



**THE RELATIONSHIP BETWEEN READING COMPREHENSION
ABILITY LEVEL AND READING PERFORMANCE IN ENGLISH
LANGUAGE AMONG GRADE FOUR LEARNERS WITH DYSLEXIA
IN NAIROBI AND KIAMBU COUNTIES, KENYA**

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Abstract:

This study aimed to establish the relationship between reading comprehension ability and reading performance in the English language among grade four learners with dyslexia in Nairobi and Kiambu counties. This study was guided by Gough and Tunmer's Simple View of Reading and Chall's Stages of Reading Development theories. The study adopted a correlational research design to determine the type of relationships between predictor and outcome variables. The study targeted 1,040 grade four learners with dyslexia in public primary schools. The researcher used purposive sampling in the selection of 32 special needs teachers and simple random sampling to select 166 learners with dyslexia, translating to a total of 198 respondents. Dyslexia Screen Test Junior (DST-J), document review, classroom observation schedule, interview schedule for teachers, and two comprehension tests were employed by the researcher in data collection. Furthermore, the researcher conducted a pilot study in two special units in two public primary schools, one in Nairobi County and the other in Kiambu County. The reliability of the research instruments was established using the test-retest method, resulting in a 0.82 Cronbach Alpha Coefficient. Data was collected from Special needs teachers of English, Grade four learners with dyslexia, and by reviewing relevant academic

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documents. Coding and analysis of the quantitative data collected was done using SPSS version 21.0. To help determine the relationship between the independent and dependent variables, the researcher used Pearson's correlation coefficient and ANOVA statistical tests. The findings revealed a significant correlation coefficient ($r=0.355^*$), with a significance level of 0.000. These findings suggested a clear relationship between reading comprehension ability levels and English performance among grade four learners with dyslexia. Notably, the study observed a trend wherein an increased risk of dyslexia corresponded to decreased levels of reading comprehension ability, emphasizing the impact of dyslexia on reading proficiency in English. The study concluded that there was a significant relationship between reading comprehension ability level and reading performance in the English language among grade four learners with Dyslexia in Nairobi and Kiambu counties, Kenya. The study recommended that the MoE should provide comprehensive training programs for teachers to enhance their understanding of dyslexia and effective instructional strategies tailored to the needs of learners with dyslexia. This training should focus on structured literacy approaches, multisensory teaching methods, and accommodations specific to students with dyslexia. Moreover, teachers should develop and implement individualized education plans for students with dyslexia, outlining specific interventions, accommodations, and goals to support their reading development.

Keywords: reading comprehension; reading performance; English language; grade four learners; dyslexia

1. Introduction

Reading is a dynamic and complex process encompassing making sense of drafted texts, progressing, deducing, and assigning the appropriate meaning to symbols in the form of written texts, purpose, and context (National Institute of Child Health and Human Development, 2020). According to the Simple View of Reading, reading is a multidimensional process that includes comprehension and decoding (Babayigit & Shapiro, 2020). Reading comprehension refers to the ability to read for understanding and knowledge (Sahin, 2013). It entails a complex system of deriving meaning from print that requires all of the following: the ability to read fluently, the ability to decode unfamiliar words, and sufficient background information and vocabulary to help the reader construct meaning from the text (National Institute of Child Health and Human Development, 2020). Decoding requires phonological and spelling comprehension (Silverman, Speece, & Harring, 2013).

Research studies have shown that students at various levels struggle with reading comprehension and, consequently, have low performance in reading despite the crucial importance of reading as a skill on a global scale (Herlina, 2016). The inability to read proficiently by upper elementary grades can significantly hinder academic performance,

leading to a downward spiral (Teale, 2013). This could subsequently limit children's chances of achieving academic and occupational success. As a result, it is essential to provide skilled instruction and interventions to children to help them learn to read and comprehend effectively by the fourth grade (Koch & Sporer, 2017). Typically, by the end of grade three, learners are expected to have attained reading proficiency as a foundation for their future academic pursuits. Failure to do so may result in a reading disability, which refers to a condition where individuals experience difficulties in accuracy, speed, and comprehension when reading text, to an extent that interferes with academic work or daily activities (Mbatha, 2018).

Dyslexia is characterized by challenges in decoding written text, stemming from deficiencies in phonological language components. Acknowledged under the Individuals with Disabilities Education Act (IDEA, 2004) as a specific learning disability, it impacts various reading skills, including decoding, word recognition, and spelling. Despite appropriate instruction, its neurobiological origin and unexpected nature often endure. Students with dyslexia may demonstrate strengths in reasoning, critical thinking, and social communication. Identifying and providing targeted instruction for phonological and word-processing deficits early on can minimize its educational impact.

Globally, dyslexia affects approximately 10 percent of the population (over seven million individuals) according to reports by Dyslexia International (2019), and it is the cause of more than 70 percent of learning disabilities, particularly among young learners (Kendeou *et al.*, 2016). Studies conducted in America, Europe, and Africa have shown that low reading comprehension levels among learners with dyslexia beyond fourth grade is a global concern that demands urgent attention. A study conducted by the National Center for Education Statistics (NCES, 2021) in the United States revealed a concerning trend that only 35% of fourth-graders exhibit proficiency in reading, a percentage that has shown no improvement over the past decade. This statistic raises questions about potential underlying factors, such as the prevalence of learning disabilities like dyslexia, which could contribute to the persistent challenges in achieving reading proficiency. In Canada, 22% of grade 1-3 students face challenges with textual materials, while 24% can only handle simple, visually explicit text (Human Resources and Social Development Canada, 2017).

In Europe, a report by the European Commission (2020) indicated that the reading performance of upper primary students has declined in several countries. In the United Kingdom, dyslexia affects 4-8% of individuals (NHS, 2021). Over the past decade in the Netherlands, there has been a significant decline in reading performance. In 2009, Dutch students scored above the OECD average in the Program for International Student Assessment (PISA) with 508 points, but by 2018, their reading score fell to 485 points, below the OECD average of 494. The overall PISA reading trend saw a slight decrease, but Dutch reading significantly declined by 23 points from 2009 to 2018.

Disturbingly, a substantial 24% of Dutch 15-year-olds fell below the minimum reading proficiency level in 2018 (OECD, 2019a, 2019b; Gubbels *et al.* (2019). This underscores prevalent reading challenges, suggesting that possibly dyslexia, the most common learning disability, may have been a major contributing factor. The situation emphasizes the crucial need for tailored interventions and educational strategies, particularly in the early stages of elementary education, to address these literacy difficulties. A review of studies by the International Association for the Evaluation of Educational Achievement (IEA, 2021) found that reading comprehension ability levels across Africa remain significantly below the global average. Recent studies conducted in South Africa have shown that reading comprehension ability levels among Grade 3 learners are still a major concern. A study by Cilliers *et al.* (2020), found that the average Grade 3 learner in South Africa scored only 25% in English reading tests. In Nigeria, a study by Yusuf (2017) found that many primary school learners struggled with low reading comprehension ability levels, which significantly affected their reading performance. Students fail to recall and apply information from written texts across all subjects because of their inability to comprehend the meaning.

In Uganda, a study by Kabay (2021) found that the majority of primary school learners struggled with basic reading skills, which significantly affected their academic performance. Furthermore, a study by Okello, Angol, and Mwesigwa (2020) identified a lack of effective instructional strategies as a major contributing factor to low reading performance among Ugandan learners. Recent studies conducted in Kenya have highlighted the persistent issue of low reading comprehension ability levels among learners which has significantly impacted their reading performance in English. A report by the Kenya National Bureau of Statistics (KNBS, 2021) indicated that only 40% of learners in Grade 3 can read and comprehend a story in English or Kiswahili. Similarly, a study by Karimi, Mulwa, and Kyalo (2020) found that most learners in Kenyan primary schools struggle with basic reading skills, leading to poor academic performance across all subjects. Furthermore, Ooko & Aloka (2021) established that more than 50% of grade three learners were not able to comprehend short passages. Moreover, approximately 43% of grade three learners in Nairobi County are at risk of a learning disability (Mwangasha, 2021). A research study conducted by Orago (2015) investigating the prevalence of dyslexia among 344 Grade 4 pupils in Nairobi County found that 16.0% of the pupils had dyslexia. In addition, there was a significant relationship between dyslexia and poor reading performance, and this negatively impacted academic performance as well.

The National Institute of Child Health and Human Development (NICHD) investigated the importance of early intervention in improving reading performance and comprehension. The study found that early identification and intervention with struggling readers can lead to significant improvements in reading skills, including comprehension (NICHD, 2020). In Kenya, Matunga (2019) investigated the impact of reading interventions on pupils from public primary schools in Nakuru West Sub-

County. The study focused on word recognition, phonological decoding, comprehension monitoring, and cooperative thinking skills. The findings demonstrated a notable enhancement in reading comprehension test scores among learners who received interventions, underscoring the efficacy of well-implemented strategies in improving reading performance and, consequently, elevating the overall academic achievements of students. Approximately 10% of Kenyan learners in primary schools may have dyslexia, with no comprehensive national statistics available (Ooko, Aloka & Koweru, 2019). There is a general lack of research on dyslexic learners in Kenya, and existing studies lack documented interventions.

In Nairobi County, a study by Mbandi (2022) revealed that 13.7% of school-going children were at risk of dyslexia, and 10.7% were likely to have dyslexia. This research established a significant positive correlation between dyslexia and poor academic performance. The study recommended that teachers undergo training to identify and support pupils with dyslexia through suitable intervention strategies. Regrettably, dyslexia in early learners is often overlooked, exposing them to increased lifelong risks related to literacy issues, deficient reading skills, achievement challenges, and fluency (Mulanya, 2020). The medium of instruction in Kenya, from grade four in public primary schools, is English, thus it is expected that by this stage of their education, learners have developed the ability to read and comprehend what they read. Of concern is that recent research studies have found that nearly half of Kenyan children in fourth grade are still unable to read grade two work and nearly 18.3% of primary school children in Nairobi have dyslexia (Ochola *et al.*, 2021).

Despite decades of research in reading skills, the need for additional reading interventions persists. There is no single intervention that can be effective for every student, which is why teachers require access to a range of options to assist young readers who struggle with the process. Although there are various intervention strategies aimed at improving reading comprehension, there is limited research on their impact on learners' reading performance in English Language. Recent studies have identified gaps in understanding intervention strategies for dyslexic learners in Kenya. For instance, a study conducted by Kimani, Kinyua, and Mwangi (2019) in Nairobi County, Kenya found that most teachers lack the necessary skills and knowledge to identify and address dyslexia effectively. Another study by Ooko, Aloka, and Koweru (2019) in Kenya highlighted the need for intervention strategies that are tailored to the specific needs of learners with dyslexia.

1.1 Purpose of the Study

The study focused on assessing the correlation between reading comprehension intervention strategies and the reading performance of grade four learners with dyslexia in Nairobi and Kiambu counties, Kenya.

1.2 Objective of the Study

Establish the relationship between reading comprehension ability level and reading performance in the English language among grade four learners with Dyslexia in Nairobi and Kiambu counties, Kenya.

2. Literature Review

2.1 Theoretical Review

The study was guided by Gough and Tunmer's SVR theory and Chall's model of reading development. Gough and Tunmer's Simple View of Reading (SVR) theory was first introduced over three decades ago (Gough & Tunmer, 1986). This theory aimed to identify the skills that contribute to early reading comprehension. According to the theory, human reading comprehension is the result of decoding and language comprehension (Gough & Tunmer, 1986). The theory underscores the importance of both decoding and language comprehension in reading comprehension. This theory was relevant to this study as learners with dyslexia may experience difficulties in either decoding or language comprehension or both, resulting in poor reading comprehension which lowers their reading performance. Teachers can use this to identify areas of weakness in learners with reading disabilities, specifically those with dyslexia, who are the focus of this study. By employing appropriate reading interventions that target the identified areas of weakness, teachers can help improve reading comprehension for these learners and in consequence, improve reading performance.

On the other hand, Chall's model of reading development (1983/1996) was applicable in this research study to provide a theoretical framework for understanding the reading development of learners with dyslexia and inform the selection and implementation of appropriate reading comprehension intervention strategies, which leads to improved reading performance. Chall's model proposes that reading development is a gradual process that involves several stages, which include:

- Stage 0: Pre-reading,
- Stage 1: Initial reading and decoding,
- Stage 2: Confirmation and fluency,
- Stage 3: Reading for new learning,
- Stage 4: Develop multiple viewpoints and,
- Stage 5: Construction and reconstruction.

The study focused specifically on the third stage (reading to learn the news), which is relevant to grade four learners. Chall's model of learning is highly relevant to the development of effective reading comprehension intervention strategies for grade learners with dyslexia, particularly during the critical transition from "learning to read" to "reading to learn" in Stage 3. This transition occurs during grades 4 to 8, and it represents a pivotal point in a student's academic journey. At this stage, reading materials become more diverse, intricate, and mentally demanding both linguistically and

cognitively. Chall's model of reading development provided a useful framework for understanding the reading difficulties experienced by learners with dyslexia and informing the selection and evaluation of appropriate reading comprehension intervention strategies.

2.2 Empirical Studies and Knowledge Gaps

Understanding the relationship between reading comprehension skills and reading performance in learners with dyslexia provides valuable insights into the challenges these learners face in understanding written text. This understanding can inform the creation of effective interventions and support strategies. A study by Pedersen et al. (2016) in Denmark explored the connection between oral reading quality and comprehension ability in learners with dyslexia. The research involved two groups: one consisting of 16 Danish university students diagnosed with dyslexia and the other comprising 16 students without any documented reading difficulties. The participants were evaluated on their oral reading proficiency using a difficult text, with assessment criteria including reading speed, the number and types of reading errors, and the nature of self-corrections made during the reading process. The results showed that students with dyslexia performed worse than their peers without reading challenges in most areas of the assessment, indicating that their comprehension ability was lower compared to their typical classmates.

Reis *et al.* (2020) undertook a meta-analysis investigating the disparities between adults experiencing reading difficulties, specifically dyslexia, and typical adult readers concerning various aspects of reading comprehension, writing proficiency, and associated cognitive abilities. A comprehensive review encompassing 178 studies was conducted. Findings from the analysis indicate that adults diagnosed with dyslexia demonstrated significant difficulties across a wide array of reading and writing tasks, with effect sizes indicating substantial impairments. The research offers perspectives on the levels of comprehension abilities among learners with dyslexia. Early diagnosis of dyslexia in childhood and provision of appropriate intervention strategies can alleviate the negative effects of dyslexia on the academic performance of children in the future, as exhibited by participants in that study. However, the previous study and the current study differ in methodology and context.

In Kenya, Kaluyu and Ooko (2016) undertook an investigation aimed at exploring the association between dyslexia and academic performance for upper primary learners. Their sample comprised 160 students and 43 teachers selected from six distinct educational institutions. The results of the study revealed a statistically noteworthy correlation ($p < 0.05$) between dyslexia and academic performance ($r = 0.4876^*$, $p = 0.000$). This research contributes a foundational framework to the present investigation by advocating for the development of educational policies tailored to address the screening, instructional methods, learning approaches, evaluation, and examination procedures pertinent to learners with dyslexia within the context of public primary education in

Kenya due to their reduced levels of comprehension compared to standard learners. The objective of the present study was to investigate the correlation between the use of intervention strategies by teachers of grade four learners with dyslexia and their comprehension abilities, consequently leading to improved reading performance in English. The present study established a correlation between reading difficulties and academic struggles, implying that reading proficiency played a significant role in students' ability to succeed academically.

2.3 Conceptual Framework

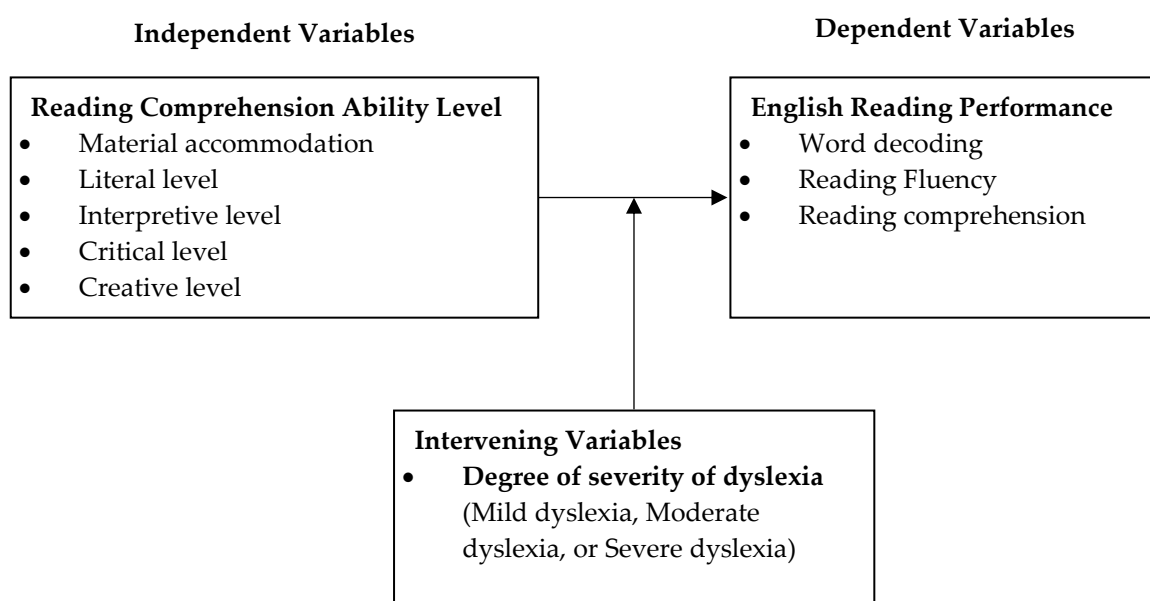


Figure 1: Conceptual Framework

3. Methodology

3.1 Study Locale

The research took place within the geographical regions of Nairobi and Kiambu counties in Kenya. The population of Nairobi and Kiambu counties is diverse, representing various ethnic and racial backgrounds in the country. In addition, Nairobi and Kiambu Counties presented a good mixture of urban, peri-urban, and rural schools. The sites, therefore, had a heterogeneous background, which made it feasible to determine whether the findings would be stable over these variations. Therefore, they presented a rationale for the replication of the study in other counties. The choice of the two counties was also largely influenced by the availability of many public primary schools with functional special units.

3.2 Research Design and Target Population

The study employed a descriptive-correlational research design, employing a mixed-methods approach to gather both qualitative and quantitative data. The design helped to identify and describe associations between reading comprehension intervention strategies and reading performance in the English language without looking for the causal relationships (Creswell and Clark, 2017). The study targeted 1,040 grade four learners with dyslexia in the counties of Nairobi and Kiambu who had been assessed by Education Assessment Resource Centre officers (EARCs) and were then integrated into mainstream primary schools with specialized units designed to provide them with tailored special education support. Also, it targeted 148 teachers of English in 148 special units in government-sponsored primary schools in these two counties. These teachers had undergone training specific to supporting students with special educational needs and disabilities.

3.3 Sampling Techniques and Sample Size

The selection of Nairobi and Kiambu counties in the study was purposively undertaken as it reflects the country's diverse population, encompassing urban, peri-urban, and rural areas. Three sub-counties were selected from each of the two counties to make a total of six sub-counties. The choice of six sub-counties was informed by factors such as economic potential, population density, and the availability of support services to learners with learning disabilities. From these six sub-counties, at least five special units were randomly selected from each, resulting in a total of 32 special units chosen for the study. These selected special units constituted approximately 22% of the total 148 special units present in public primary schools across Nairobi and Kiambu Counties. This method of sampling was utilized to guarantee a varied and inclusive sample for the research. Following the selection of the counties, sub-counties, and special units, the next crucial step was the identification of teachers of English within these special units to participate in the study. Purposive sampling was used, as it allowed for a targeted and deliberate selection of teachers who were highly relevant to the research objectives. Purposive sampling, in this context, enabled the research to focus on teachers with the most direct experience and knowledge pertinent to the study's goals. simple random sampling was employed to identify learners with reading disabilities from the previously sampled special units. By basing the selection on the data derived from the documents reviewed and subsequently confirming the diagnosis through the use of the adapted Dyslexia Screening Tool-Junior, the researcher ensured that the selected learners indeed had reading disabilities, aligning the selection process with the study's objectives and enhancing the accuracy and validity of the participant group. The study sample comprised 32 (22%) out of 148 special needs teachers of English and 166 (16%) of 1040 learners with dyslexia. These learners had been placed in regular primary schools with special units by the Education Assessment Resource Centre (EARCs) to receive specialized support and instruction.

Table 1: Sample Size

Participants	Target	Sample size
Special Needs English Teachers	148	22
Learners with Dyslexia	1040	74
Total	1158	96

3.4 Research Instruments

Quantitative data was collected through document review, Dyslexia Screen Test Junior (DST-J), and comprehension tests, while classroom observation schedules and interview schedules were used for qualitative data.

3.4 Pilot Study

The piloting was carried out in two special units, one located in Nairobi County and the other in Kiambu County. These schools, which were involved in the pilot study, were not part of the final research. This preliminary testing phase helped fine-tune the research methodology and instruments to ensure the effectiveness and accuracy of data collection in the main study, ultimately contributing to the overall quality and validity of the research findings. Furthermore, the piloting served the purpose of helping the researcher identify potential challenges and issues that might arise when collecting actual data. Reliability and validity testing were carried out on both the research instruments and the items generated.

3.5 Data Collection Procedures

The researcher visited all thirty-two schools, where two lessons at each institution were observed. During the first visit, learners with low reading performance, as determined by the reviewed document, were screened for dyslexia using the Dyslexia Screening Test-Junior (DST-J). The purpose of this test was to evaluate the reading performance levels of grade four learners in special units to detect any impairments in reading comprehension. To establish the correlation between reading comprehension strategies and reading performance in the English language among grade four learners with dyslexia, data was collected through the administration of two comprehension tests. During the initial observation, the researcher administered the first comprehension test to assess the baseline reading performance of the students. The test consisted of two paragraphs and a short story with accompanying questions that required students to demonstrate their understanding of the text. The results of this test provided a starting point to evaluate the student's initial reading comprehension abilities.

Following the administration of the first comprehension test, the researcher conducted a face-to-face interview with the special needs English teachers to ascertain the reading comprehension strategies they employed to enhance the reading abilities of students with dyslexia. Further, teachers were encouraged to explore and implement different reading comprehension strategies tailored to the needs of dyslexia learners. These strategies included explicit phonics instruction, vocabulary instruction, material

accommodation, peer teaching strategies, technology-based interventions, repetition strategies, graphic organizers, questioning techniques, summarization exercises, or any other evidence-based strategies known to support reading comprehension.

Over two weeks, teachers integrated these strategies into their regular English lessons and provided targeted instruction to the students. After two weeks, the second comprehension test was administered to re-evaluate the reading levels of the grade four learners with dyslexia. Similar to the initial test, this assessment included two paragraphs and a short story followed by two questions designed to assess reading comprehension skills. A comparison was made between the students' reading performance in both tests. Overall, the researcher observed sixty-four lessons in thirty-two schools.

3.6 Data Analysis

Quantitative data collected from Dyslexia Screen Test Junior (DST-J) and comprehension tests were coded and analyzed using SPSS version 26.0. The central tendency and dispersion measures were then used to summarize descriptive statistics for continuous data. Persons' correlation and ANOVA statistics were used in testing significant relationships between variables. The testing was carried out on the hypotheses listed below:

4. Results and Discussions

4.1 Bio-data of the Respondents

Bio-data of the respondents were analyzed descriptively using frequency and percentage as presented in Table 2:

Table 2: Bio-data of the Respondents

Biographic Variables	Variable Description	Frequency (N=29)	Percentage (%)
Teaching Experience	< 2 years	0	0
	3-5 years	10	36.5
	6-10 years	5	17.2
	11-20 years	11	37.9
	21-30 years	3	10.3
Total		29	100
Level of Training	P1 Certificate	10	34.5
	Diploma	14	48.2
	Degree	5	17.2
Total		29	100

Table 2 presents compelling evidence on the significance of training teachers and teaching experience. The data indicates that a significant number of teachers (37.9%) possessed a teaching background spanning from eleven to twenty years, demonstrating a considerable level of expertise. Notably, all special needs teachers possessed more than two years of teaching background, which indicated a level of competence gained through

practical application in the classroom. Moreover, the findings showed that 10.3% of educators had accumulated teaching experience spanning from 21 to 30 years, showcasing a group of highly experienced educators. Additionally, a noteworthy 36.5% of teachers had 3 to 5 years of experience, while 17.2% had 6 to 10 years of teaching experience. Collectively, these findings emphasize that the participants possessed a diverse range of teaching backgrounds, reflecting a wealth of knowledge and understanding in dealing with learners with dyslexia or reading impairments. The accumulated experience of these teachers implies that they have had ample opportunities to refine their instructional methods, adapt to various learning needs, and gain valuable insights into addressing challenges that students with dyslexia might encounter. The demonstrated level of expertise holds significant potential in cultivating a nurturing and inclusive learning environment, particularly for the study's target population. The data presented here is consistent with the conclusions drawn by Wandera *et al.* (2019), whose study affirmed that teachers' teaching experience had a great impact on learners' performance in English during the KCPE examination in Kenya.

The study's findings reveal that a considerable proportion of the teachers, comprising 14 individuals (48.2%), held a diploma as their highest level of training, which accounts for nearly half of the participants. Conversely, only 5 teachers (17%) had achieved a degree, while 10 teachers (34.5%) possessed a P1 certificate. These findings revealed that most teachers had attained a higher level of training. Teachers with advanced training are likely to possess a deeper understanding of educational principles and pedagogical techniques, enabling them to provide more comprehensive insights and valuable perspectives during the study. These findings align with the research conducted by Hafeez (2021) on the effects of teacher training and teaching methods on the academic achievements and interests of learners.

4.2 Relationship between Reading Comprehension Ability Level and English Performance of Grade Four Learners with Dyslexia in Nairobi and Kiambu Counties

The key aim of this study was to investigate the correlation between reading comprehension ability levels and reading performance in English of grade four learners with dyslexia in Nairobi and Kiambu counties, Kenya. To examine this relationship, the researcher used the Person's correlation analysis to test the following hypothesis:

H11: There exists a significant relationship between reading comprehension ability levels and reading performance in the English language among grade four learners with dyslexia in Nairobi and Kiambu counties, Kenya.

The results are presented in Table 3.

Table 3: Correlation between Reading comprehension Ability and performance

		Reading Comprehension Ability	Performance
Reading Comprehension Ability	Pearson Correlation	1	.3555**
	Sig. (2-tailed)		.000
	N	141	141
Performance	Pearson Correlation	.355***	1
	Sig. (2-tailed)	.000	
	N	141	141

From Table 3 findings, the Pearson correlation for the relationship between reading comprehension ability level and reading performance in English among grade four learners with dyslexia in Nairobi and Kiambu counties was 0.355* with a significance of (2-tailed) of 0.00, which is below 0.5. Therefore, the Alternative Hypothesis, H11, is accepted. No doubt there is a significant relationship between reading comprehension ability levels and reading performance in English among grade four learners with Dyslexia in Nairobi and Kiambu counties, Kenya. The findings correlate with those by Fitriani, (2018), who established that there were statistically significant differences in learners' reading comprehension and their achievement. Learners with dyslexia have comprehension challenges because they read words inaccurately. The reading comprehension dysfunction can exist even in the absence of subpar decoding, indicating that it is a separate problem. Prospective research suggests that children who struggle to comprehend what they read have deficient vocabulary, grammar, and syntax skills from the very beginning of their reading education. The researcher identified a significant correlation between reading comprehension levels and reading performance. Students with superior reading comprehension abilities generally attained greater proficiency in English reading. These results suggest that developing and enhancing reading comprehension abilities could potentially lead to improved reading performance among learners with dyslexia.

Table 4 shows the results of Pearson's correlation coefficient analysis between the behavioral checklist index for evaluating reading comprehension ability levels and reading comprehension performance.

Table 4: Relationship between Observation Checklist for Evaluating Reading Comprehension Ability Levels and Reading Performance in English Language

Behavioral Checklist Item	r-value	p-value	Explanation
Reads slowly and repeatedly	-0.40	0.02	Moderate negative correlation, statistically significant
Difficulty understanding	-0.21	0.01	Weak negative correlation, statistically significant
Finds reading and writing more tiring	-0.27	0.18	Weak negative correlation, not statistically significant
Difficulty in ordering ideas	-0.68	0.03	Strong negative correlation, statistically significant
Has difficulty identifying the main points	-0.59	0.04	Moderate negative correlation, statistically significant
Untidy handwriting	-0.22	0.06	Weak negative correlation, not statistically significant
Repetitive reading to make sense of the text	-0.48	0.03	Moderate negative correlation, statistically significant
Poor memory	-0.66	0.01	Strong negative correlation, statistically significant

Table 4 displays the findings of Pearson's correlation coefficient analysis between the behavioral checklist index for evaluating reading comprehension ability levels and reading comprehension performance. The items that exhibited the strongest connections with reading performance in English were the challenging planning passage and organizing ideas in the correct sequence ($r = -0.68$; $p = 0.03$), as well as a notable lack of recall: poor memory ($r = -0.66$; $p = 0.01$). Based on the sampled learners, it can be inferred that their levels of reading comprehension ability declined as the risk of dyslexia increased. These findings agree with those of a study by Ooko & Aloka (2021), who explored the comprehension skills and behavior modification practices for dyslexic learners in Kenyan primary schools. The research revealed that learners with dyslexia exhibited lower reading comprehension levels than typical readers, relying on compensatory strategies like rereading and depending on pictures to compensate for decoding deficits. Moreover, the results align with Yusuf's (2017) investigation, which revealed that a substantial number of primary school students encountered challenges associated with low levels of reading comprehension ability, thereby exerting a notable impact on their reading proficiency. Therefore, learners who face challenges with any of the aforementioned factors, such as reading slowly and repeatedly due to decoding challenges, are likely to exhibit poor reading performance in the English language.

5. Conclusions

On reading comprehension levels, the majority of the fourth-grade learners with Dyslexia in Nairobi and Kiambu Counties were at the literal level. Based on the findings, it is logical to conclude that there was a significant relationship between reading

comprehension ability level and reading performance in the English language among grade four learners with Dyslexia in Nairobi and Kiambu counties, Kenya.

6. Recommendations

- 1) MoE should provide comprehensive training programs for teachers to enhance their understanding of dyslexia and effective instructional strategies tailored to the needs of learners with dyslexia. This training should focus on structured literacy approaches, multisensory teaching methods, and accommodations specific to dyslexic students.
- 2) Quality assurance curriculum support officers should strengthen quality assessment in schools to promote early detection of reading impairments and proper interventions for students with dyslexia.
- 3) Teachers should develop and implement individualized education plans for students with dyslexia, outlining specific interventions, accommodations, and goals to support their reading development

7. Acknowledgement

First and foremost, I thank the Almighty God for the grace and divine provision that has enabled me to complete this Thesis. I am also deeply grateful for the inspiration, investment, and unwavering support of numerous cherished individuals during the development of this thesis. My heartfelt appreciation goes to my supervisors, Dr. Muthee, and Dr. Karia, for their invaluable guidance and encouragement. I am also thankful to the lecturers who supported me throughout the course work and to the authors of the books, articles, and research materials that form the foundation of my research. I sincerely appreciate the head teachers, SEN teachers, and grade four learners in Nairobi and Kiambu Counties for their cooperation and participation in this research study. I owe gratitude to my beloved husband, Harun, whose unwavering belief in my abilities has been a constant source of motivation. In both the highs and lows of this journey, his unwavering confidence propelled me forward. Also, I extend my deepest thanks to our children, Victor, Victory, and Victoria, for their understanding and patience. Their comforting hugs, and soothing backrubs made an immeasurable difference throughout this endeavor. Lastly, I am extremely grateful to my colleagues Dr. Sambu and Dr. Andati my extended family, especially Faith Nyambura, for being my support system until the completion of this research.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Author(s)

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FOUR LEARNERS WITH DYSLEXIA IN NAIROBI AND KIAMBU COUNTIES, KENYA

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