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## EGRA Teaching and Learning Resources on Reading Abilities of Early-Grade Learners in Public Primary Schools in Kiambu County, Kenya

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### **Abstract:**

*Early Grade Reading Activities (EGRA) is a programme aimed at improving reading in grades one to three. This programme entails various interventions, including the development and distribution of teaching and learning resources. This study sought to investigate the influence of EGRA teaching and learning resources on the reading abilities of early-grade learners in public primary schools in Kiambu County. The study made use of the descriptive survey research design. The target population was 26,156 individuals from the 576 public primary schools in Kiambu County. This population comprised 1,408 grade one to three teachers and 24,748 grade 3 learners in the public primary schools in Kiambu County. A sample of 1066 individuals comprising 57 lower grade teachers and 1009 grade 3 learners were selected using the clustered sampling technique. Questionnaires were used to collect data from the teachers, while an achievement test was used to collect data from learners. Data was analysed using frequencies, percentages, means, and standard deviation, while the linear regression method was used to test the relationships between variables. Results showed that EGRA teaching and learning resources ( $\beta = 0.209$ ,  $t = 2.263$ ,  $p = .028$ ) had a positive and statistically significant influence on learners reading abilities. Based on the findings, the study concludes that interventions that seek to improve teaching and learning resources are effective in improving early-grade reading abilities. This information could be of great significance in designing future programmes that reflect good practices and implementation. The study recommends that the Ministry of Education should sustain the flow of teaching and learning resources at the end of the EGRA programme because there is evidence that these resources are effective in promoting reading.*

**Keywords:** EGRA, teaching, learning, resources, early-grade, primary, reading, Kiambu, Kenya

### **1. Introduction**

Reading abilities refer to the cognitive processes involved in understanding written text, including decoding, comprehension, and fluency (Hernandez et al., 2019). Reading abilities involve using knowledge of language, vocabulary, grammar, and syntax to comprehend text and extract meaning effectively. According to Izuagba *et al.* (2015), reading skills form the basis of all learning because they are tools that cut across the school curriculum. The reading skills, particularly of learners in the early grades, play a critical role in their academic performance and ability to meet educational benchmarks. Reading ability determines a learner's capability to learn other subjects and develop thinking skills (Smith et al., 2021). However, many learners in the early grades struggle with reading, which can have a range of negative implications for their educational and broader future prospects.

UNESCO (2016) reported that 250 million children globally are not learning basic literacy skills, of which 57 million are from disadvantaged backgrounds. Piper et al. (2016) argue that although universal primary education has largely been achieved in most countries, educational quality measured by learner outcomes has remained stagnant. School readiness among learners under seven years remains low and desperate (Uwezo, 2015). This is not in line with the agenda 2063 of the African Union (AU) of catalysing education and skills revolution to build knowledge, human capital, capabilities and skills leading to improved quality education and building capacities at all levels of education.

In most African countries, the majority of children are not reading at grade level by the end of primary school (Phala & Hugo, 2022). One of the main challenges in Africa is low levels of literacy and insufficient reading instruction, which contribute to poor reading outcomes (Dagada, 2022). In addition, many children in Africa speak languages other

than the official language of instruction, which puts them at a disadvantage in learning to read (Akkari, 2022). A survey conducted in Uganda, Mali and Liberia revealed that only 4% of early-grade learners could read with at least 80% comprehension (Phala & Hugo, 2022). An estimated 81% of learners get to grade four without having acquired basic reading skills. These statistics are cause for concern because individuals with low reading ability may struggle to comprehend text even in other subjects, making it difficult for them to learn.

The situation in Kenya has not been very different from that of other African countries. The majority of learners in Kenya are still not reading at grade level by the end of primary school (Kreter & Oluoch, 2022). Learners face language barriers as they are required to learn in English, the official language of instruction, while many learners speak local languages and only learn English in school (Ngure et al., 2019). This makes it difficult for learners to comprehend and interpret what they are reading. Many schools in Kenya lack adequate learning resources, such as sufficient reading materials, textbooks, and teacher guides (Katam, 2019; Ngure et al., 2019). This makes it difficult for learners to practice reading and hampers the efforts of teachers to teach reading effectively.

The Uwezo Six (2016) report stated that nationally, 8% of Standard Eight learners could not do grade two work across the country while 92% of Standard Eight learners could do Grade two work in English, Kiswahili or Mathematics. However, only 91% could do the three subjects combined. This shows no significant improvement in learning outcomes (Uwezo, 2016), indicating that children in Kenya complete standard eight without acquiring the basic competencies expected of a learner in Grade Two. Despite marginal improvement from 46 to 50 percent of learners aged 7- 13 years who could read a grade two storybook between 2011 and 2014 (Uwezo, 2015), literacy level remained almost unchangeable. Uwezo's (2015) assessment showed that (90%) of the vast majority of school-aged children in Kenya attend school, but the grade gap is high where the difference between the grade they are enrolled in is lower than the expected grade. Therefore, there is a need for further intervention to enhance reading.

In 2020, NASMLA observed that 86.9% and 87.5% of learners did not attain Level-1 competencies in English and Kiswahili, respectively (KNEC, 2020). Level-1 competencies mainly entail the application of knowledge of an alphabet to organise words in alphabetical order. Similarly, 58.8% and 51.3% of the learners did not attain Level-4 competencies in English and Kiswahili, respectively, which entails reading with comprehension and making inferences. There was a high correlation between literacy and numeracy, suggesting that learners who fail to develop the required competency in reading are more likely to struggle in other areas of study, such as numeracy (KNEC, 2020).

To improve reading abilities among early-grade learners, the government of Kenya, in collaboration with development partners, initiated the Early Grade Reading Activities (EGRA) programme in 2015 (Ministry of Education, 2015). The programme is targeted to cover all public primary schools and an estimated 1,000 alternative basic education institutions (ABEIs) that serve low-cost urban settlement schemes across the country. The targeted beneficiaries include 5.4 million primary school learners, 100,000 learners ABEIs, 48,000 teachers in public primary schools, 2000 teachers in ABEIs, 1052 tact tutors, and 67 instructional coaches (Piper et al., 2017). The programme sought to realise its goals by improving instructions and delivery methods, enhancing access to textbooks and other materials, refining the supervision and evaluation of teachers, and entrenching ICT in supporting literacy.

One of EGRA's interventions entailed providing teaching and learning materials to schools to enhance learners' reading skills. In particular, the EGRA programme provided textbooks that support the teaching of reading and story books that are carefully selected to match learners' reading levels (Piper et al., 2017). The programme also provided teachers with lesson plans that are aligned with the Kenyan curriculum and designed to help teachers implement effective reading instruction strategies (USAID, 2022). In addition, the programme provided teachers with various teaching aids such as posters, charts, and flashcards to support reading instruction and promote student engagement. According to the World Bank (2018), the EGRA programme in Kenya has distributed approximately 18.5 million textbooks and other materials for early-grade reading to over 23,000 public primary schools in the country.

The midline evaluation conducted in 2017 showed that the programme had led to a notable improvement in learners' reading skills (Piper et al., 2017). However, the level of improvement varied from one region to another. Despite having a high teacher-classroom ratio of 1:2, the proportion of Grade 3 learners in Kiambu who could do Grade 2 tasks was 39.5% compared to 51.8% in Nyeri and 50.5% in Nairobi. The report on monitoring learners' progress in 2019 showed that below 29.37% of Grade 3 met the exceeding expectations in Reading activities. These statistics raise questions regarding the effectiveness of the interventions of the EGRA programme within Kiambu County. In addition, the midline programme assessed the impact of the programme as a whole rather than specific interventions. The evaluation, therefore, made it difficult to determine the interventions that worked and those that were less effective. It is in this regard that this study sought to investigate the influence of the EGRA teaching and learning resources on the reading abilities of early-grade learners in public primary schools in Kiambu County in order to provide insights that can inform policy and practice.

## 2. Literature Review

One of the key factors in improving learning outcomes is to provide appropriate learning materials to enhance reading in lower grades (Piper et al., 2017). Learners require age-appropriate and captivating books in addition to instructions that teachers offer to develop reading skills. Ngure (2019) argues that without appropriate reading materials, it is not possible to improve reading skills. Textbooks and other reading materials enable learners to establish a crucial link between reading skills acquisition and the application of these skills. The availability of teaching and learning resources has an impact on the implementation of reading programmes. Khamis (2009) found a significant direct relationship between support, assistance of teachers and learning resources in the classroom and the academic achievement of learners. Ritchie *et al.* (2009), in their study, showed that the learning environment of schools provides a

supportive environment and is very effective in how the learners learn and develop their skills and abilities. Sterling (2009) also indicated that the rules and policies governing the classroom were effective in learning and influence outcomes.

Textbooks are among the teaching and learning resources that play a crucial role in developing the reading abilities of early-grade learners. Textbooks provide students with access to different kinds of texts, including prose, poetry, and informational texts (Haland et al., 2021). This exposure to diverse texts helps students develop a wide vocabulary and comprehension skills. Textbooks also provide students with structured opportunities to practice reading, from the simplest words and sentences to more complex texts (Clasen, 2021). This structured approach helps students develop a better understanding of the text and improves their reading skills. Textbooks are often designed to provide a sequence of learning activities that build upon each other (Vuzo, 2022). This scaffolding helps students gradually develop their reading abilities by providing opportunities for practice and consolidation. Textbooks also serve as a tool to reinforce learning, allowing early-grade learners to practice reading in a systematic way (Clasen, 2021). The repetition of skills and concepts in different contexts helps students retain information and improve their reading abilities. In addition, textbooks often contain activities that require students to analyse, synthesise, and apply information from different texts (Laila et al., 2021). These activities promote critical thinking and improve comprehension skills.

For a textbook to have a notable impact on learners' reading ability, it must have certain basic characteristics and features. First, textbooks must be age-appropriate, which means that they should be designed with the developmental stage of early-grade learners in mind (Vuzo, 2022). The content must be relevant, engaging, and interesting to the learners. Also, textbooks should be graded in a way that promotes systematic learning. Students should progress through the stages of reading, from learning sounds and letters to reading paragraphs and short articles. Similarly, the text must incorporate pictures and images. Early-grade learners benefit from picture support, which means that relevant images are included in the textbook to help students understand the content better (Clasen, 2021). Anyiendah et al. (2020) observed that using pictures and graphical materials helped to stimulate prediction skills among struggling readers. With the graphical images, all the learner has to do is to say what he or she sees in the pictures.

Phonics and sight words are essential components of reading instruction in early-grade learners. Phonics teaches students the sounds that letters make and how to blend those sounds to create words (Milankov et al., 2021). On the other hand, sight words are words that students learn to read by sight. These are often high-frequency words that occur in written material. Textbooks must include both phonics and sight words in a systematic, graded manner. Effective early-grade reading often starts with phonics instruction and progresses to more advanced blends, consonant clusters, and digraphs (Clasen, 2021). Phonics instruction helps students decode words when reading and supports their word recognition skills. The textbooks then introduce the sight words gradually, which helps learners read fluently and quickly. By recognising sight words, students do not have to decode each word, allowing them to focus on the meaning of the text.

Laila et al. (2021) also opined that textbooks must be founded on local wisdom to effectively improve reading abilities. Early-grade learners find it easy to comprehend texts that are based on local contexts because they have the background knowledge and experience to connect and interpret these texts. Consequently, interventions that aim to make reading textbooks available to early-grade learners should pay attention to how these textbooks are designed. The textbooks should incorporate all the essential characteristics needed to impart reading skills to young readers (Clasen, 2021). Teaching and learning resource interventions should also incorporate a mechanism for ensuring that texts are reviewed on a regular basis so that they remain relevant.

In addition to textbooks, schools should have supplementary teaching and learning materials to support early-grade reading. One of the supplementary materials that can be integrated into early-grade reading lessons is the phonics and sightword flashcards. Flashcards that display individual letters, sounds, words or phrases can be extremely useful for early-grade learners to practice phonics and sight words (Robeldo & Gove, 2018). Flashcards can be used for a variety of activities, such as matching games, sorting activities, and drill practice. Flashcards can also be used to support repetition and review and encourage independent practice where students are given flashcards to practice at home (Erbey, 2011). Sight word flashcards help students learn word recognition by sight, which is essential for reading fluency.

Noordin et al. (2020) opined that teachers who use phonics and sight-words flashcards should introduce them gradually and in small batches. The teacher should then build on what they have learned by gradually introducing more complex phonetic sounds and higher-frequency sight words. This will help early-grade learners to focus on mastering a few sounds or words before they move on to the next ones. Teachers should also make flashcards interactive by using games and activities (Erbey, 2011). This implies that the design of flashcards should be systematic, something that a programme aimed at distributing teaching and learning materials should consider. Such a programme should also build the teacher's capacity to use the flashcard appropriately.

Early-grade reading lessons may also integrate games and activities for enhanced learning. Children love to play games and participate in activities, and incorporating reading into these fun settings can motivate and engage students (Malatu & Regassa, 2022). Educational games and activities such as puzzles, bingo, board games, and memory matching can provide a fun way for students to practice phonics, sight words, and other essential reading skills. Teachers can use word search puzzles with sight words, vocabulary words, or spelling words so that students can find and circle in the puzzle (Robeldo & Gove, 2018). This reinforces letter recognition skills and promotes vocabulary development. They can also use crossword puzzles with vocabulary words or spelling words to encourage learners to comprehend nuances in spelling and understanding of language. Teachers can also create bingo cards with different reading skills or types of books (Desta, 2020). When students complete a task, they can cross it off their bingo card. The first student to complete a line wins a prize. Such games improve learning by making learners active in the learning process, solidifying the lessons,

and creating fun and rewarding experiences. However, developing or acquiring such games and activities requires time and materials that most teachers do not have.

Teaching and learning materials form the medium through which teaching is carried out. Gathumbi (2013) noted that the availability of materials is a powerful and consistent determinant of learning achievement. There is a need for appropriate pedagogy skills but also a need for addition; there is a need to use textbooks with adequate and appropriately graded reading text and supplementary readers for learners to practice. However, the low availability of textbooks and reading materials both at school and at home is a challenge to learners' literacy (Desta, 2020). Ngure (2019) explains that at the beginning of learning how to read, a child uses his or her vocabulary knowledge to match words in verbal forms with written forms. As the child advances, he or she expands beyond oral vocabulary to written because written language is more diverse than spoken language. By the age of 10 years, the child begins to learn abstract words through reading, which are necessary for transition to the next class. Reading materials are extremely crucial in facilitating this transition, and thus, there is a need for the study to check if these materials are available in Kiambu County to enhance reading in lower grades.

Studies continue to show a serious shortage of textbooks and learning materials in Kenyan classrooms (MoE, 2012). The government budgetary allocation for the sector is insufficient and thus does impact negatively on the provision of resources such as textbooks which may affect the learning outcome (MoE, 2012). Studies also point to the use of inappropriate materials by early-grade teachers and inappropriate application of materials. For instance, Anyiendah et al. (2020) found that early-grade teachers in Vihiga County over-relied on pictures to promote the prediction of contents of comprehension passages. The teachers also confined themselves to pictures in the class textbooks and showed little effort to source additional materials. Participants in this study confided that over-reliance on pictures in the test was due to a lack of adequate time to search and prepare supplementary pictures due to a heavy workload. This implies that the high learner-teacher ratio in Kenyan public primary schools is also a barrier to the application of appropriate materials in teaching reading.

The EGRA Programme provided teachers with instructional materials, including lesson plans and scripts, learners' homework books and textbooks (Centre of Education Innovation, 2015). The headteachers were trained to provide instructional leadership for their schools while managing the acquisition, utilisation and maintenance of the new learning materials (USAID, 2017). EGRA teaching and learning materials intervention also encompassed redesigning textbooks and other materials to make them more responsive to missing reading skills (Dubeck & Gove, 2015). It sought to make the textbooks and other materials used to teach more research-based reading.

To enhance literacy outcomes, EGRA introduced low-cost methods of literacy instruction and evidence-based supplementary materials and resources (World Bank, 2018). The Orange Book is one of the books produced through the EGRA program and given a nod by the KICD as a list of officially approved books for use in the CBC curriculum. The EGRA teaching and learning resource intervention also entails ensuring that the redesigned textbooks are accessible to learners within the public primary school (Gray-Lobe et al., 2022). The target of the programme is to ensure that there is a learner-textbook ratio of 1:1 in both English and Kiswahili. This intervention also entailed the provision of teacher guides and supplemental readers.

Despite the implementation of the EGRA programme in 2015, the study by Katam (2019) established that the learner-text book ratio and adequacy of instructional material varied across public primary schools in Kenya. The study utilised a cross-sectional survey design that entailed collecting data from 68 head teachers and 68 teachers from public primary schools in Migori, Narok, Murang'a, and Kitui counties. Results showed that public primary schools in Muranga and Kitui had an English textbook learner's ratio of 1:3, while Migori and Narok counties had a ratio of 1:4. These results imply that the EGRA programme had failed in meeting its objective of delivering 1 textbook for each student in all the four counties. The results also imply that there are disparities in the delivery of EGRA teaching and learning materials across regions, with schools in some regions having fewer materials. The disparity means that studies conducted in other regions could not give a true picture regarding the delivery of teaching and learning materials in Kiambu public schools.

The study by Ngure et al. (2019) also found that there were inadequate instructional resources for teaching and learning reading among grade 3 learners in Nairobi County. The study also utilised a survey design that entailed collecting data from 10 headteachers, 30 grade-3 teachers, and 150 grade-3 learners. About 7.1% of the teachers reported that there were no textbooks in their school, while 60.7% said that available textbooks were few. These statistics suggest that over two-thirds of the schools in Nairobi County did not have adequate textbooks. The lack of textbooks hampered the acquisition of reading skills. In addition, 32.1% said their classes had no charts on the wall, while 60.7% said the available charts were inadequate. These statistics imply that over 90% of the schools in Nairobi County do not have adequate wall charts for teaching reading. This is an unfortunate situation because wall charts play a significant role in teaching reading, especially for young learners in the early years of education.

### 3. Research Methodology

#### 3.1. Research Design

The study adopted the descriptive survey research design. This design was more consistent with the general objective of the study and perceived as authoritative for it allows the use of descriptive statistics in data analysis.

### 3.2. Population and Sample

The study's population consisted of 26,156 individuals, including teachers and learners in public primary schools. This population comprised 1408 lower-grade teachers (grade 1-3) and 24,748 Grade three learners in all public primary schools in Kiambu County (Kiambu County Director of Education Office, 2019). The sample size was determined using the Slovin sample size formula (Rivera, 2007).

$$n = \frac{N}{1 + N(e)^2}$$

Source: Rivera (2007)

Where:

n = sample size

N = Total population (in this case, 26,156)

e = Margin of error (in this case 0.03)

The sample size will thus be determined as:

$$n = \frac{26,156}{1 + 26,156(0.03)^2}$$

$$n = 1065.83 \approx 1066 \text{ individuals}$$

The 1066 individuals that formed the sample for this study were proportionally allocated to the two categories of respondents, as shown in table 1.

Category	Population (N)	Proportion of N (%)	Sample Size
Grade 1 to 3 teachers	1,408	5.38	57
Grade 3 learners	24,748	94.62	1009
Total	26,156	100.00	1066

Table 1: Distribution of Sample across the Two Categories of Respondents

As table 1 illustrates, a total of 57 teachers and 1009 grade 3 learners were selected from the target population. The study adopted the clustered random sampling method to select the 1066 individuals from the target population. The target population was clustered according to the 12 sub-counties that make up Kiambu County. Four sub-counties were then selected randomly from the 12 sub-counties. The number of schools that were selected from each of the four sub-counties was proportional to the population of schools in the sub-counties. The sampling plan for schools is summarised in table 2.

Sub-County	No. of Schools (N)	Proportion of N (%)	Sample Size
Kabete	26	24.5	6
Kiambu	21	19.8	5
Kiambaa	23	21.7	5
Thika	36	34.0	7
Total	106	100	23

Table 2: School Sampling Plan

The required number of schools in each of the four sub-counties was also selected using the random method. A total of three lower-grade teachers were selected randomly from 10 schools with a high number of teachers, while two lower-grade teachers were selected randomly from the remaining 13 schools. To make up the sample of 1,009 grade-3 learners, a total of 44 grade-3 learners were selected randomly from each of the 23 schools.

### 3.3. Research Instruments

The study used the following instruments: teachers' questionnaires and achievement tests for learners.

#### 3.3.1. Teachers' Questionnaire

The study used the questionnaire for the teachers to gather teachers' views regarding the implementation of EGRA intervention in their workstations and its impact on learners' reading outcomes. The Questionnaire for the Teachers contained closed-ended Likert-type questions in order to facilitate comparison using statistical methods. Respondents were presented with a set of statements and asked to indicate their agreement with each on a five-point scale (5= Strongly Agree, 4 = Agree, 3 = Not Sure, 2 = Disagree and 1= Strongly Disagree).

#### 3.3.2. Achievement Tests for Learners

An achievement test was administered to assess the reading skills of grade three learners in the sampled schools. The achievement test comprised two sets of reading tasks designed to assess the learners' English reading skills, including passage comprehension, reading fluency, sight recognition, word attack skills, letter identification, and vocabulary. It was scored out of the highest possible score of 44 points. The reliability of the achievement test was examined using the test-retest method.

### 3.4. Data Collection Procedure

The researcher got clearance from Masai Mara University. Then, a research authorisation permit was obtained from the National Commission for Science, Technology and Innovation (NACOSTI). Subsequent clearance to carry out the study was obtained from The Director of Education and County Commissioner of Kiambu County. Then, the researcher asked permission from various heads of the sub-counties and made an appointment to create rapport and confidence and remove any suspicions by the assurance of confidentiality to access their schools. The researcher gave a questionnaire to the sampled respondents in person and afterwards requested the grade 3 teachers to assist in administering the reading achievement test to the learners. The researcher trained the grade 3 teachers on how to select the sample of learners and how to administer the reading achievement test.

### 3.5. Data Analysis

The researcher collected all the filled-in questionnaires and assessed them for completeness. The researcher then numbered the questionnaire in a systematic way, with questionnaires from each school being given a unique school code to enable matching of the questionnaire data and learners' English test achievement data for the school. The questionnaire was coded into the SPSS software to facilitate the entry of responses into the software. The results of the achievement test were also sorted and entered into the software. The test results were not coded because the data was already in a numerical format. Descriptive statistics were used to summarise the quantitative data on each of the variables that are essential to the study. The linear regression technique was used to conduct the inferential analysis.

## 4. Results and Discussions

### 4.1. Introduction

A total of 56 questionnaires were returned to the researcher, with a response rate of 98%. However, three questionnaires had quite a number of questions left blank, and thus, these questionnaires were excluded from the analysis. Consequently, the teacher sample was reduced to 53 respondents. The sample size for learners was also reduced from 1009 to 961 because some schools had less than 44 grade-3 learners. However, all the 961 learners that were approached managed to complete the study. Since the drop in numbers was not due to respondents' refusal to participate or their dropping out, the risk for non-response bias was substantially reduced.

### 4.2. EGRA Teaching and Learning Resources in Kiambu County

The independent variable of the study was EGRA teaching and learning resources. This element of the EGRA programme focused on developing teaching and learning resources and making them accessible to public primary schools. To examine how effectively this component of EGRA had been implemented in public primary schools in Kiambu, respondents were given a set of seven statements and asked to indicate their agreement with each on a five-point scale (1= strongly disagree to 5 = strongly agree). Table 3 presents the findings:

S/N	Statement	1	2	3	4	5	Mean	SD
TL1	The school has received students' books aimed at improving lower-grade learners' reading abilities	1.9	3.8	7.5	45.3	41.5	4.21	.885
TL2	The school has received teachers' guides aimed at improving the delivery of reading instructions by lower-grade teachers	1.9	1.9	9.4	37.7	49.1	4.30	.868
TL3	The students' books supplied to the school are sufficient to allow every child to hold and use their own book	11.3	13.2	11.3	28.3	35.8	3.62	1.417
TL4	The teachers' guides provided are sufficient to allow each teacher to use their own guide	3.8	7.5	5.7	39.6	43.4	4.08	.858
TL5	The books and materials provided are relevant in promoting reading literacy	1.9	3.8	3.8	52.8	37.7	4.19	.900
TL6	The materials provided to the schools are of good quality	0	3.8	7.5	49.1	39.6	4.21	.885
TL7	Teachers make use of the books and guides provided in delivering reading instructions	0	1.9	3.8	39.6	54.7	4.45	.748

Table 3: Respondents' Views on EGRA Teaching and Learning Resources

Table 3 shows that 86.8% of the respondents agreed with statement TL1, which alleged that their school had received students' books aimed at improving lower-grade learners reading abilities. The distribution of students' books was one of the components of EGRA interventions (World Bank, 2018). Current findings suggest that over 85% of the

primary schools in Kiambu County have received books for teaching early-grade reading from the EGRA programme. This finding is consistent with Cherobon and Chepsiror (2022), who also found that the EGRA programme had enhanced learners' access to textbooks in public primary schools in Nandi County. Providing early-grade learners with textbooks improves their reading skills by giving them access to a wide variety of texts and encouraging them to read more often and extensively. Textbooks provide examples of structured language, vocabulary, and syntax that can help learners develop their reading and writing skills. Textbooks provide access to a wide variety of words, both within the text and through glossaries and other supplementary materials (World Bank, 2018). This exposure to new vocabulary can help early-grade learners expand their vocabulary and improve their reading comprehension.

The majority of the respondents (86.8%) agreed or strongly agreed with item TL2, which claimed that their school had received teachers' guides aimed at improving the delivery of reading instructions by lower-grade teachers. Apart from distributing students' books and other reading materials, the EGRA programme also entailed distributing guides to assist teachers in improving instructional practices for teaching specific reading skills. Current findings suggest that over 86% of the public primary schools in Kiambu County have received the teachers' guides. This proportion is slightly higher than the 61% recorded in the EGRA 2022 annual report (USAID, 2022). However, the disparity is probably due to the fact that the EGRA annual report had countrywide geographic scope and consequently covered regions like the Arid and Semi-Arid Lands (ASAL) counties. Having access to a teachers' guide helps teachers plan and deliver effective lessons that are aligned with learning outcomes and standards (Clasen, 2021). This, in turn, helps early-grade learners to understand and focus on the important concepts related to reading. Teachers' guides also improve lesson delivery by helping teachers plan an engaging and interactive classroom environment and use appropriate teaching strategies to enhance reading skills.

However, relatively fewer respondents (64.1%) agreed with item TL3, which asserted that students' books supplied to their school are sufficient to allow every child to hold and use their own books. One of the targets of the EGRA programme is to reduce the textbook-to-learners ratio of 1:1. This implies that the programme sought to ensure that every learner has his or her own books and reading materials. Current findings suggest that more than a third of public primary schools in Kiambu County do not have adequate early-grade reading materials. It implies that the EGRA programme has fallen short of its target in these schools. This finding is congruent with the study by Ngure (2019), where 28.6% of grade three teachers reported that there were inadequate age-appropriate reading books in their schools. About 32% of the teachers also reported that there were no charts on walls for reading. The findings are also congruent with the EGRA 2022 annual report, which revealed that some schools reported a shortage of reading course books and other materials occasioned by increased learner enrolment and wear out (USAID, 2022). Shortages were also recorded in newly registered schools, particularly in the ASAL areas. Failure to meet the textbook-learner ratio of 1:1 hampers learning as most learners do not get the opportunity to use the textbook as much as they need, leading to less support for their reading abilities. Sharing textbooks also denied learners the opportunity to read independently, which is crucial for self-directed learning and authentic learning. Self-directed learning allows learners to take responsibility for their own learning by actively seeking out resources that can improve their reading skills (Haland et al., 2021). Without textbooks at their disposal, learners may struggle to take full responsibility for their own learning.

On the other hand, 83% of the respondents agreed or strongly agreed with item TL4, which declared that the teachers' guides provided are sufficient to allow each teacher to use their own guide. Apart from providing learning materials for learners, EGRA also develops and distributes guides for teachers (USAID, 2022). The guide aims to ensure that teachers have adequate support to enable them to implement EGRA literacy approaches effectively. Current findings suggest that over 80% of teachers in public primary schools have adequate access to teachers' guides. The findings also suggest that there is greater access to teachers' guides when compared to learners' materials. This may be attributed to the fact that there are few teachers when compared to learners, and thus, developing and distributing materials for teachers is much easier. In addition, teachers have greater access to ICT than learners, which enables them to access the EGRA teaching materials through digital platforms. These findings create a case for fast-tracking the integration of ICT in early-grade classrooms as a strategy for enhancing learners' access to digital text. Digital textbooks can be distributed to all learners in a classroom or school without significant additional cost. This eliminates the need for printing and distribution costs associated with physical textbooks, which often constitute a significant portion of textbook costs. The digital textbooks will also ensure that learners have access to reading materials regardless of where they are located.

In addition, 90.5% of the respondents agreed or strongly agreed with statement TL5, which stated that the books and materials provided are relevant in promoting reading literacy. The EGRA programme was not limited to the distribution of reading material only but also involved the development of evidence-based reading materials. This component of the programme aimed to ensure that learners and teachers in primary schools have access to materials that are relevant and exciting. Within the 7-year period that the programme has been in place, EGRA has also been revising the materials to ensure that they remain relevant to changing times and learners' realities (USAID, 2022). The latest revision for grade 1-3 English and Kiswahili course books was done in 2021 and adopted by the MoE and KICD, with EGRA supporting the procurement of the revised materials and their distribution in 2022. Current findings suggest that most public primary schools are satisfied with the interventions that EGRA has put in place to ensure that reading materials remain relevant. Relevance of textbooks and supplementary reading materials promotes learners' reading abilities by encouraging reading. Early-grade learners are more likely to read when the content resonates with their interests and experiences (Vuzo, 2022). If the reading materials are not relevant to the learners, they may not be motivated to read them, which can hinder their progress in reading. The relevance of materials also enhances learners' prediction and inference skills in reading to enhance comprehension (Cevoli et al., 2022).

Furthermore, 88.7% of the respondents agreed with item TL6, which specified that the material provided to the schools is of good quality. This finding implies that most of the materials that EGRA has provided to public primary schools in Kiambu County are of good quality. This finding is congruent with the EGRA 2022 annual report, which indicates that EGRA is revising reading materials on a regular basis, with the most recent revision being conducted in 2021 (USAID, 2022). As educational standards and social norms change, texts used to teach reading may become outdated or misrepresented. Regularly reviewing and updating texts can help ensure that they accurately reflect current knowledge and perspectives. Regularly reviewing and updating texts can also help ensure that they are culturally sensitive and relevant to the learners' backgrounds. Early-grade learners in Kiambu County come from diverse cultural backgrounds, and culturally relevant materials show that their heritage and culture are valued and respected. This helps to reinforce their cultural identity, which is critical for their overall development as individuals (Milankov et al., 2021). Culturally sensitive and relevant materials are also more likely to engage learners compared to those that do not. These materials are more likely to capture the students' interests and maintain their attention, making learning easier and more enjoyable.

Lastly, 94.3% of the respondents agreed with statement TL7, which detailed that teachers in their school make use of the books and guides provided by EGRA in delivering reading instructions. It is not enough to take teaching and learning material to schools. These teaching and learning materials must be put into use for observable improvement in learners' reading outcomes. According to Wawire (2020), the adoption of new teaching and learning material is highly dependent on teachers' attitudes and sense of self-efficacy. Consequently, interventions that seek to deliver teaching and learning resources to schools must be accompanied by an intervention that seeks to change teachers' attitudes and sense of self-efficacy. USAID (2022) states that the EGRA programme encompasses a teacher training and coaching component that seeks to change teaching practices by empowering teachers with the skills needed to implement new instruction and change their expectations and attitudes. These findings highlight the importance of integrating the teaching and learning resource intervention with a teacher-capacity-building intervention within the EGRA programme. The two interventions reinforced each other with the capacity-building intervention providing teachers with the skills and know-how needed to make use of the resources provided by the programme.

#### 4.3. Learners' Reading Abilities in Public Primary Schools in Kiambu County

The dependent variable of the study was the learners' reading abilities. This variable was measured by giving a short achievement test to grade-3 learners that sought to assess their reading skills. The test was adopted from Uwezo (2016) and was marked out of a possible highest score of 44 marks. However, then it was converted into a percentage score to facilitate comparison with the performance of learners in other studies. Table 4 presents a summary of the learners' performance on the test.

<b>N</b>	<b>Valid</b>	<b>961</b>
	Missing	0
Mean		89.21
Minimum		0
Maximum		100

Table 4: Summary of Learners Performance in the Reading Test

Table 4 shows that 961 learners completed the test, and their mean score was 39.25 out of a possible highest score of 44. This mean score is lower than the 97.14% that the study by Cherobon and Chepsiror (2022) recorded among primary school learners in Nandi County. However, the discrepancy could be attributed to the fact that Cherobon and Chepsiror involved grade six and grade seven learners, while the current study involved grade three learners. To further make sense of the data, the scores were classified into three categories: marks above 70% were classified as good, 50-69% were rated as fair, and below 50% were classified as below average. Table 5 presents this data.

<b>Reading Abilities Category</b>	<b>Frequency</b>	<b>Percent</b>
Below Average	45	4.7
Fair	48	5.0
Good	868	90.3
Total	961	100.0

Table 5: Learners' Distribution across Reading Abilities Category

Table 5 shows that 90.3% of the learners scored 70% or above and thus were categorised as having good reading abilities. This proportion is significantly higher than the 35% that was recorded by Uwezo (2016) when they administered the test countrywide. It is also higher than the 61% recorded by Uwezo (2016) in Kiambu County. The result suggests that there is a notable growth in the number of grade 3 learners who can read grade 3 English stories. At first value, this finding could be interpreted to mean that the EGRA interventions have worked effectively in improving the reading abilities of learners in public primary schools in Kiambu County. However, table 5 shows that there are still about 5% of learners in public primary schools with reading abilities that is below average. It is paramount to ensure that these learners are not left behind.

#### 4.4. EGRA Teaching and Learning Resources and Learners' Reading Abilities

Regression analysis was meant to test the relationship between the independent variables of the study and learners' reading abilities. To conduct this analysis, composite scores were computed using EGRA teaching and learning resources using the Likert scale data. The composite scores were obtained by averaging the values of responses in each Likert scale with the assumption that each item in the scales contributes equally towards the variable being measured. This computation resulted in scores that were measured at the interval level. The computation meant that each of the sampled teachers had a composite score for EGRA teaching and learning resources. The corresponding data was obtained by computing the mean score for each of the 23 schools in which the reading test was administered. The mean score for a given school was then assigned to the teachers recruited from that school. The data set, therefore, became complete, with each teacher having a composite score for the independent variable and reading test mean score for the school. Table 6 presents the findings of the regression analysis.

Variables	Coefficient	Significance
Constant	24.209	.000
EGRA teaching and learning resources	.209	.028
t	2.263	0.28
F	120.795	.000
R-squared	69.7	

Table 6: Regression Results

Results in table 6 show that EGRA teaching and learning resources had a beta coefficient of 0.209. This coefficient is positive, suggesting the existence of a positive link between EGRA teaching and learning resources and learners' reading abilities. In particular, the coefficient implies that when the implementation of the EGRA teaching and learning resources component is improved by 1 unit, the learners' reading abilities would improve by 0.209 units. The t-test shows that the improvement in reading abilities that would result from a unit improvement in the implementation of EGRA teaching and learning resources is statistically significant at the 0.05 level of significance ( $t=2.263$ ,  $p=.028$ ). The findings affirm that EGRA teaching and learning resources have a positive and statistically significant influence on the reading abilities of these learners.

This finding is congruent with Ngure (2019), who argues that learners require age-appropriate and captivating books in addition to instructions that teachers offer in order to develop reading skills. Textbooks and other reading materials enable learners to establish a crucial link between reading skills acquisition and the application of these skills. Current findings are also consistent with Khamis (2009), who found a significant direct relationship between the availability of learning resources in a classroom and the academic achievement of learners. In addition, current findings align with Anyianda et al. (2020), who pointed out that the lack of teaching materials and facilities has made it hard to use learners-centred teaching methods to improve the outcomes in reading. Teaching and learning materials form the medium through which teaching is carried out. Current findings also agree with Gathumbi (2013), who noted that the availability of materials is a powerful and consistent determinant of learning achievement. There is a need for appropriate pedagogy skills but also a need for addition; there is a need to use textbooks with adequate and appropriately graded reading text and supplementary readers for learners to practice.

The statistically significant relationship between EGRA teaching and learning resources and the reading abilities of early-grade learners highlights the importance of resources. The EGRA intervention focused on providing sufficient teaching and learning resources, which were lacking before, such as textbooks and teachers' guides. In particular, the findings highlight the different resources that are effective in improving the reading abilities of learners. The EGRA intervention encompassed the distribution of textbooks, supplementary reading materials, teachers' guides, and EGRA-developed lesson plans. The findings also underpin the importance of having well-designed teaching and learning materials in improving early-grade reading outcomes. The EGRA materials were carefully designed by experts following evidence and best practices. The materials, particularly the course text, were reviewed on a regular basis to ensure they remained relevant and in tandem with emerging trends.

In addition, the success of EGRA teacher and learning resources intervention showcases the importance of an efficient resource allocation and distribution system. The EGRA secretariat developed a logistic system for ensuring teaching and learning resources are distributed in line with demand (USAID, 2022). Although findings show that the programme missed the target of delivering one textbook per learner, the interventions have significantly enhanced access to textbooks within public primary schools.

## 5. Conclusions and Recommendations

Based on the findings, the study concludes that teaching and learning resource interventions have a positive and statistically significant influence on the reading abilities of learners at the early grade levels. Specifically, the study concludes that interventions that seek to develop relevant and high-quality teaching and learning resources, as well as making these resources accessible to teachers and learners, are effective in improving the reading abilities of learners in early grades. This implies that for any intervention focusing on improving the reading abilities of early-grade learners to be effective, sufficient resources must be provided. The intervention must also ensure that the teaching and learning

resources being distributed are well-designed using evidence and best practices. The resources should also be reviewed on a regular basis to ensure that they remain relevant.

This could suggest that providing high-quality teaching and learning resources can improve the literacy skills of young learners. This result could be particularly significant for children who may have limited access to resources outside of school, such as books or technology. Therefore, educational planners and stakeholders should invest in the development of high-quality teaching and learning resources that align with the curriculum and support evidence-based instructional practices.

The Ministry of Education should sustain the development and provision of teaching and learning resources for teaching reading to early-grade learners. The EGRA programme should enhance the distribution of books to ensure that its target of having one book per learner is attained. Increasing the books-to-learner ratio will enhance the learning of reading as each learner will be free to use their own book at any time.

The researcher suggests that this study will open several avenues for further study, broadening the area of research in early-grade reading activities and reading outcomes. This study focused on the teaching and learning resources component of the EGRA programme in Kiambu County. This allows room for replication in other counties to generalise the findings.

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