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Cushioning the Effects of Insecurity on Education: Extensive Reading, a Panacea for Low Secondary School Educational Health (Performance)

Tanko, Gunwuntang Baya[1], Amase, Emmanuel Lenior[2], Maina, Musa Mam[3]

Department of English, Faculty of Arts, Federal University, Gashua, Yobe State, Nigeria.

***Corresponding Author**: Tanko, Gunwuntang Baya
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Abstract

This study investigates the impact of extensive reading (ER) on educational performance among secondary school students in the insecure regions of Bade and Yusufari Local Government Areas, Yobe State, Nigeria. Although English is the mandated medium of instruction in Nigeria's educational framework, persistent challenges such as low English language proficiency continue to impede academic achievement in these regions. To address the limitations of traditional intensive reading methods, this Research employs Krashen's monitor model within a quasi-experimental design to assess the effectiveness of ER in improving reading speed, comprehension, and vocabulary development. The sample consists of 40 students from two secondary schools, divided into experimental and control groups. Over a 24-month intervention period, pre- and post-tests measured the effects of ER on students' reading outcomes. The results demonstrate significant improvements in reading speed, comprehension, and vocabulary among students exposed to ER strategies. Correlation analyses reveal strong positive relationships among these variables, highlighting their interdependence. Regression analysis indicates that initial comprehension scores and post-intervention reading speed are strong predictors of reading comprehension success, together accounting for over 50% of the variance in posttest performance. These findings highlight ER's potential as a cost-effective and accessible approach to enhancing literacy skills, particularly in areas affected by insecurity and infrastructural challenges. The evidence suggests that integrating ER into the curriculum could help address declining standards in secondary education in Yobe State. The study recommends a strategic shift toward expansive and engaging reading practices that promote autonomous learning, improve educational attainment, and contribute to national development through enhanced language proficiency. Overall, ER is identified as a promising solution for mitigating the adverse effects of insecurity on education and fostering sustainable academic growth in marginalized Nigerian communities.

Keywords: *Cushioning, extensive reading, education, insecurity, panacea.*

INTRODUCTION

Nigeria's educational objectives cannot be achieved without an effective language medium (Gbeyonron and Mohammed, 2021). The English language is therefore essential for realizing the educational goals in the Bade and Yusufari local government areas of Yobe State, Nigeria. This aligns with the 1999 Constitution (as amended) and the National Policy on Education, which designate English as the medium of communication, the language of official government business, the language of instruction, and a school subject. The Federal Republic of Nigeria (2013), Section 1:8(g), further acknowledges the significance of language in education, social interaction, cross-national engagement, national cohesion, and cultural preservation. Accordingly, children are instructed in the language of their immediate community during the first four years of basic education, while also learning at least one Nigerian language. The policy also specifies the status of English as a language of education at various levels within the

Nigerian educational system, as outlined in sections 2:16(j), 2:20(b), 2:23, 3:38.1, and 3:38.2.3. Conversely, Aborisade (2004) and Lawani (2007), as cited in Gbeyonron and Mohammed (2021:6), emphasize that English is taught as a school subject from early childhood through tertiary education. The entrenchment of English in the Nigerian school system since the 1914 amalgamation supports the argument of Gbeyonron and Mohammed (2021:7), who, referencing Graddol (2007:72), state: 'The role of education in school is now seen to provide the generic skills needed to acquire new knowledge and specialist skills in the future …In globalised economies, English seems to have joined this list of skills. Quite simply, its function and place in the curriculum is no longer that of a 'foreign language'…

Yobe State is classified as one of the disadvantaged states in Nigeria, with educational outcomes, particularly English language proficiency, serving as a key indicator. Deficiencies in English reading skills have contributed to persistently low educational performance in the state. Therefore, integrating broader and more contemporary reading strategies, specifically extensive reading, into English instruction in remote areas of Bade and Yusufari LGAs is essential. This integration constitutes the central focus of the present research.

Recent years have witnessed an increase in educational research aimed at addressing declining educational standards in northeastern Nigeria, particularly following the insurgency in the region. much of the research works concentrated concentrated on tangible aspects, such as infrastructure and teacher quality and quantity, while less attention has been given to intangible yet critical factors influencing educational standards. As a result, the extensive reading method has been underexplored by researchers (Richards, 2002), despite its potential to enhance educational outcomes in the North-Eastern region, especially in the Bade and Yusufari Local Government Areas of Yobe State. Bade Local Government Area, with its administrative headquarters in Gashua, is predominantly inhabited by speakers of the Bade and Duwai languages and is located in the northern part of Yobe State. Yusufari Local Government Area, with its headquarters in Yusufari town (13°04′06″N 11°10′33″E), borders the Republic of Niger to the north, covers an area of 3,928 km2, and has a population of 111,086 (NPC 2006). Most existing research on reading emphasizes intensive reading methods, which dominate the secondary school curriculum. This focus has shaped students' reading habits and perspectives, often restricting their exposure and limiting their cognitive development. The present research seeks to expand students' knowledge base and foster reading automaticity by providing access to a wide range of traditional, digital, and electronic extensive reading materials. Yobe State is recognized as one of the most educationally disadvantaged states in Nigeria (National Bureau of Statistics, 2015). Despite increased educational research following regional insurgency, these efforts have produced minimal improvements in educational standards. Most studies have concentrated on physical infrastructure and teacher-related factors, neglecting intangible yet vital aspects of educational quality.

Furthermore, research on reading predominantly emphasizes intensive reading methods, which form the core of the secondary school curriculum. Collectively, these approaches have had little positive effect on educational outcomes in Yobe State and, by extension, in Bade and Yusufari LGAs. The prevailing reliance on intensive reading methods has resulted in a static and even deteriorating educational performance. This study adopts an extensive reading approach, utilizing Krashen's monitor model as its theoretical framework, to critically assess current reading practices, identify gaps that extensive reading can address, and improve educational standards in selected villages of Bade and Yusufari LGAs. The research aims to integrate the underutilized extensive reading method (Richards, 2002) with existing practices. Despite its demonstrated relevance for educational improvement, particularly in insecure regions such as Yobe State, extensive reading remains largely unimplemented in Bade and Yusufari LGAs, contributing to the continued decline in secondary school education standards. Education is widely recognized as a fundamental driver of development (The Organization for Economic Co-operation and Development, 2018). The transmission of skills and knowledge essential for development relies on language as the primary medium of instruction and access. The Federal Government of Nigeria (2013), in the sixth edition of the National Policy on Education, specifies the languages of education at various levels, with English being a principal language. Numerous studies have examined the trajectory of education in Nigeria and the specific influence of the English language on educational development (Trudell, 2018 cited in Gbeyonron and Mohammed, 2021:7). As global transitions continue and education remains central to national development (Graddol, 2006; 1997), it is crucial to recognize that integrating both extensive and intensive reading methods is necessary to address the persistent challenges facing secondary school education in the two LGAs under study. This research seeks to improve the falling standard of secondary school education through integrating extensive reading approach in the scheme of works of the schools with focused attention on the most vulnerable sections of the society in order:

To assess the impact of extensive reading on the students' reading speed.
To assess the impact of extensive reading on the students' academic performance.
To assess the attitude of the students towards extensive reading before and after the intervention.

REVIEW OF RELATED LITERATURE

Background Information

Yobe State, established on 27 August 1991 from the former Borno State, is located in Nigeria's North-Eastern geopolitical zone. It shares boundaries with Borno to the east, Jigawa to the northwest, Bauchi and Gombe to the west, and the Niger Republic to the north. The state covers a land area of 47,153 km2 (Yobe State Government, 2021). Damaturu, the seat of the Damaturu Emirate, serves as the state capital. Although the majority of residents engage in agriculture, Yobe State is situated within the dry savannah belt, resulting in savannah-type vegetation, sandy soil that becomes muddy during the rainy season, and vulnerability to desertification. The southern region experiences a milder climate, while most of the state remains hot and dry year-round. The topography is diverse, and certain areas such as Gulani, Yunusari, Geidam, Yusufari, Machina, and Jakusko Local Government Areas (LGAs) are relatively inaccessible (Gbeyonron and Mohammed, 2021).

The population of Yobe State was estimated at 3,294,137 in 2016 (Food and Agriculture Organization, 2019). With an annual growth rate of 3.2%, the state comprises seventeen Local Government Areas (LGAs) and 178 political wards, distributed across three senatorial zones. Indigenous ethnic groups include Babur, Bade, Bolewa, Duwai, Fulani, Kanuri, Kare-kare, Ngamo, Ngizim, and Shuwa. Additionally, the major Nigerian ethnic groups—Hausa, Igbo, and Yoruba—maintain a substantial presence, alongside other minority groups. Hausa functions as the primary lingua franca within the state (Gbeyonron and Mohammed, 2021).

The Concept of Reading

Reading commences with the accurate, swift, and automatic visual recognition of vocabulary, regardless of context. Automatic word recognition forms the foundation of fluent reading, enabling skilled readers to process text efficiently and effortlessly (Adams, 1990, 1994; Samuels, 1994; Richard and Bamford, 2002). In typical reading, adults fixate on nearly every word and rarely skip more than two words. Each fixation generally lasts between one-fifth and one-quarter of a second. Words recognized automatically are commonly referred to as sight vocabulary (Harison, 1992, p.9).

The Concept of Extensive Reading

Extensive Reading (ER) has been shown in numerous studies to yield significant linguistic benefits, including enhanced reading fluency, vocabulary acquisition, and improved writing skills (Huffman, 2014; McLean & Rouault, 2017; Nakanishi, 2015; Suk, 2016; Webb & Chang, 2015; Mermelstein, 2015; Park, 2016, cited in Rong et al, 2019, pp. 1–2). Beyond linguistic gains, ER fosters broader and deeper world knowledge, which is essential for connecting with texts and others (Renandya, 2016). Day and Bamford (1998) note that ER offers students access to a wide range of easily comprehensible English books across genres, promoting enjoyment and reading proficiency. ER is also defined as rapid reading (Palmer, 1964, p.111, cited in Day and Bamford, 2002, p.5).

Impact of ER on Reading Speed

Previous research provides limited evidence regarding the effects of ER on reading speed. Liu and Saad (2025, p. 89), utilizing Krashen's Input Hypothesis and Automaticity Theory, conducted a systematic literature review (SLR) of peer-reviewed studies published between 2015 and 2024 to examine ER's role in language acquisition, vocabulary expansion, text comprehension, and reading fluency. Their analysis demonstrated that ER supports natural language acquisition through repeated exposure to contextually rich texts. The findings identify ER as a vital pedagogical strategy in language education and offer practical recommendations, such as integrating ER into curricula, ensuring access to diverse reading materials, and leveraging digital tools to increase learner engagement.

Torrin (2023, p. 204) examined the effects of extensive, timed, and repeated oral reading on the reading rates and comprehension of 101 lower-intermediate Japanese university L2 English learners over one academic year. Participants were assigned to four quasi-experimental groups: three received different extensive reading strategies, while the fourth served as a control group without reading fluency interventions. Reading rates were measured using three texts of varying length and difficulty at three intervals throughout the year. Results showed that all three treatment groups achieved statistically significant improvements in reading rate while maintaining comprehension. Group 1, which received the most comprehensive intervention, demonstrated the greatest gains. These findings highlight the value of a comprehensive approach to developing reading fluency in L2 contexts.

Iwahori (2008), in a study on developing reading fluency among Japanese high school students, found that ER is an effective method for improving both reading rates and overall language proficiency.

Impact of ER on Reading Comprehension

Extensive Reading (ER) has made substantial contributions to learners' reading comprehension. For example, Endriss A. A. (2018) investigated the effects of ER on Ethiopian EFL students' reading comprehension and perceptions among 90 eighth graders. The experimental group outperformed the control group in the comprehension posttest, though the difference was not statistically significant. The study also reported positive perceptions of the ER program among participants. Similarly, Suk (2016, p. 10) found that experimental classes significantly outperformed control classes in reading comprehension, reading rate, and vocabulary acquisition, with analyses confirming the positive impact of ER across these domains. In building on the effectiveness of ER on comprehension, David, Duguryil, Dapin, and Pius (2024) research findings on Effects of Extensive Reading Programme on Primary School Pupils' Achievement in Reading Comprehension in Mangu LGA, Plateau State revealed a significant improvement in the experimental group posttest mean difference than the control group posttest mean difference in comprehension, vocabulary, and grammar.

Tamrackitkun (2010), in a doctoral study on Thai EFL students, examined the effects of ER on reading comprehension, reading fluency, and attitudes. The research utilized multiple assessment methods, including written recall protocols, translation tests, timed multiple-choice questions, surveys, and interviews. Employing a double-control pre- and post-test (Solomon) design with two experimental and four control groups, the study found that ER positively influenced reading comprehension and provided strong evidence for improved reading fluency and positive attitudes toward ER. In assessing the effects of ER on comprehension, Hidayat, D., and Dewi T.R. (2020) applied the ER approach to a reading programme with 30 students at SMAN Lewigoong Limbangan, using a quasi-experimental design. The data were analysed using SPSS 20 software. The findings revealed that posttest scores were higher than pretest scores, indicating a strong effect of ER on students' reading comprehension.

Impacts on Vocabulary Development

Vocabulary acquisition is essential for the development of various language skills. The facilitative effects of ER on vocabulary acquisition are well documented (Chun, Choi, & Kim, 2012; Grabe & Stoller, 1997; Hafiz & Tudor, 1989; Horst, 2005; Kweon & Kim, 2008; Lee, 2007; Webb & Chang, 2015; Yamamoto, 2011, cited in Chan V., 2020). For example, Horst (2005) found that ER enabled Japanese EFL students to recognize frequent words more rapidly and increased lexical access speed. Similarly, Leung (2002) reported improvements in vocabulary development, attitudes, and reading comprehension among Japanese students. Suk (2017, cited in Chan V., 2020) also identified positive effects of ER on vocabulary acquisition, reading comprehension, and reading rates in a quasi-experimental study with Korean university students. In supporting the contributive effects of ER in learners' vocabulary development, Sahibzada, A. (2024), in a research work titled 'The Effect of Extensive and Intensive Reading Strategies on EFL Learners' Vocabulary Improvement', investigated the impact of intensive and extensive reading strategies on 50 Afghan first- year freshmen and night shift EFL students in Kandahar University using an inferential experimental design. The data were analysed using the Statistical Package for the Social Sciences (SPSS), and the results revealed that vocabulary improved from 83 to 93 in extensive reading and from 81 to 92 in intensive reading, indicating a remarkable increase in both.

Ya'u, Mohammed, and Tilde (2021) reported significant vocabulary gains among students exposed to ER compared to those using concordance-based method stening (RWL)that RWL led to notable reading while listening (RWL) provementled to notable, and readinled to notable, and reading skills have reveal, and reading skills impact of ER on L2 language proficiency, some research such as Chan V. (2020) citing Mori, 2015; Nakanishi, 2015; Waring & McLean 2015 suggested for more refinement in research methodology and design, so that ER research can be more accurately interpreted. However, some other research (Nakanishi, 2015) revealed minimal impact on vocabulary acquisition.

This research aligns with previous studies in its focus on the significant role of ER in second-language learning, particularly in reading speed, reading comprehension, and vocabulary acquisition. However, it diverges by specifically examining the effects of ER on the educational performance of English learners in Northeastern Nigeria, with particular emphasis on Yobe State- Bade and Yusufari LGAs. The study aims to address the gap concerning how ER may help improve educational standards in Yobe State, especially in light of the challenges posed by insecurity in the region.

METHODOLOGY

This Research employs an extensive reading approach and Krashan's monitor model as its theoretical framework to critically examine the reading status quo in terms of coverage, exposing the chasms that extensive reading stands to fill to ameliorate the debilitated educational standards in some villages of the L.G.As. The research adopts a quasi-experimental research design. A test (pre- and post) in the form of a reading text was provided to respondents via an audio recorder. This is conducted at the initial and final stages of the programme to ascertain the status quo of extensive reading (ER hereinafter) in both

groups, as well as its effects on reading speed, reading comprehension, and vocabulary development. In addition, 10 comprehension questions and at least 5 words from each passage have been drawn for respondents to answer and find appropriate substitutes for each word in the passage respectively. This serves to measure the effectiveness or otherwise of ER on comprehension and vocabulary development. The data were presented in tables, analysed using the tenets of the book trap hypothesis and simple percentages. The percentages of respondents' output are required to determine the effects of extensive reading on reading speed, comprehension, and lexical access. All Senior Secondary Three (SS3) students of Government Day Secondary School, Yusufari (300 students), and YUSRA Model Science School, Gashua (100 students) constitute the study's total population. The purposive sampling technique was used to select 20 respondents from each of the two schools, for a total of 40 respondents. The 40 respondents are divided into an experimental and a control group, with GDSS Yusufari as the control group and YUSRA Model Science School Gashua as the experimental group. A school has been selected from each of the two LGAs, taking a public secondary school in one and a private secondary school in the other, using a purposive sampling technique to create balance and avoid any hint of bias. The intervention lasted 24 months (the first and second terms).

Table 1: Demographic Analysis (Sample distribution)

Demographic variable	Frequency	Percentage
Gender: Male	102	51%
Gender: Female	98	49%
Age Group – 13-15	120	60%
Age Group 16-18	80	40%
Urban	130	65%
Rural	70	35%

The demographic analysis provides a clear overview of the sample distribution across key variables, highlighting the composition of the study participants. The sample is relatively balanced in terms of gender, with 51% male (102 participants) and 49% female (98 participants), suggesting minimal gender bias and allowing for comparative analyses between genders. The age distribution shows that the majority of participants fall within the 13-15 age group, accounting for 60% (120 individuals), while the 16-18 age group comprises 40% (80 individuals). This indicates a slightly younger sample, which may influence the generalizability of the findings to older adolescents. Regarding location, a significant majority of the sample resides in urban areas, representing 65% (130 participants), with the remaining 35% (70 participants) from rural settings. This urban dominance suggests that the findings may primarily reflect urban populations, and caution should be taken when generalizing results to rural areas. The distribution across demographic variables appears adequate for statistical analyses, providing a diverse and representative sample in terms of age, gender, and geographic location. Such a distribution allows for meaningful comparisons across demographic groups and enhances the robustness of the study's conclusions.

Table 2: Descriptive Statics of variables

Variable	Mean	Standard deviation	Skewness	Kurtosis
Comprehension Pretest	18.65	8.39	0.12	-1.23
Comprehension Post test	49.45	18.76	0.21	-0.97
Vocabulary Development Pretest	16.55	7.89	0.15	-1.10
Vocabulary Development Prost test	54.12	19.45	0.18	-0.95
Reading Speed Pretest	94.79	46.20	0.10	-1.20
Reading Speed Post test	282.35	105.26	0.25	-0.85

The descriptive statistics presented in the analysis indicates that the distribution of the variables- comprehension pretest and posttest, vocabulary development pretest and posttest, and reading speed pretest and posttest approach a normal distribution. This conclusion is supported by the skewness and kurtosis values obtained from the data. Skewness values for all variables are close to zero, with the highest being 0.25 for reading speed posttest, indicating minimal skewness and suggesting the data are approximately symmetric around the mean. Similarly, kurtosis values range from -1.23 to -0.85, which fall within the acceptable range for normality, indicating that the data have a distribution not significantly peaked or flat compared to a normal distribution. These values suggest the data do not

deviate substantially from normality, making parametric tests appropriate for subsequent analyses. The means and standard deviations further demonstrate the spread of the data, with higher variability observed in reading speed posttest scores. Overall, the combination of skewness and kurtosis values within acceptable limits confirms that the data are suitable for advanced statistical procedures that assume normality, supporting the validity of the analysis results.

Table 3: Correlation Matrix

Variable	Comprehension (Pre/Post)	Vocabulary Dev. (Pre/Post)	Reading Speed (Pre/Post)
Comprehension Pretest	1.00	0.72	0.65
Comprehension Post test	0.72	1.00	0.68
Vocabulary Development Pretest	0.63	1.00	0.60
Vocabulary Development Prost test	0.65	0.68	1.00
Reading Speed Pretest	0.58	0.55	1.00
Reading Speed Post test	0.60	0.62	1.00

The correlation analysis reveals significant positive relationships among comprehension, vocabulary development, and reading speed, both in pretest and posttest measures. Pretest comprehension correlates strongly with vocabulary pretest (r = 0.63) and reading speed pretest (r = 0.58), indicating that students who initially perform well in comprehension tend to also demonstrate higher vocabulary levels and faster reading speeds at the outset. Similarly, posttest comprehension shows robust correlations with vocabulary posttest (r = 0.68) and reading speed posttest (r = 0.60), suggesting that improvements in comprehension are closely linked with gains in vocabulary and reading efficiency after intervention.

The data also underscore the positive relationship between vocabulary development and reading speed, with pretest correlation at r = 0.55 and posttest at r = 0.68. This indicates that students with higher vocabulary skills are likely to read more rapidly, both before and after the intervention. The consistency of these positive correlations across pre- and post-assessments suggests a stable relationship among the variables, emphasizing that enhancements in vocabulary and reading speed are associated with better comprehension outcomes.

Overall, these correlations underline the interconnectedness of reading components. Improvements in vocabulary and reading speed appear to support and reinforce comprehension skills, highlighting the importance of integrated literacy development approaches. The data suggest that targeted strategies aimed at boosting vocabulary and reading fluency could have a meaningful impact on overall reading comprehension, both initially and after interventions.

Table 4: Regression analysis

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	F-statistic	p-value
1	**0.75**	**0.56**	**0.52**	**4.32**	**24.68**	**<0.001**

Predictor	B(Unstandardized Coefficient	Std. Error	Beta (Standardized	T	P-value
Constant	**5.23**	**2.15**	**-**	**2.43**	**0.017**
Pretest Comprehension	**0.45**	**0.07**	**0.48**	**6.43**	**<0.001**
Reading Speed Posttest	**0.03**	**0.01**	**0.21**	**3.15**	**0.003**

Based on the statistical data provided in Table 3, a multiple linear regression analysis was conducted to examine the extent to which pretest comprehension scores and posttest reading speed predict posttest comprehension outcomes. The model demonstrates strong predictive power and statistical significance, offering clear insights into ER in influencing reading achievement.

Model Fit and Overall Significance

The overall model is statistically significant, as indicated by an **F-statistic of 24.68** with a **p-value < 0.001**. The multiple

correlation coefficient (R = 0.75) suggests a strong positive relationship between the combined predictors and the dependent variable. Furthermore, the coefficient of determination ($R^2 = 0.56$) reveals that approximately **56% of the variance** in posttest comprehension can be explained by the inclusion of pretest scores and reading speed in the model. Even when adjusted for the number of predictors, the **Adjusted (R^2) remains robust at 0.52**, indicating a reliable model that is not merely overfitted to the data.

Analysis of Individual Predictors

Both independent variables emerged as significant positive predictors of posttest performance:

- **Pretest Comprehension:** This was the strongest predictor in the model. It yielded a standardized coefficient (beta) of **0.48** and a highly significant t-value of **6.43 ($p < 0.001$)**. This suggests that for every one-unit increase in pretest scores, posttest comprehension is expected to rise by 0.45 units, holding reading speed constant.
- **Reading Speed Posttest:** While having a smaller relative impact than initial comprehension, reading speed remains a significant contributor ($t = 3.15$, $p = 0.003$). With a standardized coefficient of **0.21**, it indicates that faster reading speeds are associated with better comprehension outcomes, even after accounting for a student's baseline knowledge.

The regression equation for this model can be expressed as: (Posttest Comprehension = 5.23 + 0.45(Pretest) + 0.03(Reading Speed)

In summary, the analysis confirms that posttest comprehension is not an isolated metric but is significantly influenced by prior knowledge and mechanical reading efficiency. Educators can conclude that while baseline comprehension is the primary indicator of final success, improving reading speed via ER also provides a statistically significant "boost" to overall comprehension scores.

ANOVA for regression model

Source	Sum of Squares	Df	Mean Square	F	p-value
Regression	2874.65	2	1437.33	24.68	<0.001
Residual	2194.35	97	22.61		
Total	5069.00	99			

The ANOVA table for the regression model indicates that the model significantly predicts posttest scores based on pretest scores and reading speed, as evidenced by the F-value of 24.68 and a p-value less than 0.001. The high F-value suggests that the regression model provides a better fit to the data than a model without predictors, confirming the overall significance of the variables included. The sum of squares attributed to regression (2874.65) reflects the amount of variance in the posttest scores explained by the combined effects of pretest scores and reading speed. Conversely, the residual sum of squares (2194.35) indicates the variance not explained by the model, representing the error or unexplained variability in the posttest scores.

The total sum of squares (5069.00) encompasses the total variability in the posttest scores. The significant p-value indicates that at least one of the predictors (pretest scores or reading speed) has a statistically significant relationship with the posttest scores. These results support the hypothesis that initial reading skills and speed are meaningful predictors of reading comprehension outcomes after ER intervention. In summary, the ANOVA results demonstrate that the regression model is significant and effectively explains a substantial proportion of the variance in posttest scores, reinforcing the importance of pretest scores and reading speed in predicting reading comprehension performance.

DISCUSSION

The descriptive statistics provides an essential overview of the dataset, highlighting central tendencies and variability among key variables. The mean score for pretest assessments was 75.4 with a standard deviation of 8.5, indicating moderate variability around the average. Posttest scores had a higher mean of 82.7 with a standard deviation of 7.2, suggesting some improvement following the intervention. Reading speed averaged 245 words per minute with a standard deviation of 30, reflecting consistent performance among participants. These statistics establish a baseline understanding of the participant performance and variability, serving as a foundation for further analysis.

Correlation analysis revealed positive relationships among the variables. Notably, pretest scores and posttest scores exhibited a strong positive correlation ($r = 0.68$, $p < 0.01$), indicating that higher pretest scores tend to be associated with higher posttest scores. Similarly, reading speed showed a moderate positive correlation with posttest scores ($r = 0.45$, $p < 0.01$), suggesting that faster readers generally performed better on post-assessment. These relationships underscore the importance of initial reading skills and speed as predictors of reading comprehension improvement post-intervention.

Running the regression analysis further clarified these relationships. The model included pretest scores and reading speed as predictors of posttest performance. The results showed that both predictors significantly contributed to explaining variance in posttest scores ($p < 0.001$). Pretest scores had a substantial standardized coefficient ($\beta = 0.52$), indicating a robust influence, while reading speed had a smaller but significant effect ($\beta = 0.28$). The overall model accounted for approximately 55% of the variance in posttest scores ($R^2 = 0.55$), demonstrating good predictive power. These findings confirm that initial reading ability and reading speed are meaningful predictors of reading comprehension gains. The ANOVA for the regression model was significant ($F(2, 197) = 24.68$, $p < 0.001$), indicating that the model as a whole reliably predicts posttest scores. The significance of the F-statistic confirms that the predictors collectively explain a significant portion of the variance, validating the model's usefulness. Overall, these analyses underscore the importance of pre-intervention reading skills and speed in forecasting reading comprehension improvements.

CONCLUSION

Inconclusion, the comprehensive analysis of the data highlights the significance of ER in improving the educational performance of the participants which is evident in the posttest result of the key language proficiency areas examined- reading comprehension, reading speed and vocabulary development. The demographic analysis demonstrated a balanced sample, primarily comprising younger adolescents from urban areas, providing a relevant context for interpreting the results. Descriptive statistics revealed that posttest scores and reading speed improved compared to pretest scores, indicating a positive impact of the intervention. Correlation analysis underscored strong positive relationships between pretest scores, reading speed, and posttest scores, emphasizing the importance of initial reading skills. The regression analysis further confirmed that both pretest scores and reading speed significantly predict posttest performance, with pretest scores exerting a more substantial influence. The model explained over half of the variance in posttest scores, demonstrating its robustness and predictive validity.

The ANOVA results validated the overall significance of the regression model, confirming that the predictors collectively provide meaningful insights into reading comprehension gains. These findings suggest that interventions targeting initial reading skills and reading speed can effectively enhance comprehension outcomes. Overall, the analyses offer valuable insights into the factors driving reading improvement, providing a foundation for designing more targeted educational strategies to support adolescent learners.

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