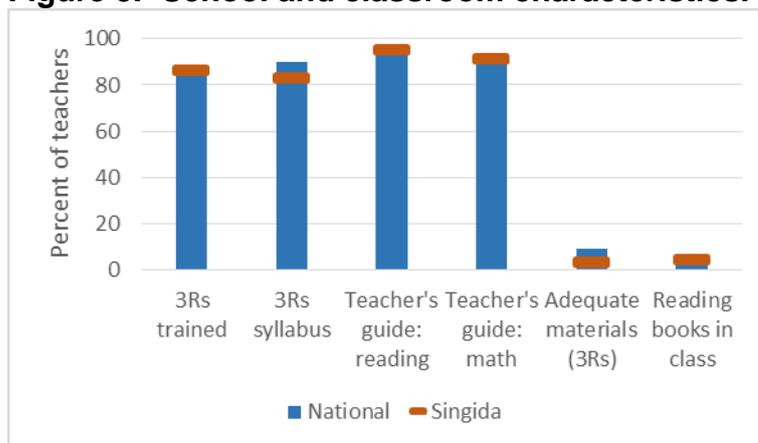
Parental involvement in students' schooling was found to vary in Singida: although 21% of students read to someone at home daily, 55% of students receive help with their homework when they need it. However, 13% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Singida
Student reads at home every day	22%	21%
Student receives help at home with homework	60%	55%
Teacher satisfied with parental involvement	17%	13%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 86%.
- Most teachers in Singida reported having the 3Rs syllabus (83%), the 3Rs reading teacher's guide (95%), and the 3Rs mathematics (91%) teacher's guide.
- Few teachers in Singida (3%) believed that they had adequate materials to teach the 3Rs, and few classes (4%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (77%) in Singida reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Singida (22%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Singida allocated the appropriate amount of class time (as specified by the 3Rs) to reading (77%), writing (77%), and mathematics (77%). However, when they were observed teaching lessons, 65% and 91% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 72% and 72% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Singida
5 hours of reading per week	82%	77%
3 hours of writing per week	83%	77%
4 hours of mathematics per week	83%	77%
30-minute lesson: Reading	70%	65%
30-minute lesson: Mathematics	77%	91%
Follow the teacher's lesson plan: Reading	75%	72%
Follow the teacher's lesson plan: Mathematics	79%	72%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 71% of teachers in Singida reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 63% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Tabora

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Tabora with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

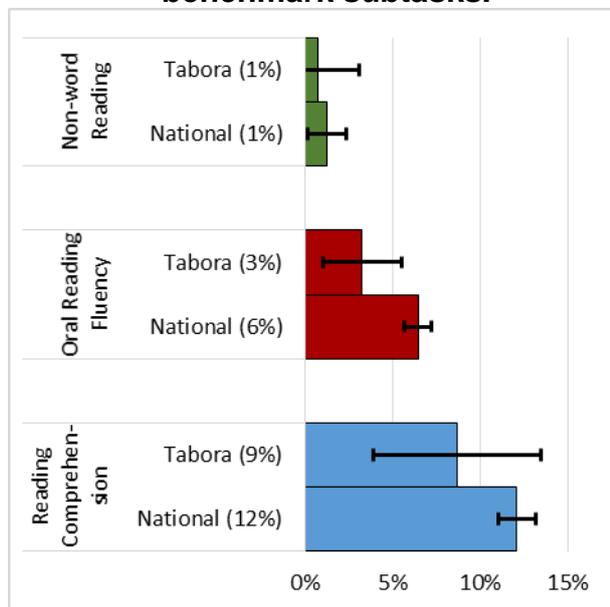


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

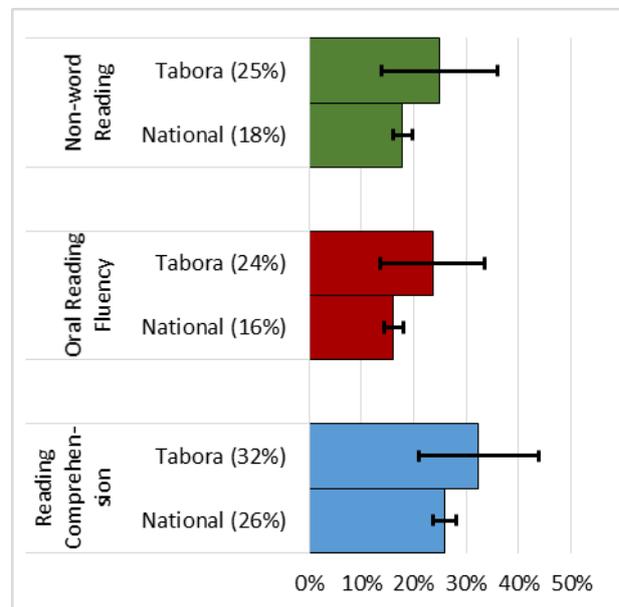


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

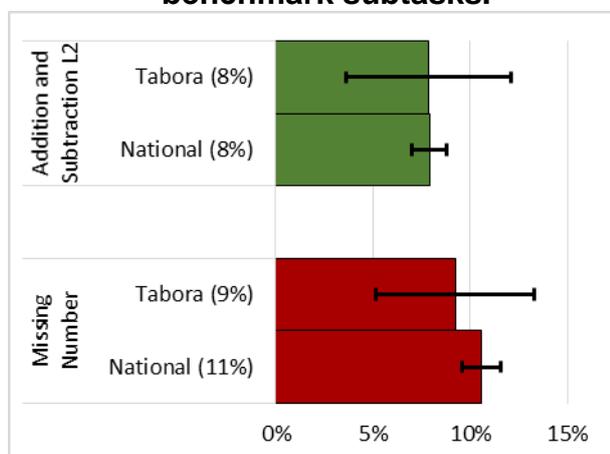
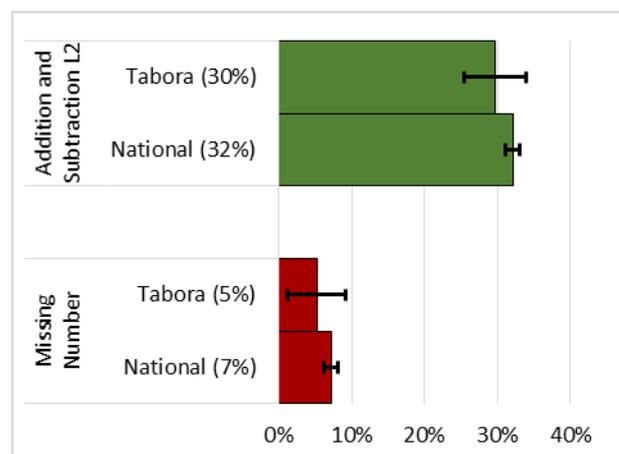


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Tabora is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Tabora is similar to the performance by students on a national level.

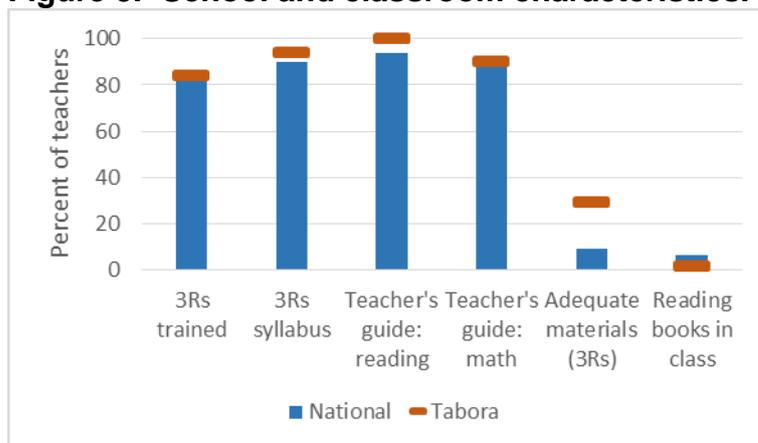
Parental involvement in students' schooling was found to vary in Tabora: although 13% of students read to someone at home daily, 52% of students receive help with their homework when they need it. However, 21% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Tabora
Student reads at home every day	22%	13%
Student receives help at home with homework	60%	52%
Teacher satisfied with parental involvement	17%	21%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 84%.
- Most teachers in Tabora reported having the 3Rs syllabus (94%), the 3Rs reading teacher's guide (100%), and the 3Rs mathematics (90%) teacher's guide.
- Few teachers in Tabora (29%) believed that they had adequate materials to teach the 3Rs, and few classes (1%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (67%) in Tabora reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Tabora (16%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Tabora allocated the appropriate amount of class time (as specified by the 3Rs) to reading (67%), writing (87%), and mathematics (67%). However, when they were observed teaching lessons, 86% and 67% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 47% and 57% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Tabora
5 hours of reading per week	82%	67%
3 hours of writing per week	83%	87%
4 hours of mathematics per week	83%	67%
30-minute lesson: Reading	70%	86%
30-minute lesson: Mathematics	77%	67%
Follow the teacher's lesson plan: Reading	75%	47%
Follow the teacher's lesson plan: Mathematics	79%	57%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 48% of teachers in Tabora reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 80% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Tanzania Early Grade Reading Assessment, Regional Analysis: Tanga

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Tanga with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

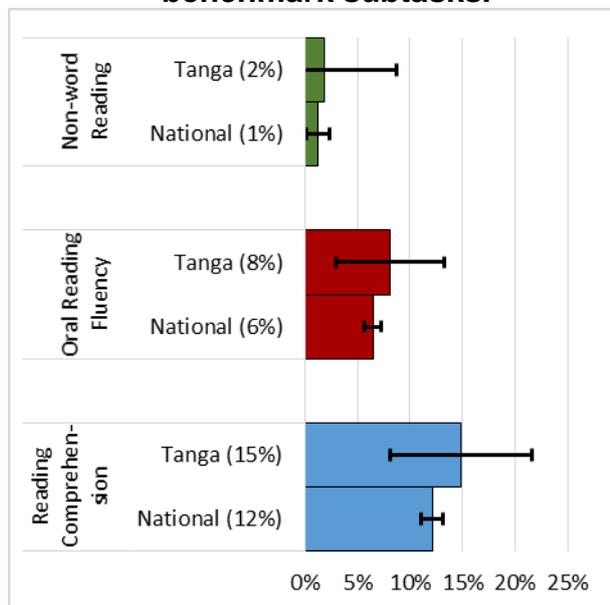


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

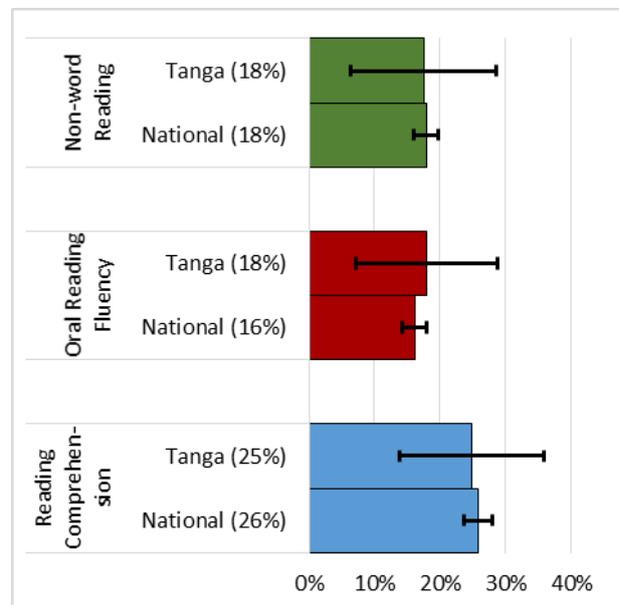


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

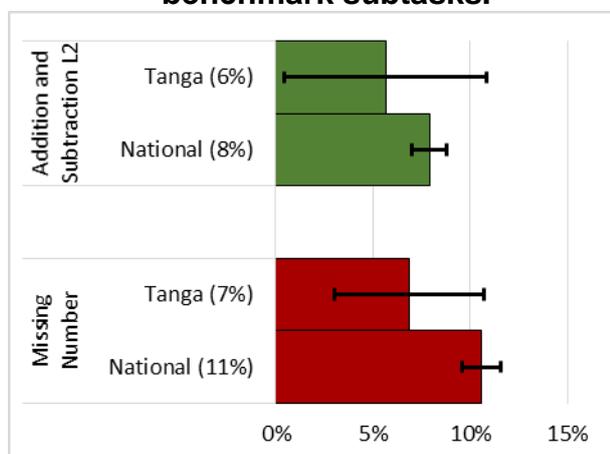
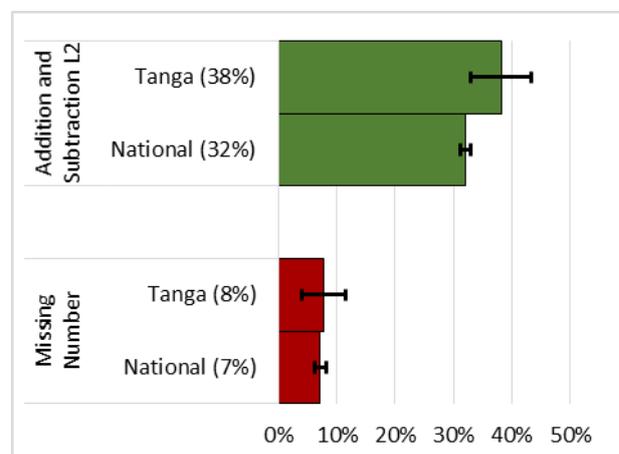


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Tanga is similar to the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Tanga is similar to the performance by students on a national level.

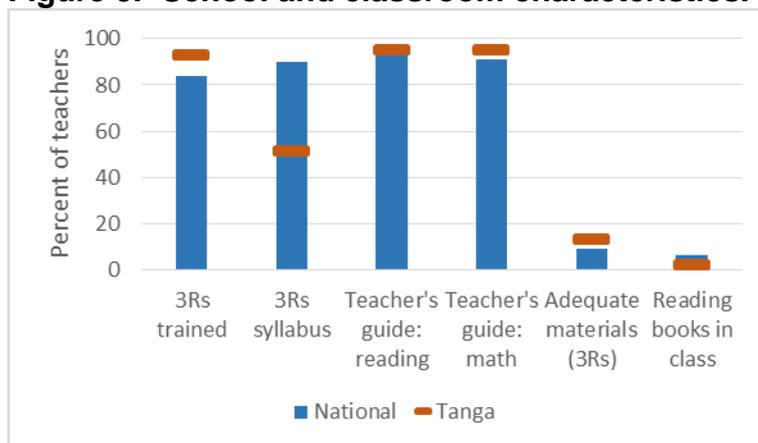
Parental involvement in students' schooling was found to vary in Tanga: although 30% of students read to someone at home daily, 64% of students receive help with their homework when they need it. However, 15% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Tanga
Student reads at home every day	22%	30%
Student receives help at home with homework	60%	64%
Teacher satisfied with parental involvement	17%	15%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 93%.
- Approximately half of the teachers in Tanga reported having the 3Rs syllabus (51%), the 3Rs reading teacher's guide (95%), and the 3Rs mathematics (95%) teacher's guide.
- Few teachers in Tanga (13%) believed that they had adequate materials to teach the 3Rs, and few classes (2%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (89%) in Tanga reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Tanga (20%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Tanga allocated the appropriate amount of class time (as specified by the 3Rs) to reading (89%), writing (89%), and mathematics (90%). However, when they were observed teaching lessons, 34% and 33% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 97% and 98% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 58% of teachers in Tanga reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 88% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).

Table 2. Time spent on the 3Rs.

Indicator	National	Tanga
5 hours of reading per week	82%	89%
3 hours of writing per week	83%	89%
4 hours of mathematics per week	83%	90%
30-minute lesson: Reading	70%	34%
30-minute lesson: Mathematics	77%	33%
Follow the teacher's lesson plan: Reading	75%	97%
Follow the teacher's lesson plan: Mathematics	79%	98%

Tanzania Early Grade Reading Assessment, Regional Analysis: Zanzibar

Introduction

This brief describes the results from the Tanzania National Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for this region compared to the national results. Comparisons are given of student indicators linked to the national benchmarks for reading and mathematics, as well as indicators of the 3Rs (Reading, Writing, and Arithmetic) program and school and classroom characteristics. More details about the assessment can be found in the full Tanzania National EGRA report.

EGRA and EGMA

Figures 1 through 4 compare the performance of Zanzibar with the national performance on the Tanzania benchmark subtasks for EGRA and EGMA.

Figure 1. Percentage of students scoring at the Tanzanian benchmarks for the EGRA benchmark subtasks.

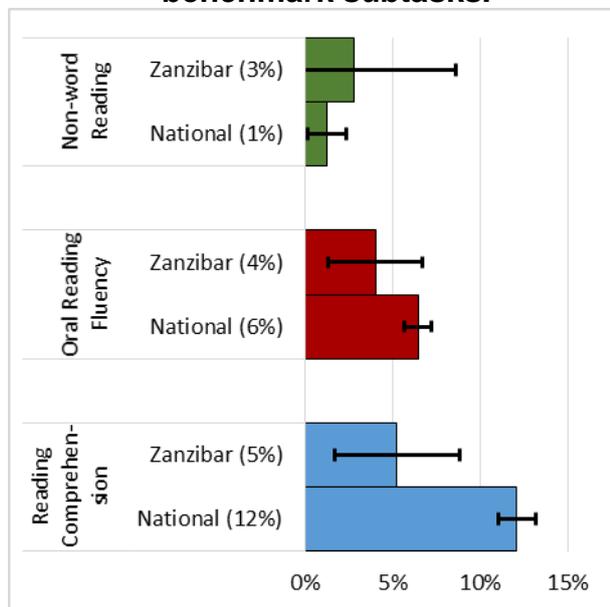


Figure 2. Percentage of zero scores for the EGRA benchmark subtasks.

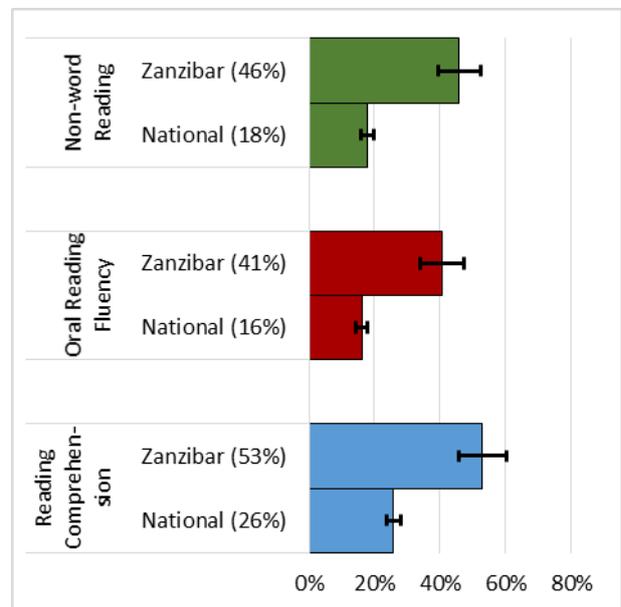


Figure 3. Percentage of students scoring at the Tanzanian benchmarks for the EGMA benchmark subtasks.*

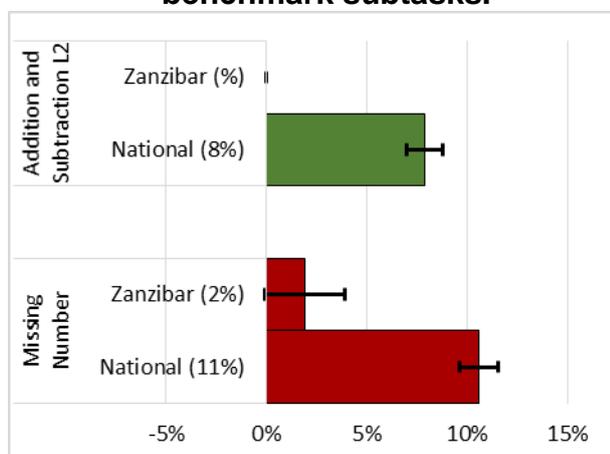
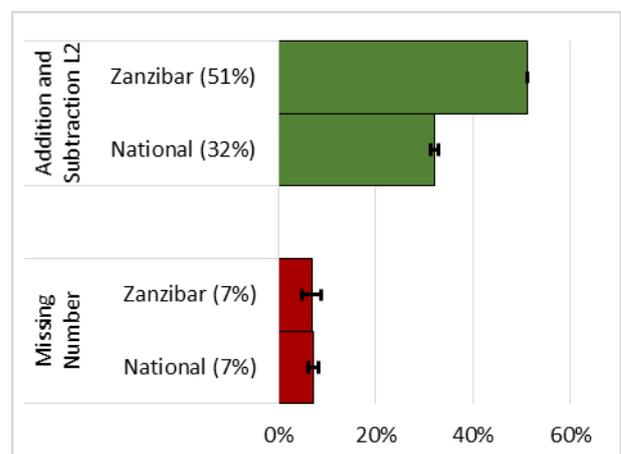


Figure 4. Percentage of zero scores for the EGMA benchmark subtasks.*



* L2 refers to Level 2, the Level 2 subtask assess the ability to use and apply procedural addition and subtraction knowledge (assessed during the Level 1 subtask) to solve more complicated addition and subtraction problems.

Within the parameters of the data, it is evident that the performance on the Tanzania benchmark subtasks for EGRA by students in Zanzibar is worse than the performance by students on a national level. In terms of the performance on the Tanzania benchmark subtasks for EGMA, the performance by the students in Zanzibar is worse than the performance by students on a national level.

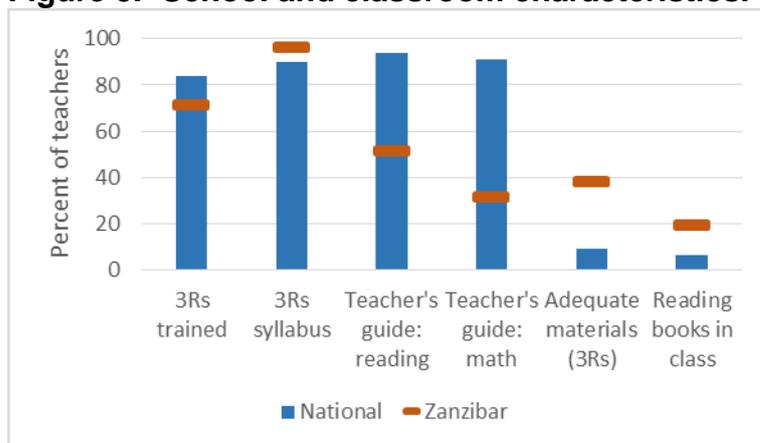
Parental involvement in students' schooling was found to vary in Zanzibar: although 10% of students read to someone at home daily, 58% of students receive help with their homework when they need it. However, 21% of teachers (**Table 1**) were satisfied with parental involvement in school.

Table 1. Parental involvement in student learning.

Indicator	National	Zanzibar
Student reads at home every day	22%	10%
Student receives help at home with homework	60%	58%
Teacher satisfied with parental involvement	17%	21%

- Most teachers at the national level received the 3Rs training (84%). The regional value was 71%.
- Most teachers in Zanzibar reported having the 3Rs syllabus (96%), the 3Rs reading teacher's guide (51%), and the 3Rs mathematics (31%) teacher's guide.
- Few teachers in Zanzibar (38%) believed that they had adequate materials to teach the 3Rs, and few classes (19%) had books for children to read.

Figure 5. School and classroom characteristics.



According to the results, most students (92%) in Zanzibar reported that their teachers used teaching practices that are instructionally destructive (e.g., hitting the student or asking other students questions) or that discourage student engagement and continued the effort when students were unable to correctly answer the teacher's questions. Also, few students in Zanzibar (14%) reported that their teachers used active constructive instructional techniques (e.g., rephrasing or explaining questions) in the classroom to encourage student engagement and build academic knowledge. Active constructive techniques are related to the 3Rs curriculum in that teachers are expected to use instructional techniques that enhance student understanding and engage students in a purposeful manner.

According to the results, most teachers' lesson timetables in Zanzibar allocated the appropriate amount of class time (as specified by the 3Rs) to reading (92%), writing (92%), and mathematics (88%). However, when they were observed teaching lessons, 70% and 82% of them taught reading and mathematics lessons, respectively, that were at least 30 minutes long (**Table 2**). In addition, 85% and 76% of teachers were observed following the lesson plans they had developed for the day in reading and mathematics, respectively.

Table 2. Time spent on the 3Rs.

Indicator	National	Zanzibar
5 hours of reading per week	82%	92%
3 hours of writing per week	83%	92%
4 hours of mathematics per week	83%	88%
30-minute lesson: Reading	70%	70%
30-minute lesson: Mathematics	77%	82%
Follow the teacher's lesson plan: Reading	75%	85%
Follow the teacher's lesson plan: Mathematics	79%	76%

According to the 3Rs reforms, Head Teachers serve as instructional leaders in their schools. To this end, 65% of teachers in Zanzibar reported that their teaching practices were observed by the Head Teacher at least once per quarter (compared to 60% of teachers nationally). In addition, 93% of teachers reported that the Head Teachers checked the teachers' lesson plans (compared to 79% nationally).