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# Activating Background Knowledge, Reading Comprehension and Learner Achievement in Primary Schools in Nairobi City County, Kenya: Addressing Understanding

**Elizabeth Asewe Oluoch**[*], **Paul Amollo Odundo, Ruth Mugo Kahiga**

Department of Educational Communication, Technology and Pedagogical Studies, University of Nairobi, Nairobi, Kenya

**Email address:**

aseweelizabeth@gmail.com (Elizabeth Asewe Oluoch), odundopaul@yahoo.com (Paul Amollo Odundo),
ruth.wangu@uonbi.ac.ke (Ruth Mugo Kahiga)
[*]Corresponding author

**Abstract:** Effective activation of background knowledge links what is known to currently read content facilitating better mastery of comprehension. However, in instances where existing knowledge is insufficient, complete comprehension of text may likely be compromised which could reduce attainment. The study examined influence of activating past knowledge on learner achievement in reading comprehension in public primary schools in Nairobi City County. The study was anchored on social constructivist theory. The investigation was built on positivist and constructivist schools of thought. The targeted eight schools arrived at a sample of 476 using purposive, simple random sampling, principles of Solomon Four Group design and census model. Quasi-experimental methodology based on Solomon Four Group Design was used yielding 223 learners allocated to experimental while 253 to control groups and 8 teachers of English. Data were captured through reading comprehension tests, questionnaires, in-class observation and follow up discussion sessions. Anticipation guide caused a positive effect on learner achievement in reading comprehension in experimental but not in control group (B=0.178 (t=2.333; p = 0.021). More still, making connections variable was 0.080 (t-value = 1.171; p-value = 0.243; B=0.009 (t-value = 1.196; p=0.902) for experimental and control groups respectively indicating no consistent relationship with learner achievement in reading comprehension. Text previewing caused a positive change in experimental and control groups (Model 1: Beta = 0.160, t=2.100, p=0.037; B=0.136, t=1.689; p=0.093). The study concluded that use of anticipation guide and text previewing to activate prior knowledge may likely improve achievement in text comprehension. The Ministry of Education should publish policies and guidelines to inform head teachers of the necessity of encouraging use of innovative techniques for enhancing reading comprehension for long-term learning.

**Keywords:** Anticipation Guide, Background Knowledge, Connecting Concepts, Previewing Text, Reading Comprehension

## 1. Introduction

Task-based learning encourages communication and social engagement by allowing the learner to actively participate in activities using target language and collaboration for optimal learning. If properly used, the learner employs acquired language resources to complete tasks for accelerated comprehension capabilities. Implementing activity-based instruction may entail exposing the learner to target language through stimulating activities and task exploration [18] which when accurately accomplished may foster activation of requisite knowledge for long-term learning. This suggests that using prior knowledge to understand passages enhances accomplishment of activities for mastery of texts. However, improper implementation of task-centred learning may hinder activation of prior knowledge by restricting capacity to make

connections to textual content, consequently lowering accomplishment. According to Baralt and Gomez [6] activities that promote information processing through cooperation may boost task-based learning environment for better scores. In essence, the teacher supports and encourages learners to collaborate to build learning processes for completion of assignments. Furthermore, Harris and Leeming [13] argued that task-centred instruction fosters learner exposure to use of natural language and competence development for quick learning. More still, Celik [8] asserted that task-oriented training is a learner-centred method that enables the learner to carry out tasks using target language by producing meaning for increased comprehension competencies. Adding to this perspective, Bekele, Odundo, Mwangi and Lilian [7] noted that educational methods have changed globally increasing demand for learner centred approaches for enhanced understanding of concepts.

Task-based learning premised on acquisition of reading competencies based on background knowledge focusing on anticipation guide, making connections and text previewing improves mastery of comprehension passages for enhanced learning. According to Anyienda, Odundo and Kibui [4] engaging prior understanding comprises assisting the learner in making connections between the content of comprehension passages and what is already understood about the subject for enhanced achievement. Broadening this perspective, Kulo, Odundo and Agnes [17] argued that integration of textual material with past experience promotes learning and understanding of text for higher scores. Even though knowledge activation could occur naturally, not all learners may have access to relevant passages in the learning environment which may lower attainment in text comprehension (Hatten and Alexander, 2020). Ideally, background knowledge should be accessible to encourage interaction with text for improved marks in comprehension [15]. According to Defrioka [10], prior knowledge aids in better grasp of material for efficient learning. More still, learners draw on existing knowledge from experiences with other texts about similar topic [19] for enhanced comprehension of text. However, in situations where prior knowledge is incomplete or inaccurate, understanding of text may be compromised which might result in lower reading comprehension attainment. Background knowledge as a component of task-based learning manifests under anticipation guide, connecting concepts and previewing texts, which if well-structured and efficiently coordinated may help the learner to develop, integrate knowledge and build meaning to facilitate learning of comprehension passages.

### 1.1. Statement of the Problem

Task-centred learning focused on the development of reading abilities based on previous knowledge with specific learner attributes impacted by suitable teacher workload may most likely boost achievement in reading comprehension. However, in circumstances where activity-based learning is not centred on acquisition of reading abilities anchored on past knowledge with degraded learner proficiency influenced by depressing teacher workload attainment in reading comprehension may be lessened. Again, properly structured anticipation guide technique prepares the learner for key concepts by drawing attention to misconceptions and encouraging reflection on content read for sustained learning. Inappropriately designed anticipation guide strategy may likely limit learner participation in discussions of statements by obstructing focus on concepts which could hinder text comprehension. More still, establishing links between textual contents and prior knowledge encourages generalization of concepts by expanding knowledge and enhancing comprehension of passages. In instances where the learner is deprived of prior knowledge, integration with subject content is weakened which may likely reduce grades in reading comprehension. Furthermore, previewing provides the learner with a heads-up on upcoming content by lessening information load of reading and strengthening mastery of passage content for academic success. However, improperly constructed previewing strategy denies the learner the chance to reflect on content and related experiences by limiting ability to think about material and accompanying events which could impede comprehension by lowering scores. The objective of the study was to determine the influence of background knowledge on learner achievement in reading comprehension in primary schools.

### 1.2. Study Objectives

The study was guided by the following objectives: establish effect of anticipation guide on learner achievement in reading comprehension, evaluate effect of making connections on learner attainment in reading comprehension and examine effect of text previewing on learner performance in reading comprehension.

## 2. Literature

### 2.1. Anticipation Guide and Achievement in Reading Comprehension

Task-based learning through reading skills predicated on past knowledge particularly anticipation guide strategy helps the learner to expedite prior knowledge before, during and post reading for accelerated learning. According to Valle et al [29], answers to a sequence of statements that corroborate past knowledge and expectations about a subject are used to activate prior ideas and attitudes about concepts for better learning outcomes. More still, Defrioka [10] argued that before reading, learners listen to or read multiple comments that are either verified or refuted about key themes offered in the text for higher comprehension of assigned content. However, in instances where statements are not contentious, learner desire to read to settle conflict may be stifled, which would lower attainment. Again, a study by Sari and Sari [26] exploring the influence of anticipation guide strategy on learner achievement in reading comprehension among 12th grade Science class participants, revealed that anticipation guide strategy had significant influence on attainment in

reading comprehension. In addition, Defrioka [10] asserted that anticipation guides provide scaffold from which the learner more readily pinpoints main ideas, establishes connections and analyses cognitive processes which may improve grades for effective learning. However, in instances where statements are not carefully framed to question learner perspectives on prior experience with the subject, locating key points, making connections and using high order thinking skills may be weakened limiting attainment in comprehending text.

### 2.2. Making Connections and Accomplishment in Reading Comprehension

Task-based education through acquirement of reading competencies anchored on pre-existing knowledge particularly text connections tends to link prior information to textual content for enhanced attainment in reading competence. According to Amin [1] connecting texts makes reading become more effective and meaningful for better learning outcomes. In support, Ariana and Ardiana [5] observed that making connections helped the learner comprehend text by activating prior knowledge and enhancing meaning of material read for effective learning. However, improperly structured text-to-self connections restrict learner ability to explore extensive selection of experiences by reducing accomplishment in text comprehension. This in turn limits ability to make incisive and advanced connections. Nobles and Ortega-Dela Cruz [21] observed that connecting texts strategy allows the learner to monitor own thoughts to facilitate connection between texts and experiences for accelerated learning. In instances where connecting texts is inappropriately structured, solid text-to-text connections are weakened by restricting identification of themes and experiences cutting across material which lowers reading comprehension scores. More still, asking questions while reading aids in forming connections with text by encouraging active engagement for better comprehension with higher scores. According to Yeigh and Chemer [31], adequately planned learning opportunities allow the learner to use knowledge of the world to successfully navigate interconnections of material by exploiting associations to broaden thinking for improved understanding and higher grades. However, in circumstances when connection between text and external environment is weak, comprehension suffers which lowers test scores.

### 2.3. Text Previewing and Attainment in Comprehending Text

Task-centred learning based on reading skills and previous knowledge especially text previewing, directs learner attention to hints for improved subject content prediction. Previewing strategy involves paying more attention to content like new vocabulary terms and phrase patterns to alert the learner about forthcoming content for better learning outcomes. According to Anggraini, Usman and Arid [2], the teacher provides hints such as pictures or titles connected to the reading text that stimulate expectation before reading for better learning outcomes. In support, Prichard and Atkins [24] maintained that previewing strategy may increase understanding by energizing schema, boosting use of other strategies and heightening text awareness for improved mastery of passages. Previews not only help learners in relating new content to previous knowledge but also lessen information load of reading [14] for improved attainment in text comprehension. In Heng-Tsung [14] study, 68 EFL learners read a difficult story either with or without the previewing treatment provided in advance, revealed that the previewing treatment significantly improved learners' overall comprehension. In situations where previewing techniques are improperly designed, access to background knowledge may be impeded which could weaken understanding and retention.

### 2.4. Theoretical Framework

The study was shaped by social constructivist theory [30] which includes identifying social interaction, zone of proximal development (ZPD) and more knowledgeable others (MKO) as vital aspects in a learner's cognitive development. Social constructivist epistemologies contend that learning develops as a result of fulfilling experiences with others [23] for high attainment. In addition, Vygotsky (1978) asserted that social connection promotes learning through co-construction of knowledge for better mastery of content. Furthermore, according to Morgan and Skaggs [20] the zone of proximal development is the region between what a learner can accomplish unsupported and the point requiring substantial instruction. ZPD, is predicated on the idea that development of abilities and understanding of topics is supported by more knowledgeable others, peers and learning resources. The developmental stages of ZPD include: tasks the learner cannot do even with assistance, activities that the learner can do with help and assignments that the learner can do without support. The ZPD shifts as the learner expands and gains knowledge for accelerated learning.

Scaffolding activities include using strategies to remind the learner about content known to understand topic to be developed in the lesson. In support, Tran [28] asserted that effective task-based instruction scaffolds attainment in text comprehension by boosting reading competency. The ZPD is an essential concept for task-based learning allowing the teacher to scaffold learners to take on more challenging activities. This may help learners in acquiring extant knowledge required for improved reading comprehension. To close the knowledge gap between known and unknown material, more knowledgeable individuals share insights with learners.

### 2.5. Conceptual Framework

Figure 1 shows perceived framework for the connection between success in text comprehension and application of past knowledge.
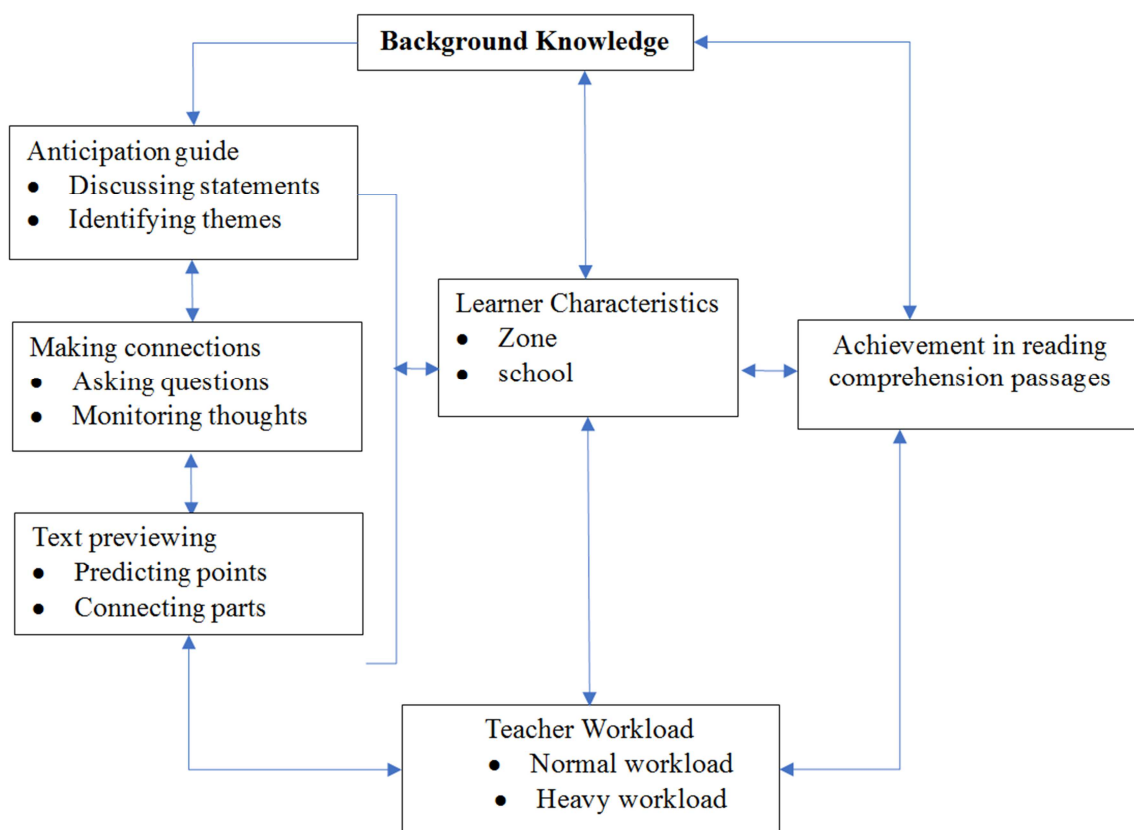
*Figure 1. Hypothetical relationship between background knowledge and achievement in reading comprehension.*

The study developed a conceptual association between previous knowledge and reading comprehension proficiency among learners. Background knowledge emerges when the learner engages in anticipation guide, drawing connections and text previewing guided by learner characteristics and teacher workload for sustained learning.

## 3. Methodology

Solomon Four non-equivalent Group Design was used to organize the investigation. Positivist and constructivist schools of thought served as the philosophical pillars of the study. The target population included standard seven learners and teachers of English in Nairobi City County public primary schools. Purposive sampling, simple random sampling, principles of Solomon Four Group design and census were used to arrive at one county, four educational divisions, two schools per zone, eight teachers and 476 learners. Experimental and control groups comprised 223 and 253 learners respectively. Teachers in experimental group received clarification on how to use task-based learning in comprehending text. Triangulation process involved use of four data collection tools. According to Donkoh and Mensah [11], frequently employed method of triangulation involves integrating qualitative and quantitative data capturing tools and analysis in a single study. Prior to actual data collection, research tools were created, evaluated for reliability and piloted to capture requisite data. The four devices consisted

of reading comprehension assessments (pre-test and post-test), questionnaires, lesson observation schedule and follow-up discussion sessions.

The evaluation of study data was facilitated by use of Statistical Package for the Social Sciences (SPSS) version 26. Quantitative and qualitative methodologies were used to manage and analyze data. Quantitative techniques including cross-tabulations, Chi Square ($X^2$) tests and regression analysis were used to assess correlation between learner achievement and elements of previous knowledge. Themes were used to code qualitative data to derive conclusions. In this regard, background knowledge activation was operationalized in terms of anticipation aid, tying concepts and previewing material with test results serving as a gauge of reading comprehension performance. Research ethics were considered by obtaining permission, requesting informed consent from participants and upholding confidentiality.

## 4. Findings

The study examined the effect of activation of prior knowledge on achievement among learners in primary schools. Understanding was addressed using anticipation guide, linking concepts and text previewing to activate prior knowledge for accelerated learning and accomplishment in reading comprehension. The results are presented under socio-demographic attributes of respondents, background knowledge and achievement in reading comprehension and

regression analysis of previous ideas and attainment in text comprehension.

### 4.1. Socio-Demographic Attributes and Post-Test Scores

To facilitate bivariate analysis, continuous data were divided into four unique groups: Continuous data was broken down into four distinct groups: "20 marks", "20-29 marks", "30-39 marks" and "40+ marks". The measuring scale for post-test scores was changed from interval to nominal. This information was cross-tabulated with learner socio-demographic profiles in order to pinpoint the traits that were significantly associated with the dependent variable. Only variables with significant connection were included in the multivariate analysis displayed in Table 1.

**Table 1.** Socio-demographic attributes of respondents.

| | | Post-test Score Range | | | | | $X^2$ | df | p-value |
| | | <20 | 20-29 | 30-39 | 40+ | Total | | | |
|---|---|---|---|---|---|---|---|---|---|
| Gender | Female | 45, 40% | 65, 52% | 61, 50% | 62, 57% | 233, 49% | | | |
| | Male | 68, 60% | 60, 48% | 69, 53% | 46, 43% | 243, 51% | 7.537 | 3 | .057* |
| | Total | 113, 100% | 125, 100% | 130, 100% | 108, 100% | 476, 100% | | | |
| | 11 | 7, 6% | 5, 4% | 8, 6% | 6, 6% | 26, 6% | | | |
| | 12 | 36, 32% | 26, 21% | 41, 32% | 34, 32% | 137, 29% | | | |
| | 13 | 39, 35% | 52, 42% | 49, 38% | 51, 47% | 191, 40% | | | |
| Age | 14 | 21, 19% | 32, 26% | 25, 19% | 15, 14% | 93, 20% | 24.417 | 18 | .142 |
| | 15 | 8, 7% | 4, 3% | 6, 5% | 2, 2% | 20, 4% | | | |
| | 16 | 2, 2% | 5, 4% | 1, 1% | 0, 0% | 8, 2% | | | |
| | 17 | 0, 0% | 1, 1% | 0, 0% | 0, 0% | 1, 1% | | | |
| | Total | 113, 100% | 125, 100% | 130, 100% | 108, 100% | 476, 100% | | | |
| | A | 17, 15% | 14, 11% | 5, 4% | 4, 4% | 40, 8% | | | |
| | B | 29, 26% | 21, 17% | 24, 19% | 14, 13% | 88, 19% | | | |
| | C | 1, 1% | 3, 2% | 8, 6% | 24, 22% | 36, 8% | | | |
| | D | 3, 3% | 8, 6% | 25, 19% | 23, 21% | 59, 12% | | | |
| School | E | 29, 26% | 28, 22% | 23, 18% | 6, 6% | 86, 18% | 115.370 | 21 | .000*** |
| | F | 8, 7% | 16, 13% | 11, 9% | 14, 13% | 49, 10% | | | |
| | G | 20, 18% | 15, 12% | 17, 13% | 6, 6% | 58, 12% | | | |
| | H | 6, 5% | 20, 16% | 17, 13% | 17, 16% | 60, 13% | | | |
| | Total | 113, 100% | 125, 100% | 130, 100% | 108, 100% | 476, 100% | | | |
| | Makadara | 20, 18% | 22, 18% | 30, 23% | 27, 25% | 99, 21% | | | |
| Educational division | Embakasi | 35, 31% | 41, 33% | 41, 32% | 31, 29% | 148, 31% | | | |
| | Westlands | 30, 27% | 31, 25% | 31, 24% | 30, 28% | 122, 25% | 4.499 | 9 | .876 |
| | Dagoreti | 28, 25% | 31, 25% | 28, 22% | 20, 19% | 107, 23% | | | |
| | Total | 113, 100% | 125, 100% | 130, 100% | 108, 100% | 476, 100% | | | |
| | Viwanda | 17, 15% | 14, 11% | 5, 4% | 4, 4% | 40, 8% | | | |
| | Kayole | 29, 26% | 21, 17% | 24, 19% | 14, 13% | 88, 19% | | | |
| | Parklands | 1, 1% | 3, 2% | 8, 6% | 24, 22% | 36, 8% | | | |
| | Buruburu | 3, 3% | 8, 6% | 25, 19% | 23, 21% | 59, 12% | | | |
| Zone | Kilimani | 29, 26% | 28, 22% | 23, 18% | 6, 6% | 86, 18% | 115.370 | 21 | .000*** |
| | Waithaka | 8, 7% | 16, 13% | 11, 9% | 14, 13% | 49, 10% | | | |
| | Riruta | 20, 18% | 15, 12% | 17, 13% | 6, 6% | 58, 12% | | | |
| | Dandora | 6, 5% | 20, 16% | 17, 13% | 17, 16% | 60, 13% | | | |
| | Total | 113, 100% | 125, 100% | 130, 100% | 108, 100% | 476, 100% | | | |

*,**,*** show significance at ρ<0.1, ρ<0.05 and ρ<0.01 error margins, respectively

Learners were drawn from 8 public primary schools code-named as A, B, C, D, E, F, G, and H. Forty (8%) learners were based in school A, 88 (19%) school B, 36 (8%) school C, 59 (12%) school D, 86 (18%) school E, 49 (10%) school F, 58 (12%) school G and 60 (13%) school H. Notably, achievement in reading comprehension passages significantly varied across schools, zones ($\chi^2$ = 115.370, df=21, ρ<0.001) and gender ($\chi^2$ = 7.537, df=3, p<0.1). This implies that reading comprehension proficiency levels in Nairobi City County Schools, educational zones and gender varied greatly.

### 4.2. Background Knowledge and Attainment in Text Comprehension: Cross-Tabulation

Cross-tabulating learner opinions about previous knowledge comprising anticipation guide, forming connections and previewing texts was cross tabulated against post-test results which produced the findings shown in Table 2.

**Table 2.** Background knowledge and achievement in comprehension.

| | <20 | | 20-29 | | 30-39 | | 40+ | | Total | | Chi-Square Tests |
| | Freq. | % | Freq. | % | Freq. | % | Freq. | % | Freq. | % | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *I think of what I know to help me understand what I read.* | | | | | | | | | | | |
| Strongly disagree | 14 | 12.4% | 13 | 10.4% | 9 | 6.9% | 2 | 1.9% | 38 | 8.0% | $X^2$=33.116; df=9; |
| Disagree | 20 | 17.7% | 14 | 11.2% | 19 | 14.6% | 6 | 5.6% | 59 | 12.4% | p=0.000 |

| | <20 | | 20-29 | | 30-39 | | 40+ | | Total | | Chi-Square Tests |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Freq. | % | Freq. | % | Freq. | % | Freq. | % | Freq. | % | |
| Agree | 67 | 59.3% | 79 | 63.2% | 72 | 55.4% | 64 | 59.3% | 282 | 59.2% | |
| Strongly agree | 12 | 10.6% | 19 | 15.2% | 30 | 23.1% | 36 | 33.3% | 97 | 20.4% | |
| *I make connections to the text I am reading.* | | | | | | | | | | | |
| Strongly disagree | 28 | 24.8% | 40 | 32.0% | 28 | 21.5% | 9 | 8.3% | 105 | 22.1% | $X^2$=23.532; df=9; |
| Disagree | 25 | 22.1% | 19 | 15.2% | 28 | 21.5% | 24 | 22.2% | 96 | 20.2% | p=0.005 |
| Agree | 40 | 35.4% | 48 | 38.4% | 47 | 36.2% | 47 | 43.5% | 182 | 38.2% | |
| Strongly agree | 20 | 17.7% | 18 | 14.4% | 27 | 20.8% | 28 | 25.9% | 93 | 19.5% | |
| *I preview the text to see what it is about before reading.* | | | | | | | | | | | |
| Strongly disagree | 34 | 31.0% | 38 | 30.4% | 24 | 18.5% | 8 | 7.4% | 105 | 22.1% | $X^2$=36.019; df=9; |
| Disagree | 25 | 22.1% | 20 | 16.0% | 14 | 10.8% | 22 | 20.4% | 81 | 17.0% | p=0.000 |
| Agree | 40 | 35.4% | 40 | 32.0% | 53 | 40.8% | 48 | 44.4% | 181 | 38.0% | |
| Strongly agree | 13 | 11.5% | 27 | 21.6% | 39 | 30.0% | 30 | 27.8% | 109 | 22.9% | |

The results shown in Table 2 implied that there exists a correlation between prior knowledge and categorization of scores on post-test. In order to compare achievement in comprehension of texts with learner perspectives on prior experience activation, cross-tabulation was used. The first practice was about "thinking about what is known to assist in understanding content read". Cumulative results showed that 379 (79.6%) learners endorsed the assertion, whereas 97 (20.4%) refuted. The analysis revealed significant relationship between performance in reading comprehension passages and the strategy "thinking of what is known to assist in understanding content read" ($\chi^2$ value of 33.116, df=9, p=0.000). Results were corroborated by teacher questionnaire responses which showed that of 8 instructors, 5 (62.5%) acknowledged the assertion, while 3 (37.5%) totally agreed. This implied that teachers were in favour of using anticipation guide. However, lessons observed showed minimal usage of anticipation guide during reading lessons. The strategy was more prevalent in experimental than in control groups. This could be credited to effective task-based learning method that encourages use of anticipation guide in teaching reading comprehension. A conversation session with learners revealed that discussing assertions before reading comprehension passages improved understanding of concepts for accelerated learning. The results are consistent with Evans, Kodela and Khan [12], observation that anticipation guides signal changes in knowledge and perspectives that promote reflection for higher learning outcomes. In addition, anticipation guides are constructivist learning methods in which the learner actively participates in creation of meaning based on past understanding for improved acquisition of comprehension skills. Odundo and Ganira [22] concurred that application of constructivist view to teaching exposes the learner to more challenging requirements on cognitive, creative, and linguistic abilities resulting in social interaction for improved achievement.

Overall results revealed that 275 (57.7%) learners acknowledged the perception indicating that "I make connections to text read", while 202 (42.3%) did not. The study also demonstrated that success in comprehension of texts substantially correlated with linking technique up to 99% of the time ($\chi^2$ value of 23.532, df=9, p=0.005). Moreover, combined results showed that 290 (60.9%) accepted the claim, whereas 186 (39.1%) negated. Results from teacher

questionnaires validated the use of the method. Additional support for findings was provided by lessons observed where majority of instructors, n=7, (87.5%) applied the strategy in reading comprehension. Text-to-text connection was hardly adopted in experimental and control groups. According to Shea and Ceprano [27], learners relate content from other texts to comprehension passages which requires active thought and assimilation of concepts to develop comprehension abilities for effective learning. Additional findings from subsequent discussion sessions showed that learners enjoyed using the strategy before reading which increased curiosity on passage content to achieve high comprehension ratings. The findings are consistent with those of Ariana and Ardiana [5] who revealed that building connections technique significantly improved post-test scores for text comprehension.

Again, Chi Square results revealed that attainment in reading competencies was closely connected to previewing text ($\chi2$ value of 36.019, df=9, p=0.000). Responses from questionnaires for teachers indicated that majority of teachers supported use of the strategy. However, the technique was minimally implemented in experimental and control groups. Additional results from follow-up discussion sessions with a learner revealed that previewing facilitated prediction of passage content enhancing mastery of concepts for high attainment. The findings are in tandem with Rosmiati [25] observation that employing previewing strategy when teaching reading improved comprehension scores. Furthermore, using previews as stimuli allows the learner to make intelligent estimates on passage content boosting efficient top-down processing and extending the scope of learning by deepening comprehension for improved mastery of concepts. The study findings provide more credence to Prichard and Atkins [24] contention that previewing may likely improve understanding of topic content by increasing text awareness contributing to higher test scores.

### 4.3. Background Knowledge and Achievement in Reading Comprehension: Regression Analysis

The objective of the study was to explore effect of previous knowledge on learner attainment in comprehension of text. Using a regression model, the determinants of learner success in comprehension passages including anticipation guide, creating connections and previewing material for

experimental and control groups were examined. Additional variables included gender, school and educational division. Table 3 shows the coefficients, standard errors, standardized coefficients, t-values, and significance levels (p-values) for each predictor variable in the regression model.

*Table 3. Model 1 and 2 on background knowledge and attainment in reading comprehension.*

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 Experimental | (Constant) | .084 | .440 | | .191 | .848 |
| | *Anticipation guide* | *.178* | *.076* | *.139* | *2.333* | *.021*** |
| | Making connections | .080 | .068 | .068 | 1.171 | .243 |
| | *Previewing texts* | *.160* | *.076* | *.124* | *2.100* | *.037*** |
| | *School* | *.457* | *.061* | *.432* | *7.447* | *.000**** |
| | *Educational division* | *.232* | *.092* | *.149* | *2.526* | *.012*** |
| | Gender | -.155 | .131 | -.069 | -1.182 | .239 |
| 2 Control | (Constant) | 1.432 | .701 | | 2.043 | .042 |
| | Anticipation guide | .008 | .089 | .197 | 1.196 | .112 |
| | Making connections | .009 | .074 | .009 | .123 | .902 |
| | *Previewing texts* | *.136* | *.081* | *.149* | *1.689* | *.093** |
| | School | .060 | .083 | .069 | .726 | .469 |
| | Educational division | -.102 | .094 | -.078 | -1.091 | .276 |
| | Gender | -.176 | .125 | -.085 | -1.409 | .160 |

Dependent variable post-test scores
*, **, *** show significance at p<0.1, p<0.05, p<0.01 error margins respectively

The results presented in Table 3 showed that, in Model 1, anticipation guide caused a positive effect on learner achievement in reading comprehension (B=0.178 (t=2.333; p = 0.021), showing a strong connection between variables with a 95% confidence range. The outcomes are consistent with those of Sari and Sari [26] who reported that using anticipation guide improved understanding of text for accelerated mastery of passages. The results showed that greater performance on post-test mean was achieved owing to use of anticipation guide which allowed learners to actively engage in conversations that aided in mastery of concepts. The findings supported Anthony [3] conclusion that learners taught using anticipation guide had superior text comprehension than those taught using small group discussion.

Moreover, results in Table 3 indicated that beta coefficient for making connections variable was 0.080 (t-value = 1.171; p-value = 0.243; B=0.009 (t-value = 1.196; p=0.902) for experimental and control groups respectively. Nevertheless, the variable did not demonstrate a statistically significant correlation with learner attainment in reading abilities, indicating absence of consistent association between making connections and learner achievement in reading comprehension within experimental and control cohort. According to Cutright [9] lack of progress in the groups may be a sign that further strategies need to be used. Furthermore, developing insightful frameworks for reading materials permits the learner to proceed toward deeper comprehension of texts [16] for high attainment.

The results presented in Table 3 showed that, in Model 1 and 2, text previewing strategy caused a positive effect on learner achievement in reading comprehension (Model 1: Beta = 0.160, t=2.100, p=0.037; B=0.136, t=1.689; p=0.093), indicating a statistically significant correlation between variables in experimental and control groups respectively. This implied that teachers' employment of text previewing method in both groups led to commensurate rise in learner achievement in understanding passages. According to beta and t-statistic values, effect was greater in experimental than in control group. This further indicated that teachers in experimental cohort were probably more successful than those in control class in fostering learner text previewing skills. In Model 1 and 2, results suggested up to 95% and 90% respectively that the variable's effect was significant. The results supported Rosmiati [25] observation that employing previewing approaches to teach reading enhanced comprehension proficiency.

Demographic characteristics related to school and educational divisions had significant influence on comprehension passage scores (B=0.457, t=7.447, p=0.000; B=0.232, t=2.526, p=0.012, respectively). The findings showed connection between improved comprehension scores and schools and educational divisions.

## 5. Conclusions

The study draws the conclusion that anticipation guide caused a positive effect on learner achievement in reading comprehension in experimental but not in control group. Connecting texts, however, had no effect on either experimental or control group's attainment in understanding text read. In addition, experimental and control groups exhibited improvement as a result of text previewing. More still, reading comprehension proficiency levels in Nairobi City County Schools and educational zones varied significantly.

## 6. Recommendations

1) Reorganizing developments in teacher preparation

programs for effective activation of background knowledge.

2) Attending conferences, workshops and refresher training sessions may increase teacher ability to provide content for sustained learning.

3) Enlighten teachers on the need for utilizing a range of strategies to assist the learner in building requisite knowledge.

4) Further research on interventions for activation of previous knowledge.

# References

[1] Amin, R. (2019). Developing Reading Skills through Effective Reading Approaches. *International Journal of Social Sciences and Humanities*, 4 (1): 35-40.

[2] Anggraini, W. P., Usman, S. & Arid, M. (2022). A Study of Previewing and Predicting Strategy in Teaching Reading Comprehension at SMP Negeri 14 Sigi. *e-Journal of ELTS (English Language Teaching Society),* 10 (1): 66-75.

[3] Anthony, D. (2017). The Effect of "Anticipation Guide Strategy and Students' Reading Interest on Students' Reading comprehension at Grage XII of SMKN 1 Pariaman. *English Language Teaching and Research,* 1 (1): 65-76.

[4] Anyienda, M. S., Odundo, P. A. & Kibui, A. W. (2021). Deployment of Background Knowledge and Performance in Comprehension Passage Reading among Primary School Learners in Vihiga County, Kenya. *Education Research International*, 1-10. https://doi.org/10.1155/2021/4285044

[5] Ariana, A. & Ardiana, A. (2021). Making Connections: A Teaching Strategy to Foster Junior High School Students' Reading Comprehension. *Journal of Language Teaching and Literature,* 8 (2) https://doi.org/10.30605/25409190.327

[6] Baralt, M., & Gomez, J. M. (2017). Task-based language teaching online: A guide for teachers. *Language Learning and Technology*, 21 (3): 28-43.

[7] Bekele, S. G., Odundo, P. A., Mwangi, J. K. & Ganira, K. L. (2021). Teaching Methods and Quality of business studies Textbook in Secondary Schools in Kenya. *Journal of EDUSCI,* 2 (5): 019-029.

[8] Celik, B. (2017). Task-Based Learning: An Effective Way of Developing Communication Skills. *International Journal of Social Sciences and Educational Studies*, 4 (2 (Special Issue)): 109-114. DOI: 10.23918/ijsses.v4i2sip104.

[9] Cutright, C. A. (Legg). (2010). *The effect of text-to-self reading strategies on reading comprehension.* Doctor of Philosophy Dissertation, Walden University.

[10] Defrioka, A. (2013). Anticipation Guide: A Strategy of Teaching Reading Comprehension. *SELT 2013 Proceeding*.

[11] Donkoh, S., & Mensah, J. (2023). Application of triangulation in qualitative research. *Journal of Applied Biotechnology and Bioengineering,* 10 (1): 6-9.

[12] Evans, D. R., Kodela, J. & Khan, A. (2022). Anticipation Guides: A Tool to Highlight Knowledge and Promote Reflection on Learning. *PRIMER,* 6: 20.

[13] Harris, J. & Leeming, P. (2022). The Impact of teaching approach on growth in L2 proficiency and self-efficacy. A longitudinal classroom-based study of TBLT and PPP. Journal of Second Language Studies, 5 (1): 114-143. https://doi.org/10.1075jsls.20014.har

[14] Heng-Tsung, D. H. (2009). Previewing and EFL Reading Comprehension. *The Journal of Asia TEFL,* 6, 59.

[15] Hutahaean, D. T. (2019). The Effect of Activating Background Knowledge in Reading Comprehension at the Second Semester Students at University of HKBP Nommensen Rematangsiantar. *Education Journal*, 2: 51-66.

[16] King, K. & Gurian, M. (2006). Teaching to the mind of boys. *Educational Leadership*, 64 (1): 56-61.

[17] Kulo, S. A., Odundo, P. A. & Agnes, K. (2019). Interactive Reading Strategies and Learner Achievement in Reading Skills in Secondary Schools in Kisumu County, Kenya. *International Journal of English Language Teaching*, 7 (5): 1-13.

[18] Lap, T. Q., & Trang, H. D. (2017). The Effect of Task-Based Learning on EF Students' Learning Reading: A Case Study in the Mekong Delta of Vietnam. *Studies in English Language Teaching,* 5 (1): 34-48.

[19] Lenski, S. D. (1998). Intertextual: Making Connections across Texts. *The Clearing House: A Journal of Educational Strategies. Issues and Ideas,* 7 (2): 74-80. Doi: 10.1002/trtr.1314.

[20] Morgan, D. & Skaggs, P. (2016). Collaboration in the Zone of Proximal Development. International Conference on Engineering and Product Design Education 8 & 9 September 2016, Aalborg University, Denmark.

[21] Nobles, L. M. A. G. & Ortega-Dela Cruz, R. A. (2020). Making Connections: A Metacognitive Teaching Strategy in Enhancing Students' Reading Comprehension. journal of English Education, 5 (1): 49-60. DOI: http://dx.doi.org/10/31327/jee/v5il.1209.

[22] Odundo, P. A. & Ganira, K. L. (2017). Teacher Position in Spurring Value Based Education in Early Learning in Nairobi County, Kenya: Addressing support of Values in School Environment. *Journal of Education and Learning*, 6 (3): 194-203. DO1: 10.5539/jel.v6n3p194.

[23] Polly, D., & Byker, E. (2020). Considering the Role of Zone of Proximal Development and Constructivism in Supporting Teachers' TPACK and Effective Use of Technology. *Revista de Education a Distancia,* 64 (20): 1-20.

[24] Prichard, C, & Atkins, A. (2016). Evaluating L2 Readers' Previewing Strategies Using Eye Tracking. *The Reading Matrix: An International Online Journal*, 16 (2): 111-130.

[25] Rosmiati, N. D. (2019). Teaching Reading Comprehension using pre-viewing technique. PROJECT (Professional Journal of English Education), 2 (1): 65. DOI: 10.22460/project.v2il.p65-71.

[26] Sari, M. K., & Sari, L. R. (2019). The Effect of Anticipation Guide Strategy on Students' Reading Comprehension. JURNAL TA'DIB, 22 (1): 51-55.

[27] Shea, M., & Ceprano, M. (2017). Reading with Understanding: A Global Expectation. *Journal of Inquiry and Action in Education,* 9 (1): 48-68.

[28] Tran, T. T. N. (2022). The effects of task-based instructions on secondary students' reading performances. International Journal of Language Instruction, 1 (1): 9-18. DOI: https://doi.org/10.54855/ijli.22112.

[29] Valle, N., Antonenko, P., Wang, J. & Luo, W. (2020). Effects of Anticipation Guide on Visual Attention Distribution in a Multimedia Environment: An Eye Tracking Study. The Excellence in Education Journal, 9 (3): 5-25.

[30] Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

[31] Yeigh, M., & Chemer, T. (2018). Text-to-Web: Adding Digital Connections into the Mix. Curriculum and Faculty Publications and Presentations. 48. https://pdxscholar.library.pdx.edu/ci_fac/48