Effect of Word Recognition Skills on Learners’ Achievement in Reading Comprehension in Vihiga County, Kenya

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Abstract

Word recognition is one of the comprehension processing skills encapsulated by the interactive approach instruction. Word recognition skills enable readers to understand the meaning of comprehension passages by decoding the sound of new words. Learners in Vihiga County perform poorer in English language examinations than their peers in neighbouring counties. The performance is weaker in comprehension than in grammar sections of the English paper. Despite this, there is paucity of empirical information about the nexus between activation of word recognition skills and learners’ achievement in reading comprehension in the County. This study applied the Solomon Four-Group Design to source data from 279 primary school learners and 8 teachers in 2017. Multiple linear regression was used to generate two models, one for the experimental group (Model 1) and one for the control group (Model 2). Key results show that the influence of word recognition skills on learners’ achievement in reading comprehension was statistically significant in both groups. However, the effect was stronger in the experimental than in the control group, suggests that training teachers in the experimental group enabled learners in that group to perform better than their colleagues in the control group. Thus, activation of learners’ word recognition skills is likely to improve achievement in reading comprehension.

Keywords: word recognition, interactive approach, achievement, reading, comprehension, Vihiga County

1. Introduction

1.1 The Problem

In Kenya, English language as the medium of academic instruction, learning and evaluation processes in the basic education system, as set by the National Commission on Educational Objectives and Policies, popularly known as ‘the Gachathi Commission’, and Kenya’s Constitution 2010 (Oluoch, 2017; Mose, 2017; Roy-Campbell, 2014). In view of this, most primary schools underscore the importance of language competency for learners’ academic achievement, as well as the need to give their learners an early head start with English language skills (Roy-Campbell, 2014). This is based on the realisation that learners’ proficiency in written and spoken English is critical for their performance in all the subjects taught and examined using the language (Finney, 2013; Vries, 2011).

Vihiga is one of the 47 counties forming the Republic of Kenya. It is located in western region of the Country between longitudes 34°30’ and 35°0’E and latitudes 0° and 0°15’N (County Government of Vihiga, 2018). It neighbours Kisumu County to the South, Siaya and Busia Counties to the West, Kakamega County to the North and Nandi County to the East. A review of the Kenya Certificate of Primary Education (KCPE) results for the period 2011 to 2014 reveals that the County’s performance in the English language paper consistently remained lower than that of its neighbours such as Kisumu, Kakamega and Busia (Kenya National Examination Council [KNEC], 2014; 2013; 2012; 2011), as illustrated in Figure 1.
The information summarised in Figure 1 further reveals that learners’ performance was relatively lower in the comprehension, than in the grammar sections of the English language papers (KNEC, 2014; 2013; 2012; 2011). The twin challenges have captured the attention of education stakeholders, including government agencies, non-state actors, school administrations, parents and policy researchers, with each making effort to explore the underlying issues, and to find appropriate solutions.

Notably though, poor performance in English language examinations is not unique to Vihiga County; rather, it is a pervasive challenge in the country, as indicated by studies such as Ongatoh (2017), Makokha and Wanyonyi (2015), Kathuri (2014), Dubeck, Jukes and Okello (2012), Uwezo (2012), Isutsa (2011), as well as Commeyras and Inyega (2007). A review of the cited studies reveals that their primary focus was on establishing factors contributing to poor performance in national examinations, with some being specific to English language examinations. In this regard, all the studies identified the instructional method used by teachers as a key factor influencing learners’ performance in examinations. For example, Ongatoh (2017), Makokha and Wanyonyi (2015), as well as Kathuri (2014), separately established a significant relationship between the types of instructional method employed by teachers and learners’ performance in examinations. More specifically, Uwezo (2012) identified ‘incorrect instructional methods’ as a pervasive and perpetual challenge, affecting learners’ performance in reading comprehension passages. In this regard, the study reported that only one-third (32%) of standard six learners could read a standard two-level passage in English (Uwezo, 2012).

Of the above-cited studies, only Commeyras and Inyega (2007) investigated relationship between the interactive approach instruction and learners’ performance in reading comprehension. Even though the study found that one-third of teachers applied the interactive approach instruction when teaching comprehension reading; the analysis revealed that in about 90% of the lessons observed, the method was applied wrongly, which in turn, affected learning outcomes. Nonetheless, no academic study had examined the relationship between specific comprehension processing skills such as word recognition and learners’ achievement in reading comprehension, particularly in Vihiga County.

This study differs from its predecessors in terms of design and scope. Whereas most the cited studies adopted a general approach and applied cross-sectional designs to establish factors contributing to learners’ poor performance in examinations, this study applied a quasi-experimental design to determine effect of training teachers on how to activate learners’ comprehension processing skills, including word recognition, on learners’ performance in reading comprehension. The study’s primary hypothesis postulated that ‘correct activation of learners’ comprehension processing skills, using the interactive approach instruction is likely to influence learners’ achievement in reading comprehension. More specifically, the secondary hypothesis claimed that ‘word recognition skills’ has no significant effect on learners’ achievement in reading comprehension. The design used in this study permitted testing of the secondary hypothesis by creating an experimental and a control group, both of which were subjected to a post-
intervention test. Variation in means scores obtained by the two groups was considered ‘effect of word recognition skills on learners’ achievement in reading comprehension’.

1.2 Importance of the Problem

Reading is the process of identifying, extracting and constructing the meaning of written language or symbols. It is also the foremost process through which learners improve their proficiency in English language. In Kenya, where English is the official language for curriculum delivery from class four upwards, learners’ competency in reading is an essential requirement for good performance in all subjects anchored on the language (Finney, 2013; Vries, 2011). In this regard, learners with poor reading skills find it difficult to cope with the reading demands in other subjects, while those with excellent reading skills are quick to adjust to reading tasks in non-lingual subjects. Finney (2013), Akbar and Majid (2011) and Vries (2011), separately, describe the interactive approach instruction as an effective method for developing learners’ comprehension reading skills, and improving overall academic achievement in all subjects instructed using the English language. Despite this, the paucity of information about effectiveness of the interactive approach instruction on learning outcomes remains an impediment to policy and programming interventions for addressing the challenge of low performance in English language examinations, and more specifically in the comprehension reading section of the English language paper. In view of the forgoing, the findings of this study were expected to inform policy and programming processes focused on improving the capacity of English language teachers, especially regarding correct application of the interactive approach instruction to improve learners’ performance in reading comprehension. The findings of this study were further expected to influence research on the subject in Kenya, and in other developing countries.

1.3 Related Literature

1.3.1 The Interactive Approach Model

The interactive approach instruction is a hybrid model that leverages on strengths of the classical bottom-up and top-down reading approaches (Sharpe, 2014). The model facilitates reading by activating essential comprehension processing skills, including background knowledge, self-generated questions, summarisation, prediction and word recognition. Each component of the model encourages interaction between readers and texts in the process of decoding the meaning of written language or symbols. Jointly, the five comprehension processing skills enhance readers’ ability to understand written content, which is the ultimate goal of reading (Sharpe, 2014). This article focuses on one aspect of the interactive approach instruction, namely, word recognition skills vis-a-vis learners’ achievement in reading comprehension. Word recognition skills are essential for enhancing learners’ achievement in reading comprehension. As noted by Adekola (2007) word recognition skills form the basic building blocks required by readers to decode the sound of words and to enhance achievement in reading comprehension. Extant literature identifies various strategies that teachers apply to develop learners’ word recognition skills, including morphemes, syllabification, graphophonic units, context clues, phonemic awareness and fluency (Barth, Tolar, Fletcher & Francis, 2014; Nunes, Bryant & Barros, 2012; Opitz & Lindsey, 2010, among others).

1.3.2 Studies on the Interactive Approach Model and Achievement in Reading Comprehension

Globally, a number of studies have investigated the connection between word recognition skills and learners’ achievement in reading. In the United Kingdom, for example, Nunes et al. (2012) established a significant relationship between children’s use of larger graphophonic units and their fluency in reading comprehension passages; as well as between children’s use of morphemes and reading fluency, while controlling for variables such as age and verbal intelligence quotient. Of the two strategies of word recognition, the use of morphemes was found to be a stronger predictor of reading fluency. Based on the findings, the study recommended the need for appropriate teaching methods to activate children’s word recognition skills. In Scotland, Barth et al. (2014) examined the effect of learner and text characteristics on verbal reading fluency among middle-school learners. The analysis showed that phonological decoding, which is an aspect of word recognition, accounted for high variability in learners’ reading fluency; which however, does not necessarily translate to high performance in comprehension reading.

In the United States, Opitz and Lindsey (2010) reported that learners trained on the use of phonemics and sight words became more fluent in their reading than those untrained, because training improved their word decoding skills. In this regard, the study recognised phonemic awareness as one of the strategies enabling learners to improve their skills in word recognition, reading proficiency and performance in tests. The authors explained that the strategy entails encouraging learners to examine the order of letters and combine their sounds in order to identify how new words should be read. In view of this, failure by English language teachers to apply phonemic awareness in reading lessons tantamount to denying learners vital skills for recognising and decoding new words by themselves.
The effectiveness of phonemic awareness strategy in activating word recognition skills and in influencing learners’ achievement in reading comprehension also feature in studies conducted by Samwels (2016), Suggate (2016) as well as Rasinski (2010). Whereas Samuels (2016) praised phonemic awareness for improving learners’ self-reliance in word recognition, while lessening dependency on teachers; Suaggate (2016) noted that the strategy affects reading comprehension in later grades of education; thereby, disproving the assumption regarding the suitability of phonemic awareness to learners in lower primary only. Rasinski (2010) established that application of context clues to activate learners’ word recognition skills significantly influenced achievement in reading comprehension by enabling learners to accurately, effectively and effortlessly decode words before reading passages. While reviewing Rasinski’s work, Perfetti and Stafura (2014) concurred that activating learners’ reading skills using context clues contributed significantly to improvement in reading comprehension passages, by lessening learners’ attention on decoding the meaning of new words, while increasing the same on understanding the content.

Still in the United States, Lane and Pullen (2015) noted that learners instructed on fluency gained the ability to read words correctly, with appropriate intonations and at an optimal speed. This echoes the findings of Hudson, Pullen, Lane and Torgesen (2009) who also established that learners taught using the fluency strategy over a period of three months became more accurate, faster and clearer when reading audibly than their colleagues in the control group. In this regard, learners in the experimental group achieved three fundamental components of reading fluency, viz. accuracy, speed and proper expression. The connection between fluency strategy and learners’ achievement was also confirmed by Kuhn, Shwanenflugel and Meisinger (2010), who observed that fluency instruction enabled learners to improve reading abilities in tandem with their comprehension of passages. In this regard, fluency enables learners to shift their attention from decoding words to extracting messages from passages. Similar thoughts are shared by Eldredge (2015) who associated lack of fluency instruction with inaccurate, inconsistent reading pace, poor choice of prosody, as well as incorrect interpretation of texts.

In Canada, Kwiatkowska-White (2012) found that the use of syllabification by English language teachers contributed significantly to learners’ comprehension reading abilities, by giving learners the opportunity to understand the meaning of new words before reading, which in turn, enabled them to focus on constructing the meaning of content. Arguably, when teachers fail to apply the syllabification strategy, the reading process is interrupted frequently when learners stop to establish the meaning of unknown words. Such disruptions prevent learners from concentrating on the content of comprehension passages.

In Indonesia, Amartha (2013) reported a significant difference in the ability to read comprehension between learners trained on how to apply word recognition skills and those with no prior experience with such skills. Based on this, the study concluded that word recognition skills are effective in improving learners’ proficiency in reading comprehension, and advocated for its application in all grades. More specifically, the study attributed improved reading proficiency to the use fo two strategies, namely, syllabification and context clues.

Ngwaru and Opoku-Amankwa (2010) investigated home and school literacy practices in Africa, particularly focusing on Zimbabwe and Ghana. The study established a statistically significant relation between improvement in learners’ Reading Comprehension skills and the frequency with which teachers deployed phonemic awareness strategy to evoke word recognition skills before reading lessons. Notably though, most teachers were non- or occasional users of the strategy, a challenge which the authors attributed to inadequate access to appropriate professional training; thereby, resulting to the dominance of teachers in pronunciation and decoding the meaning of new words at pre-reading sessions. Even though the teacher-centred approach guided learners in decoding the meaning of unfamiliar words, it encouraged dependency on teachers and discouraged active engagement with written materials; thus, contradicting a key principle of the interactive approach instruction.

In South Africa, Pretorius (2000) found that undergraduate students at the University of South Africa (UNISA) demonstrated low levels of word recognition, which affected learners’ ability to make valid inferences. The study reported a significant correlation between word recognition and the ability to draw valid inferences, which is central to reading comprehension because inferential processing involves perceiving connections and relationships between various entities in a text. In view of this, learners with higher word recognition ability registered better performance in examinations. The study concluded by amplifying the need to improve learners’ reading ability because word recognition is at the centre of learning.

1.4 Null Hypothesis and its Relationship to the Research Design

The studies cited in the foregoing sub-section suggest that word recognition skills and learners’ achievement in reading comprehension are conceptually connected. This implies that improving learners’ word recognition skills is likely to influence a proportionate change in their comprehension reading ability, which may be gauged in terms of performance.
in post-reading tests. Based on this, the conceptual framework in Figure 2 shows the hypothesised linkage between word recognition skills and learners’ achievement in reading comprehension.

| INDEPENDENT VARIABLE | MODERATING VARIABLES | DEPENDENT VARIABLE |
|-----------------------|-----------------------|--------------------|
| Word recognition skills | Learners’ attributes | Achievement in reading comprehension |
| - Application of the look and say method to understand texts. | - Age | - Performance in post-intervention test |
| - Combining letters to sound out difficult words. | - Gender |
| - Application of visual clues such as pictures to understand texts. | - School |
| - Application of context clues when reading to understand texts. | - Sub-group |
| - Decoding the meaning of words from the way used in sentences. | |

**Figure 2. Hypothesised Relationship between Word Recognition Skills and Achievement in Reading Comprehension**

The Figure shows that word recognition skills was operationalised in terms of five indicators of specific reading practices; achievement in reading comprehension, was measured in terms of learners’ performance in the post-intervention test; while the relationship between the two variables was moderated by learners’ attributes, such as age, gender, school and sub-group. Based on this, the null hypothesis claimed that: ‘word recognition skills’ has no significant effect on learners’ achievement in reading comprehension. The design used in this study provided opportunity for teachers in the experimental group to acquire skills on correct application of the interactive approach instruction when teaching word recognition skills. In the control group, teachers were liberated to apply any method to achieve the same results. At the end of the experimentation period, the design provides an opportunity for learners in both groups to be tested. The variation in means scores of the two groups was considered to be the effect of word recognition skills on learners’ achievement in reading comprehension.

2. Method

2.1 Research Design

The study was guided by the **Solomon Four-Group Design**. In this regard, eight public primary schools were randomly assigned into the experimental and control groups. The experimental group included schools code-named G, H, I and J, while the control group consisted of schools K, L, M and N. Learners in schools G and H in the experimental group, and schools K and L in the control group were subjected to a pre-intervention test. Standard six teachers of English language in the experimental group were trained on how to correctly apply the interactive approach instruction. The teachers were then observed for three months. At the end of the observation period learners in all the eight schools were subjected a post-intervention test. Symmons (2013), as well as Boushey, Harris, Bruemmer, Archer and Van Horn (2006) provide details about the design used in this study.

2.2 Targeted Participants

The study targeted 361 public primary schools in Vihiga County. Within the schools, standard six learners and teachers of English language were involved. The involvement of standard six learners was considered essential in the sense that it was likely to contribute positively towards their preparation for KCPE.

2.3 Sample Sizes and Sampling Procedures

Table 1 shows sample sizes for the various sampling units, including sub-counties, schools, teachers and learners; as well as the methods of determination. Out of 5 sub-counties, 4 were involved in the study using Fisher’s formula for sample size determination from finite populations. The formula states that:
\[ n_i = \frac{p(1-p)}{\left(\frac{Z^2}{2}\right) + p(1-p)/N_i} \] (1)

Where: \( n_i \) is the sample size, \( N_i \) is the population, \( p \) is the estimated population variance, which by default is 0.5. In addition, \( \alpha \) is the error margin, which by default stands at 0.05, while \( Z \) is the confidence level, defaulted at 95%. Notably, 95% confidence level is equivalent to 1.96 on the normal distribution curve.

Table 1. Sample Sizes

| Sampling units | Sample size | Method of determination |
|----------------|-------------|-------------------------|
| Sub-counties   | 4           | Fisher’s formula        |
| Schools        | 8           | Solomon Four-Group design |
| Learners       | 280         | Fisher’s formula        |
| Teachers       | 8           | Convenient              |

A sample of 8 schools was determined conveniently considering the amount of resources at the investigator’s disposal and risk of the Solomon Four-Group Design yielding huge datasets, which would demand huge logistics to source and process. Fisher’s formula was further applied to determine the sample of 280 learners from a population of 560 standard six learners in the 8 schools. In each school, the investigator targeted only 1 stream of standard six; therefore, only 1 teacher of English language was targeted; thereby, giving a sample of 8 teachers. Table 2 shows the distribution of learners and teachers by gender.

Table 2. Distribution of Sample Sizes

| Group     | Sub County | School | Learners | Teachers |
|-----------|------------|--------|----------|----------|
|           |            |        | Girls    | Boys     | Total    | Female | Male |
| Experimental | Luanda     | G      | 19       | 16       | 35       | 1      |      |
|            | Emuhaya    | H      | 18       | 16       | 34       | 1      |      |
|            | Hamisi     | I      | 20       | 18       | 38       | 1      |      |
|            | Sabatia    | J      | 19       | 17       | 36       | 1      |      |
| Control    | Luanda     | K      | 22       | 14       | 36       | 1      |      |
|            | Emuhaya    | L      | 17       | 17       | 34       | 1      |      |
|            | Hamisi     | M      | 19       | 17       | 36       | 1      |      |
|            | Sabatia    | N      | 16       | 15       | 31       | 1      |      |
| Total      |            |        | 8        | 150      | 130      | 280    | 5    |

Furthermore, purposive and simple random sampling procedures were applied to select units of analysis. More specifically, the sub-counties were sampled purposively based on their non-involvement in pilot-testing. This means that the sub-county that was involved in the pilot-testing was excluded from the main study. From each sub-county, 2 schools were sampled purposively based on previous participation in KCPE for at least five years, as well as rural-urban composition of the population. Besides, a simple random sampling procedure was applied to sample schools, which were further randomly assigned into the experimental and control groups. This means that each school in the sampling frame was given an equal chance of being included in the study; as well as of being assigned into either group. Teachers were sampled purposively because of their involvement in teaching English language to the sampled standard six learners.

2.4 Data Sourcing

Data were sourced using a questionnaire for learners, a questionnaire and an interview guide for teachers; an observation guide as well as a pre- and a post-intervention tool for learners. The instruments were pilot-tested between January and April, 2017. The tools were adjusted to improve content, clarity and feasibility. An authorization letter for data collection was obtained from the National Commission for Science, Technology and Innovation, while the University of Nairobi issued an introductory letter to facilitate the data collection process, which took place between May and August, 2017.
2.5 Data Processing and Analysis

Quantitative analysis techniques included One-way Analysis of Variance, which was used to generate mean scores; independent samples t-tests, which were used to compare mean scores obtained by learners in the two groups; cross tabulations with Chi-square tests, which determined statistical associations between learners’ perceptions on various reading practices and scores obtained in the post-intervention test. Lastly, linear regression analysis was performed to determine the influence of word recognition skills on learners’ achievement in reading comprehension. The Statistical Package for Social Sciences facilitated quantitative data analysis. Qualitative data were transcribed and subjected to thematic analysis, which identified emerging themes regarding the relationship between word recognition skills and learners’ achievement in reading comprehension. Ritter (2010), Polit and Beck (2006), Best and Khan (2004), as well as Bryman and Cramer (1998) provide details about the methods applied in this study.

2.6 Ethical Considerations

Informed consent was obtained from parents, and it entailed writing brief letters to parents, explaining the study, its purpose, potential benefits and need for voluntary participation. The letter also contained information about the right to withdraw consent of participation at any time before or during data collection. Learners filled consent forms, affirming their willingness to participate in the study. Teachers were also taken through the consenting process. Lastly, all participants were assured about confidentiality of the information obtained from the process.

3. Results

This section presents the results, which are organised under four sub-sections, including univariate analysis of learners’ achievement in reading comprehension, bivariate analysis of learners’ profile and achievement in reading comprehension, bivariate analysis of learners’ perceptions on word recognition practices and achievement in reading comprehension, as well as multivariate analysis of word recognition skills and achievement in reading comprehension. Details are presented under the following sub-sections.

3.1 Univariate Analysis of Learners’ Achievement in Reading Comprehension

The results show that 279 learners, including 142 (50.9%) in the experimental and 137 (49.1%) in the control group, completed and returned questionnaires. As indicated in the conceptual framework, the score obtained by each learner in the post-intervention test was designated as the achievement in reading comprehension. The results in Table 3 show that learners in the experimental group obtained a mean score of 35.59 (95% CI = 34.71-37.07); while those in the control group achieved a mean score of 22.32 (95% CI = 21.46-23.18).

Table 3. Post-test Scores between Learners in the Experimental and Control Groups

| Group         | n   | Mean | SD   | SE  | 95% CI for Mean | Minimum | Maximum |
|---------------|-----|------|------|-----|-----------------|---------|---------|
|               |     |      |      |     | Lower Bound     | Upper Bound |         |
| Experimental  | 142 | 35.89| 7.115| 0.597| 34.71           | 37.07    |         |
| Control       | 137 | 22.32| 5.099| 0.436| 21.46           | 23.18    |         |
| Total         | 279 | 29.23| 9.195| 0.551| 28.14           | 30.31    | 10      |

Levene’s Test for Equality of Variances

|          | F   | Sig. | t   | df | Sig. (2-tailed) | Mean Difference | SE | 95% CI of the Difference |
|----------|-----|------|-----|----|-----------------|-----------------|----|-------------------------|
| Post-test score | 26.970 | 0.000*** | 18.249 | 277 | 0.000*** | 13.566 | 0.743 | 12.103-15.030 |
|          | Equal variances assumed |          |       |    |                 |                 |    |                         |
|          | Equal variances not assumed |          |       |    |                 |                 |    |                         |

Table 3 further shows that the Sig. value for Levene’s test was 0.000, which is <0.05, thus, implying that equal variances between the two groups were not assumed; hence, the results should be read from the second row. In this regard, the analysis obtained a t-statistic of 18.355 with a significance value (Sig. [2-tailed]) of 0.000, suggesting up
to 99% chance that mean scores obtained by learners in the two groups were significantly different. Given that the mean score obtained by the experimental group (35.89) was higher than that of the control group (22.32), the results suggest up to 99% chance that the training provided to teachers in the experimental group might have improved teachers’ competence in applying the interactive approach instruction, which in turn, enabled learners’ in the experimental group to achieve higher scores than their colleagues in the control group.

3.2 Bivariate Analysis of Learners’ Profile and Achievement in Reading Comprehension

The measurement scale of scores obtained by learners was changed from interval to nominal by recoding into four categories, calibrated as ‘<20 marks’, ‘20-29 marks’, ‘30-39 marks’ and ‘40+ marks’. The resultant variable was cross-tabulated with learners’ age, gender, school and sub-county of residence. The results in Table 4 show that 143 (51.3%) learners aged 12 years, 149 (52.6%) indicated 13 years, while 43 (15.4%) were aged 14 years. Besides, 64 (49.6%) of learners were aged 12 years, 76 (27.2%) indicated 13 years, while 43 (15.4%) were aged 14 years. The analysis yielded a $\chi^2$ of 13.082 (df = 12 & $\rho$-value = 0.023), suggesting up to 95% chance that learners’ achievement in reading comprehension is significantly associated with their age. The results further show lack of association between learners’ gender and achievement in reading comprehension ($\chi^2 = 0.477$, df = 3 & $\rho$-value = 0.924).

Table 4. Analysis of Learners’ Attributes and Achievement in Reading Comprehension

| Learners’ attributes | Post-test scores | Test results |
|----------------------|------------------|--------------|
|                      | <20  | 20-29 | 30-39 | 40+  | Total | $\chi^2$ | df  | Sig. |
| **Age**              |      |       |       |      |       |         |     |      |
| 11 years             | 1    | 2.4   | 5     | 3.9  | 0     | 0.0    | 0    | 0    | 6    | 2.2 |
| 12 years             | 22   | 53.7  | 28    | 49.6 | 24.8  | 13.082 | 12   | 0.023** |
| 13 years             | 11   | 26.8  | 21    | 35.6 | 12    | 24.0   | 76   | 27.2 |
| 14 years             | 7    | 17.1  | 7     | 11.9 | 9     | 18.0   | 43   | 15.4 |
| 15 years             | 0    | 0.0   | 8     | 6.2  | 3     | 5.1    | 0    | 11   | 3.9 |
| Total                | 41   | 100.0 | 129   | 100.0| 59    | 100.0  | 50   | 100.0| 279  | 100.0|
| **Gender**           |      |       |       |      |       |         |     |      |
| Male                 | 20   | 48.8  | 62    | 48.1 | 26    | 44.1   | 22   | 44.0 | 130  | 46.6|
| Female               | 21   | 51.2  | 67    | 51.9 | 33    | 55.9   | 28   | 56.0 | 149  | 53.4|
| Total                | 41   | 100.0 | 129   | 100.0| 59    | 100.0  | 50   | 100.0| 279  | 100.0|
| **School**           |      |       |       |      |       |         |     |      |
| G                    | 0    | 0.0   | 13    | 10.1 | 11    | 18.6   | 11   | 22.0 | 35   | 12.5|
| H                    | 0    | 0.0   | 7     | 5.4  | 12    | 20.3   | 15   | 30.0 | 34   | 12.2|
| I                    | 0    | 0.0   | 14    | 10.9 | 9     | 15.3   | 15   | 30.0 | 38   | 13.6|
| J                    | 0    | 0.0   | 10    | 7.8  | 16    | 27.1   | 9    | 18.0 | 35   | 12.5|
| K                    | 8    | 19.5  | 19    | 14.7 | 9     | 15.3   | 0    | 0.0  | 36   | 12.9|
| L                    | 4    | 9.8   | 28    | 21.7 | 2     | 3.4    | 0    | 0.0  | 34   | 12.2|
| M                    | 14   | 34.1  | 22    | 17.1 | 0     | 0.0    | 0    | 0.0  | 36   | 12.9|
| N                    | 15   | 36.6  | 16    | 12.4 | 0     | 0.0    | 0    | 0.0  | 31   | 11.1|
| Total                | 41   | 100.0 | 129   | 100.0| 59    | 100.0  | 50   | 100.0| 279  | 100.0|
| **Sub-county**       |      |       |       |      |       |         |     |      |
| Luanda               | 8    | 19.5  | 32    | 24.8 | 20    | 33.9   | 11   | 22.0 | 71   | 25.4|
| Emuhaya              | 4    | 9.8   | 35    | 27.1 | 14    | 23.7   | 15   | 30.0 | 68   | 24.4|
| Hamisi               | 14   | 34.1  | 36    | 27.9 | 9     | 15.3   | 15   | 30.0 | 74   | 26.5|
| Sabatia              | 15   | 36.6  | 26    | 20.2 | 16    | 27.1   | 9    | 18.0 | 66   | 23.7|
| Total                | 41   | 100.0 | 129   | 100.0| 59    | 100.0  | 50   | 100.0| 279  | 100.0|

*, **, *** show significance at $\rho<0.1$, $\rho<0.05$ and $\rho<0.01$ error margins, respectively

Table 4 further shows that learners’ achievement in reading comprehension significantly associated with their schools ($\chi^2 = 15.719$, df = 9 & $\rho$-value = 0.013); as well as sub-counties of residence ($\chi^2 = 166.542$, df = 21 & $\rho$-value = 0.000).
### 3.3 Bivariate Analysis of Word Recognition Skills and Learners’ Achievement in Reading Comprehension

The variable ‘word recognition skills’, was measured using five perception statements, each describing a pertinent reading practice. Learners were requested to indicate their views about each perception statement on a five-point measurement scale, calibrated as ‘strongly agree’, ‘agree’, ‘undecided’, ‘disagree’ and ‘strongly disagree’. The views were then cross-tabulated against the scores and the results presented in Table 5.

| Table 5. Aspects of Word Recognition Skills and Achievement in Reading Comprehension |
|--------------------------------------------------|
| Aspects of word recognition skills               | Post-test scores | <20 | 20-29 | 30-39 | 40+ | Total |
| I use the look and say method to help me understand what I read | | | | | | |
| Strongly agree                                  | 5 | 12.2 % | 32 | 24.8 | 14 | 23.7 | 9 | 18.0 | 60 | 21.5 |
| Agree                                           | 2 | 4.9 % | 31 | 24.0 | 14 | 23.7 | 23 | 46.0 | 70 | 25.1 |
| Undecided                                      | 3 | 7.3 % | 9 | 7.0 | 1 | 1.7 | 3 | 6.0 | 16 | 5.7 |
| Disagree                                       | 21 | 51.2 % | 31 | 24.0 | 19 | 32.2 | 8 | 16.0 | 79 | 28.3 |
| Strongly disagree                               | 10 | 24.4 % | 26 | 20.2 | 11 | 18.6 | 7 | 14.0 | 54 | 19.4 |
| Total                                          | 41 | 100.0 % | 129 | 100.0 | 59 | 100.0 | 50 | 100.0 | 279 | 100.0 |
| I combine letters to sound out words when I come across a difficult word to read | | | | | | |
| Strongly agree                                  | 8 | 19.5 % | 38 | 29.5 | 10 | 16.9 | 19 | 38.0 | 75 | 26.9 |
| Agree                                           | 11 | 26.8 % | 55 | 42.6 | 26 | 44.1 | 22 | 44.0 | 114 | 40.9 |
| Undecided                                      | 3 | 7.3 % | 2 | 1.6 | 1 | 1.7 | 0 | 0.0 | 6 | 2.2 |
| Disagree                                       | 16 | 39.0 % | 23 | 17.8 | 15 | 25.4 | 5 | 10.0 | 59 | 21.1 |
| Strongly disagree                               | 3 | 7.3 % | 11 | 8.5 | 7 | 11.9 | 4 | 8.0 | 25 | 9.0 |
| Total                                          | 41 | 100.0 % | 129 | 100.0 | 59 | 100.0 | 50 | 100.0 | 279 | 100.0 |
| I try using visual clues such as pictures to help me understand what I read. | | | | | | |
| Strongly agree                                  | 6 | 14.6 % | 15 | 11.6 | 10 | 16.9 | 9 | 18.0 | 40 | 14.3 |
| Agree                                           | 12 | 29.3 % | 64 | 49.6 | 31 | 52.5 | 32 | 64.0 | 139 | 49.8 |
| Undecided                                      | 3 | 7.3 % | 10 | 7.8 | 5 | 8.5 | 1 | 2.0 | 19 | 6.8 |
| Disagree                                       | 15 | 36.6 % | 28 | 21.7 | 10 | 16.9 | 2 | 4.0 | 55 | 19.7 |
| Strongly disagree                               | 5 | 12.2 % | 12 | 9.3 | 3 | 5.1 | 6 | 12.0 | 26 | 9.3 |
| Total                                          | 41 | 100.0 % | 129 | 100.0 | 59 | 100.0 | 50 | 100.0 | 279 | 100.0 |
| I use context clues when reading to help me understand what I read | | | | | | |
| Strongly agree                                  | 11 | 26.8 % | 29 | 22.5 | 17 | 28.8 | 20 | 40.0 | 77 | 27.6 |
| Agree                                           | 15 | 36.6 % | 69 | 53.5 | 30 | 50.8 | 27 | 54.0 | 141 | 50.5 |
| Undecided                                      | 3 | 7.3 % | 10 | 7.8 | 5 | 8.5 | 1 | 2.0 | 19 | 6.8 |
| Disagree                                       | 7 | 17.1 % | 13 | 10.1 | 4 | 6.8 | 0 | 0.0 | 24 | 8.6 |
| Strongly disagree                               | 5 | 12.2 % | 7 | 5.4 | 2 | 3.4 | 1 | 2.0 | 15 | 5.4 |
| Total                                          | 41 | 100.0 % | 129 | 100.0 | 59 | 100.0 | 50 | 100.0 | 279 | 100.0 |
| I work out the meaning of words from the way they are used in sentences | | | | | | |
| Strongly agree                                  | 8 | 19.5 % | 46 | 35.7 | 18 | 30.5 | 23 | 46.0 | 95 | 34.1 |
| Agree                                           | 11 | 26.8 % | 43 | 33.3 | 25 | 42.4 | 22 | 44.0 | 101 | 36.2 |
| Undecided                                      | 2 | 4.9 % | 5 | 3.9 | 3 | 5.1 | 1 | 2.0 | 11 | 3.9 |
| Disagree                                       | 13 | 31.7 % | 26 | 20.2 | 7 | 11.9 | 3 | 6.0 | 49 | 17.6 |
| Strongly disagree                               | 7 | 17.1 % | 9 | 7.0 | 6 | 10.2 | 1 | 2.0 | 23 | 8.2 |
| Total                                          | 41 | 100.0 % | 129 | 100.0 | 59 | 100.0 | 50 | 100.0 | 279 | 100.0 |
The first statement claimed that ‘I use the look and say method to help me understand what I read’. The results in Table 5 show that of the 279 learners, 79 (28.3%) disagreed with the statement, while 54 (19.4%) disagreed strongly. However, 70 (25.1%) learners who agreed with the statement, while 60 (21.5%) agreed strongly. Cumulatively, 133 (47.7%) learners disproved the statement; thus, suggesting that the use of look and say method was not a common practice. In connection with achievement in reading comprehension, of the 41 learners who scored <20 marks, 31 (75.6%) countered the statement, meaning that the use of look and say method in reading was uncommon; while 7 (17.1%) expressed affirmed it. In the 40+ marks (n=50), 32 (64.0%) learners affirmed the statement, while 15 (30.0%) confuted it. The analysis generated a χ² value of 33.190, with 12 degrees of freedom and a significance of 0.001, suggesting up to 99% chance that learners’ achievement in reading comprehension significantly associated with the practice of using look and say method to ease the understanding texts.

The second statement asserted that ‘I combine letters to sound out words when I come across a difficult word to read’. The results in Table 5 show that 114 (40.9%) learners agreed with the statement, while 75 (26.9%) agreed strongly. Contrastingly, 59 (21.1%) learners disagreed with it, while 25 (9.0%) disagreed strongly. Cumulative results indicate that 189 (67.7%) learners acknowledged combining letters to sound words. The analysis further show that among the learners who obtained <20 marks (n=41), 19 (46.3%) felt that the statement was true, while another 19 (46.3%) said that it was untrue. In the category of 40+ marks (n=50), 41 (82.0%) learners affirmed the statement, while 9 (18.0%) hinted that it was incorrect. Consequently, the study established a significant association between learners’ achievement in reading comprehension and the practice of combining letters to sound out words that are difficult read (χ² value = 25.466, df = 12 & a ρ-value = 0.013).

The third perception statement posited that ‘I try using visual clues such as pictures to help me understand what I read’. Table 5 shows that 139 (49.8%) learners agreed with the statement, while 40 (14.3%) agreed strongly. Those who disagreed were 55 (19.7%), while 26 (9.3%) disagreed strongly. Cumulatively, the statement was endorsed by 179 (64.2%) learners, who admitted using visual clues such as pictures to understand texts. The results further show that in the category of learners who obtained <20 marks (n=41), 20 (48.8%) indicated that the statement was a true, while 18 (43.9%) believed that it was untrue. Among those who scored 40+ marks (n=50), 41 (82.0%) learners endorsed the statement, while 8 (16.0%) felt that it was incorrect. The study established that learners’ achievement in reading comprehension significantly associated with the practice of using visual clues such as pictures to understand texts (χ² value = 23.673, df = 12 & a ρ-value = 0.023).

The fourth perception statement asserted that ‘I use context clues when reading to help me understand what I read’. As indicated in Table 5, 41 (50.5%) learners agreed with the statement, while 77 (27.6%) agreed strongly. However, 24 (8.6%) learners disagreed with it, while 15 (5.4%) indicated strong disagreement. Cumulatively, 218 (78.1%) learners admitted using context clues to facilitate the understanding of texts. Of the 41 learners who scored <20 marks, 26 (63.4%) hinted that the statement was correct, while 12 (29.3%) believed that it was incorrect. Among those who achieved 40+ marks (n=50), 47 (94.0%) learners affirmed the statement, while 1 (2.0%) felt it was incorrect. Consequently, the analysis revealed that learners’ achievement in reading comprehension significantly associated with the practice of using context clues when reading to facilitate the understanding of texts (χ² value = 20.719, df = 12 & a ρ-value = 0.055).

The fifth perception statement postulated that ‘I work out the meaning of words from the way they are used in sentences’. The results in Table 5 show that whereas 101 (36.2%) learners agreed with the statement, 95 (34.1%) agreed strongly. However, 49 (17.6%) learners disagreed with the statement, while 23 (8.2%) disagreed strongly. Cumulatively, 196 (70.3%) learners endorsed the statement by saying that they worked out the meaning of words from the way they are used in sentences. The analysis further indicated that among the learners who achieved <20 marks (n=41), 20 (48.8%) affirmed the statement, while 19 (46.3%) believed that it was untrue. Among those who achieved 40+ marks, 45 (90.0%) learners believed the statement was correct, while 4 (8.0%) expressed their reservations. In view of this, the analysis found that learners’ achievement in reading comprehension significantly associated with the practice of working out the meaning of words from the way they are used in sentences (χ² value = 25.292, df = 12 & a ρ-value = 0.013).

Perceptions about the reading practices under word recognition skills were aggregated to generate optimal estimates learners’ consistency in applying the skills when reading comprehension. The output, which was measured on a five-point ordinal scale, was cross-tabulated with learners’ group in order to determine variation between learners in the experimental group and those in the control group regarding the consistency of using word recognition skills during reading lessons. The results illustrated in Figure 3 shows that whereas 140 (50.2%) learners were consistent in applying word recognition skills, 43 (15.4%) were very consistent. Those who were inconsistent in using word recognition skills were 38 (13.6%), while 2 (0.7%) were very inconsistent.
The results in Figure 3 further show that those who were consistent in applying word recognition skills in their reading included 75 (52.8%) learners in the experimental group against 65 (47.5%) in the control group. Besides, 27 (19.0%) learners in the experimental group and 16 (11.7%) in the control group were ‘very consistent’ in applying word recognition skills. However, 27 (19.7%) learners in the control group against 11 (7.7%) in the experimental group were ‘inconsistent’. Cumulatively, 102 (71.8%) learners in the experimental group against 81 (59.1%) in the control group were consistent in applying word recognition skills. Contrastingly, 28 (20.4%) learners in the control group against 12 (8.4%) in the experimental group were inconsistent. Based on this, the analysis obtained a $\chi^2$ value of 10.179, with 4 degrees of freedom and a $\rho$-value of 0.038, suggesting up to 95% chance that application of word recognition skills to understand texts varied significantly between learners in both groups.

3.4 Multivariate Analysis of Word Recognition Skills and Learners’ Achievement in Reading Comprehension

Table 6. Effect of Word Recognition Skills on Learners’ Achievement in Reading Comprehension

| Model (1) | Unstandardized Coefficients | Standardised Coefficients | T | Sig. |
|-----------|-----------------------------|---------------------------|---|------|
|           | B(3) | Std. Error(4) | Beta(5) | (6) | (7) |
| (Constant) | 32.351 | 2.745 | 5.631 | 0.000*** |
| Background knowledge | 0.623 | 0.208 | 0.412 | 1.965 | 0.041** |
| Learner-generated questions | 0.588 | 0.190 | 0.410 | 1.931 | 0.046** |
| Summary telling skills | 0.586 | 0.194 | 0.409 | 1.905 | 0.057* |
| Prediction skills | 0.465 | 0.222 | 0.358 | 1.302 | 0.077* |
| Word recognition skills | 0.498 | 0.213 | 0.361 | 1.335 | 0.063* |

| Model 2 | Unstandardized Coefficients | Standardised Coefficients | T | Sig. |
|----------|-----------------------------|---------------------------|---|------|
|           | B(3) | Std. Error(4) | Beta(5) | (6) | (7) |
| (Constant) | 26.574 | 2.732 | 4.095 | 0.000*** |
| Background knowledge | 0.585 | 0.141 | 0.403 | 1.902 | 0.059* |
| Learner-generated questions | 0.494 | 0.153 | 0.396 | 1.730 | 0.063* |
| Summary telling skills | 0.370 | 0.146 | 0.329 | 0.953 | 0.088* |
| Prediction skills | 0.283 | 0.138 | 0.278 | 0.357 | 0.285 |
| Word recognition skills | 0.429 | 0.159 | 0.356 | 1.266 | 0.082* |

Dependent Variable: Post-test score

***, ***, ** show significance at $\rho<0.1$, $\rho<0.05$ and $\rho<0.01$ error margins, respectively

Word recognition skills and learners’ achievement in reading comprehension was incorporated in the regression analysis; with learners’ attributes as moderating variables. The analysis generated two regression models – one for the experimental group and one for the control group. The results in Table 6 show that, in both Models, word recognition skills caused a positive effect on learners’ achievement in reading comprehension (Model 1: $\text{Beta} = 0.361$, t = 1.335; Model 2: $\text{Beta} = 0.356$, t = 1.266). This suggests that the application of word recognition skills by teachers in both
groups caused a proportionate improvement in learners’ achievement in reading comprehension. However, the effect appears to be stronger in the experimental group than in the control group, judging from Beta and t-statistic values. This further suggests that teachers in the experimental group were likely to be more effective in activating learners’ word recognition skills than their colleagues in the control group. In both models, the results suggest up to 90% chance that the variable’s effect was significant (Model 1: \( \beta = 0.063 \); Model 2: \( \beta = 0.082 \)). In view of this, the null hypothesis postulating that word recognition skills has no significant effect on learners’ achievement in reading comprehension, was rejected in both Models for being inconsistent with the results.

The analysis of qualitative data confirmed a causal relationship between the activation of word recognition skills among learners and their achievement in reading comprehension. However, the extent to which teachers activated such skills varied between the experimental and control groups. The qualitative data dwelt on four key strategies for activating word recognition skills, namely, syllabification, context clues, phonemic awareness and fluency.

The use of syllabification to develop learners’ word recognition skills was near universal in both the experimental and control groups. Participants explained that new compound words were decoded by breaking them into constituent parts using either prefixes or suffixes on root words. The analysis indicated that the strategy, which was applied before reading comprehensions, enabled learners to recognise the meaning of new words, which improved their understanding of comprehension passages. When learners stop reading to figure out the meaning of unknown words, they are less likely to concentrate on understanding the content of texts.

The analysis further revealed that context clues were used occasionally in the experimental group, but rarely in the control group to activate word recognition skills among learners. Participants noted that having known the meaning of new words, learners experienced minimal obstacles when reading passages, which enabled them to focus on understanding the content. When learners are able to accurately, effectively and effortlessly decode words, reading passages while focusing on understanding the content becomes easier.

The use of phonemic awareness to activate word recognition skills among learners was uncommon in both groups. When learners come across new words, they are encouraged to examine the order of letters and combine their sounds in order to identify how the word should be read. This implies that when learners are not instructed on phonemic awareness they are denied essential skills for recognising and decoding unfamiliar words by themselves, which intensifies dependency on teachers. Limited application of phonemic awareness was associated with the assumption that the strategy is suitable for beginner readers in lower primary, which however, has been faulted by a number of studies (Suggate, 2016).

The fluency skills were rarely used by teachers in both groups to stimulate learners’ skills in word recognition. Participants argued that learners instructed on accuracy are able to read words correctly, those instructed on speed optimise their rate of reading, while those instructed on prosody are able to read with appropriate intonations, including stresses, pitches, cadences and pauses, among others. Nonetheless, the analysis established a connection between lack of fluency instruction and learners’ poor achievement in reading, which manifested through incorrect answers to post-reading questions, sluggish reading speed, and lack of, or use of inappropriate prosody when reading aloud for class.

4. Summary and Conclusions

In both Models, the effect of word recognition skills on learners’ achievement in reading comprehension was positive and relatively stronger in the experimental group than in the control group. In this regard, teachers in the experimental group were likely to be more effective in activating learners’ word recognition skills than their colleagues in the control group. The results further suggested that teachers in the experimental group might have put in more effort in activating learners’ word recognition skills than their colleagues in the control group. In addition, the variable’s effect was statistically significant at 90% confidence level in both models, and this suggests that activating word recognition skills improved learners’ achievement in reading comprehension; thereby, leading to rejection of the null hypothesis in both Models. Of the strategies used by teachers to activate learners’ word recognition skills, namely, syllabification, context clues, phonemic awareness and fluency, the use of syllabification was near universal in both groups. However, the application of context clues was occasional in the experimental group, but rare in the control group; the use of phonemic awareness was uncommon in both groups; while fluency skills were barely used by teachers in both groups.

The effect of word recognition skills on learners’ achievement in reading comprehension was positive and significant; thus, implying that activating learners’ word recognition skills enabled them to improve achievement in reading comprehension. That aside, the variable’s effect was relatively stronger in the experimental group than in the control group; which in turn, implies that teachers in the experimental group were more effective in activating learners’ word
recognition skills than their colleagues in the control group. Despite the achievement, there is indication that teachers in both groups over-relied on one strategy, namely, syllabification, which again implies that the activation of learners’ word recognition skills was sub-optimal in both groups.

Hayes and Flanigan (2014) observe that learners need diverse strategies to build accurate word recognition skills, which entails automatic and effortless recognition of words. This assertion suggests that the near-universal application of syllabification by teachers was not good enough for learners to fully develop their word recognition skills. A high level of reading proficiency requires teachers to diversify instructional methods. According to McPherson (2015), the more the instructional strategies adopted by teachers, the more words learners recognise and understand, and the more proficient they become in reading comprehensions. It logically follows that teachers’ affinity towards syllabification denied learners the skills necessary for realising full potential in word recognition, as well as for optimising achievement in reading comprehension.

Even though teachers occupy a central position in the activation of learners’ word recognition skills, the effectiveness with which they develop such skills depends on how well they access supervisory support from their superiors. Burns and Lawrie (2016) established a close connection between supervisory support to teachers and two important aspects of performance, including effectiveness in applying new instructional methods, and consistency in applying a diverse range of methods to improve learners’ word recognition skills. Supervisory support entails a continuous process of mentoring and guiding teachers to improve their competencies in applying various instructional methods in line with established standards. It also entails sensitising school heads and quality assurance officers about supervisory needs of such teachers, improving budgetary allocation and providing logistical support.

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References

Akbar S. N., & Majid, V (2011). The Role of Educational Psychology in Teacher Education Programs. Social and Behavioural Sciences, 30(3), 327-330. https://doi.org/10.1016/j.sbspro.2011.10.064

Amartha, S. (2013). The Effect of Using Interactive Approach on Reading Comprehension Ability of the Tenth Grade Students of SMK N 5 Yogyakarta in the Academic Year of 2011/2012. A Thesis submitted to the Department of English Education of the State University of Yogyakarta.

Barth, A. E., Tolar, T. D., Fletcher, J. M., & Francis, D. (2014). The Effects of Student and Text Characteristics on the Oral Reading Fluency of Middle-Grade Students. Journal of Education Psychology, 10(6), 162-180. https://doi.org/10.1037/a0033826

Best, J. W., & Khan, J. V. (2004). Research in Education (7th ed.). New Delhi: Prentice Hall of India.

Boushey, C., Harris, J., Bruemmer, B., Archer, S. L., & Horn, L. (2006). Publishing Nutrition Research: A Review of Study Design, Statistical Analyses, and Other Key Elements of Manuscript Preparation, Part 1. Journal of American Diet Association, 106(1), 89-96. https://doi.org/10.1016/j.jada.2005.11.007

Bryman, A., & Cramer, D. (1998). Quantitative Data Analysis with SPSS for Windows: A Guide for Social Scientists. London: Routledge.

Burns, M., & Lawrie, J. (2015). Where it Matters Most: Quality Professional Development for All Teachers. New York, NY: Interagency Network for Education in Emergences.

Commeyras, M., & Inyega, H. N. (2007). An Integrative Review of Teaching Reading in Kenyan Primary Schools. Reading Research Quarterly, 42(2), 258-81. https://doi.org/10.1598/RRQ.42.2.3

County Government of Vihiga (2018). County Integrated Development Plan 2018-2022. Nairobi: Kenya Literature Bureau.
Dubeck, M. M., Jukes, M. C. H., & Okello, G. (2012). Early Primary Literacy Instruction in Kenya. Comparative Education Review, 56(1), 48-68. https://doi.org/10.1086/660693

Eldredge, J. L. (2015). Foundations of Fluency: An Exploration. Reading Psychology, 26(2), 155-167. https://doi.org/10.1080/02702710590930519

Finney, S. (2013). Independent Reading Activities that Keep Kids Learning While You Teach Small Groups. New York: Scholastic Professional Books.

Hayes, L., & Flanigan, K. (2014). Aligning Theory and Assessment of Reading Fluency: Automaticity, Prosody and Definitions of Fluency. Reading Research Quarterly, 45(2), 232-253. https://doi.org/10.1598/RRQ.45.2.4

Kwiatkowska-White, B. (2012). Understanding Reading Comprehension Performance in High School Students. A dissertation submitted to the Faculty of Education in conformity with the requirements for the degree of Doctor of Philosophy Queen’s University Kingston, Ontario, Canada.

Lane, H., & Pullen, P. C. (2015). Blending Wheels: Tools for Decoding Practice. Reading and Writing Quarterly, 48(2), 86-92. https://doi.org/10.1177/0040059915594791

Makokha, R. N., & Wanyonyi, K. W. (2015). The Utilization of Instructional Resources in Teaching Kiswahili Poetry in Secondary Schools in Kenya. International Journal of Academic Research in Business and Social Sciences, 5(8), 10-18. https://doi.org/10.6007/IJARBSS/v5-i8/1011

McPherson, K. (2015). The Importance of Word Recognition in Improving Literacy. Retrieved 28/4/2019 from https://keithmcpherson1blog.wordpress.com/author/chupsy13/

Mow, P. N. (2017). Language-in-Education Policy in Kenya: Intention, Interpretation, Implementation. Nordic Journal of African Studies, 26(3), 215-230.

Ngwari, J. M., & Opoku-Amankwa, K. (2010). Home and School Literacy Practices in Africa: Listening to Inner Voices. Language and Education, 24(4), 295-307. https://doi.org/10.1080/09500781003678985

Nunes, T., Bryant, P., & Barros, R. (2012). The Development of Word Recognition and Its Significance for Comprehension and Fluency. Journal of Educational Psychology, 104(4), 959-973. http://dx.doi.org/10.1037/a0027412

Oluch, E. A. (2017). Language of Instruction in Kenya: Focus on Lower Primary in Schools in Rural Areas. International Journal of Education, Learning and Development, 5(1), 17-23.

Ongatoh, P. M. (2017). Institutional factors influencing Pupils’ Performance at Kenya Certificate of Primary Education level in Matungu Sub-County, Kakamega County. Unpublished Master of Educational Administration Thesis submitted to the University of Nairobi.

Opitz, M. F., & Lindsey, M. (2010). Comprehension and English Language Learners: 25 Oral Reading Strategies That Cross Proficiency Levels (1st ed.). Portsmouth, NH: Heinemann.

Perfetti, C., & Stafura, J. (2014). Word Knowledge in a Theory of Reading Comprehension. Scientific Studies of Reading, 18(1), 112-123. https://doi.org/10.1080/10888438.2013.827687

Polit, D. F., & Beck, C. T. (2006). The content validity index: are you sure you know what's being reported? Critique
and recommendations. Research in Nursing & Health, 29(5), 489-497. https://doi.org/10.1002/nur.20147
Pretorius, E. J. (2000). Reading and the UNISA Student: Is Academic Performance Related to Reading Ability? Progressio, 22(2), 35-48.
Rasinski, T. (2010). Why Reading Fluency Should Be Hot. The Reading Teacher, 65(8), 516-522. https://doi.org/10.1002/TRTR.01077
Ritter, N. L. (2010). Understanding a Widely Misunderstood Statistic: Cronbach’s a. Houston, TX: Texas A&M University.
Roy-Campbell, Z. M. (2014). Teaching English as a ‘second language’ in Kenya and the United States: Convergences and divergences. Global Education Review, 2(2), 84-97.
Sharpe, S. (2014). Interactive Theory of Reading to Practice. Knowledge Nugget, EDU 587.01.
Suggate, S. P. (2016). A Meta-Analysis of the Long-Term Effects of Phonemic Awareness, Phonics, Fluency, and Reading Comprehension Interventions. Journal of Learning Disabilities, 49(1), 77-96. https://doi.org/10.1177/0022219414528540
Symmons, J. (2013). Solomon Four-Group Design. Permalink. Research. October 28.
Uwezo (2012). Literacy and Numeracy Across East Africa: Are Our Children Learning? Nairobi: Uwezo.
Vries, M. de. (2011). Professional Development for Primary Teachers in Science and Technology: The Dutch Vtb-Pro Project in an International Perspective. Rotterdam: Sense.

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