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Investigating the Relationship Between Reading Environment and Reading Comprehension of High School EFL Students

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ABSTRACT

This study aims to investigate the relationship between students' reading environment and their reading comprehension achievement among high school EFL (English as a Foreign Language) students. A quantitative correlational research design was employed, conducted at a vocational high school in Condet, East Jakarta, involving 90 Grade X students selected through cluster random sampling. Data were gathered using two instruments: a reading environment questionnaire encompassing three dimensions physical/classroom environment, digital reading environment, and ecological/community environment along with a multiple-choice reading comprehension test. The data were analyzed using the Pearson Product-Moment Correlation test via IBM SPSS Statistics version 26. The results revealed a correlation coefficient of 0.622 with a significance value of 0.000, indicating a significant and strong positive relationship between the reading environment and students' reading comprehension. Furthermore, the coefficient of determination (R^2) of 0.387 demonstrated that the reading environment contributes 38.7% to the variance in reading comprehension scores, while the remaining 61.3% is attributed to other internal factors not examined in this study, including vocabulary mastery, background knowledge, and intrinsic learning motivation. This study underscores the importance of establishing a holistic and optimized reading environment as a critical foundation for long-term literacy development among EFL learners.

1. INTRODUCTION

Reading comprehension is best conceptualized as an active and multifaceted process in which readers construct meaning from written texts by combining their linguistic competence, cognitive strategies, background knowledge, and contextual understanding (Bruggink et al., 2022; Sacher, 2021; Westerveld et al., 2020; Woolley, 2011). Reading comprehension should not be viewed merely as the ability to decode written words; rather, it represents an active and dynamic process in which learners construct meaning through purposeful engagement, critical thinking, and continuous interaction with the text (van Rijk, de Mey, et al., 2017). According to Connor (2016), the development of strong reading abilities is deeply influenced by the richness of the environment in which learners grow and learn, suggesting that reading comprehension is a complex process that does not occur in isolation but is shaped by various factors, including individual characteristics of the reader, the nature of the text, and importantly, the reading environment in which reading takes place (Freund et al., 2016). Research has increasingly recognized that the reading environment significantly affects students' reading comprehension outcomes. The reading environment includes various dimensions such as classroom atmosphere, teacher support, instructional approaches, available resources, and peer interactions (Ayaz et al., 2023). The quality of the reading environment, including supportive teacher-student interactions and a positive school climate, has been empirically linked to improved reading comprehension and literacy achievement, further underscoring the importance of the reading environment in cognitive and academic development (Dimitropoulou et al., 2025; McLean et al., 2016). These elements collectively create conditions that can enhance or constrain students' engagement with texts and their ability to construct meaning. The reading environment is particularly influential for EFL students, as it often serves as the primary context for English language exposure and practice. A research conducted by Ortlieb et al. (2014) demonstrated

that digital reading environments, when properly designed, can positively impact students' reading comprehension by providing interactive features and multimodal learning experiences. Furthermore, research by Sarshogh et al. (2024) highlighted that collaborative strategic reading approaches within supportive classroom environments significantly improved EFL learners' reading comprehension, reading motivation, and metacognitive awareness. These findings indicate that optimizing the reading environment can play a crucial role in enhancing EFL students' reading comprehension.

Despite the established importance of a supportive reading environment, practical challenges remain evident in real-world educational settings. During a preliminary observation and documentation review conducted at the targeted vocational high school, several pressing issues were identified. Environmentally, the school is situated directly facing a busy main road and is densely surrounded by residential areas and commercial shops on its sides and back. This overcrowded setting creates a potentially distracting physical atmosphere for learning. In terms of academic performance, initial documentation revealed that the average English reading comprehension score among Grade X students was below 70, falling beneath the school's minimum passing criterion, with over 60% of students categorized in the low to moderate comprehension range. These concrete empirical problems suggest that the students' current learning conditions whether physical, social, or digital—may not be optimally supporting their literacy development. To address these practical challenges, a deeper empirical investigation is necessary. Although previous studies such as Ortlieb et al. (2014) and Sarshogh et al. (2024) have emphasized the importance of the reading environment in enhancing EFL students' reading comprehension, a closer examination reveals significant gaps. Ortlieb et al. (2014) focused exclusively on the digital reading environment, specifically the efficacy of digital platforms within reading clinic settings, without accounting for the physical classroom or ecological community dimensions. Similarly, Sarshogh et al. (2024) concentrated on collaborative strategic reading approaches as an instructional strategy within a controlled classroom environment, rather than examining the broader environmental ecosystem. Neither study examined the reading environment as an integrated, multidimensional construct one that simultaneously encompasses physical, digital, and ecological elements particularly within the Indonesian vocational high school context. This gap is particularly significant given that SMK (vocational high school) students face distinct challenges, as their English literacy development must align with vocational competencies and real-world professional demands. Consequently, a notable research gap remains in understanding how the holistic reading environment collectively influences reading comprehension at this specific educational level. Therefore, this study aims to investigate this multidimensional relationship. By exploring how these environmental dimensions interact, this quantitative research intends to provide educational stakeholders with empirical evidence to make strategic, contextually relevant decisions for instructional interventions. Ultimately, to systematically explore this issue, the present study seeks to answer the following research question: Is there a significant relationship between the overall reading environment and students' reading comprehension? The findings of this study are expected to provide empirical evidence that can guide the development of more effective reading instructional strategies, tailored to the cultural and educational conditions of EFL learners in Asia, particularly in Indonesia.

2. METHODS

Research Approach and Design

This study employed a quantitative research approach with a correlational research design to investigate the relationship between students reading environment and their reading comprehension. Quantitative research is defined as a systematic methodology that centers on the collection and

rigorous analysis of data expressed exclusively in numerical terms (Goertzen, 2017). This approach was necessary because the primary objective of this study was to measure the extent and significance of the influence of a set of independent variables, namely the holistic reading environment encompassing classroom, digital, and ecological factors, on a dependent variable, which is reading comprehension, which required statistical rigor (Whatley, 2022). Specifically, a correlational design was appropriate because the research aimed to establish the presence, direction, and strength of the relationship among two variables without manipulating the independent variable (Whatley, 2022). Given that the research gap highlighted the need to understand the holistic combination of physical, social, and digital environmental elements, this design allowed for the simultaneous analysis of these multiple variables and their collective contribution to the students reading comprehension scores.

Research Setting and Time

This study was conducted at a vocational high school located in Condet, East Jakarta. The setting was selected using purposive sampling as the school exhibited characteristics directly relevant to the study aim. The students were reported to have low English reading comprehension, designated as Variable Y, and some classes demonstrated suboptimal physical learning environments, such as crowded and noisy conditions, designated as Variable X. The entire research procedure, encompassing instrument validation, try out, and final data collection, was scheduled during the 8th Semester of the 2025 to 2026 Academic Year, within a period of 3 months.

Research Population and Sample

The population of this study consisted of all eleventh-grade (Grade X) EFL students ata vocational high school, located in East Jakarta, for the 2025/2026 academic year. Grade X students were selected because they were in a transitional phase where English reading proficiency became more critical for their vocational specializations. The total population included all students across various majors offered at the school, providing a diverse group of learners with varying backgrounds in English literacy. The participants for this research were chosen through a Cluster Random Sampling technique. Rather than picking individual students randomly across various classes, the researcher utilized whole existing classrooms as the sampling clusters. This strategy was implemented to maintain research practicality and to prevent any disruption to the daily academic schedule of the school. Out of the entire Grade X population, 4 complete classes were selected to take part in the investigation. Since each class contained an average of 20 to 30 students, the final sample size reached a total of 90 participants. From a statistical perspective, a sample of 90 was deemed adequate for conducting a Multiple Linear Regression analysis involving 3 independent variables, because it fulfilled the minimum requirement to produce reliable data regarding the relationship between the reading environment and reading comprehension.

Research Variables

The independent variable in this study is the Holistic Reading Environment. This variable is categorized as the independent variable because it serves as the primary predictor or the input factor that is hypothesized to influence students' performance (Losh, 2017; Suleiman et al., 2024). By examining this, the study seeks to understand how external surroundings, ranging from physical school facilities and digital resource accessibility to home and community support, act as the foundation that shapes the students' reading experience. The dependent variable in this research is Reading Comprehension, measured through the students' performance in a standardized English reading test. This variable is designated as the dependent variable because it represents the outcome or the result that is expected to change based on the influence of the independent variable (Losh, 2017). In this context, the students' ability to comprehend text is the "effect" being observed, as their

comprehension levels are presumed to depend on the quality and supportiveness of the holistic reading environment they are exposed to.

Research Instrument

In this study, two types of instruments are employed to collect the data: a questionnaire to measure the students' reading environment and a reading comprehension test to measure their reading comprehension. To measure the independent variable of the holistic reading environment, the researcher used a closed ended questionnaire adapted from several standardized frameworks. This instrument covered the physical, digital, and ecological reading environments using a 5 point Likert scale ranging from 5 for strongly agree to 1 for strongly disagree, with further details presented in the following table. Meanwhile, to measure the dependent variable of students reading comprehension, the researcher administered a reading test adopted from a standard vocational high school English textbook. This selection ensured the test materials were highly relevant to the students current academic level and vocational context.

Tabel 1: Blueprint Reading Environment Questionaire (Variabel X)

Variable	Dimensions	Indicators	Item Numbers	Total
Reading Environment (X)	1. Physical / Classroom Environment (Wolfersberger, 2003)	a. Availability of diverse reading materials (books, magazines). b. Comfort and accessibility of reading areas. c. Presence of environmental print (labels, displays, student work).	1 - 15	15
	2. Digital Reading Environment (Ortlieb et al., 2014)	a. Accessibility of digital reading devices (phones, laptops). b. Use of reading apps and e-books. c. Internet connectivity for literacy purposes.	16 - 25	10
	3. Ecological / Community Environment (Little et al., 2019)	a. Access to public/community libraries (TBM). b. Family support and literacy interactions at home. c. Participation in community reading events.	26 - 35	10
Total Items				35

Tabel 2: Blueprint Reading Comprehension Test (Variabel Y)

No	Indicators of Reading Comprehension	Item Distribution (Example)	Total Items
1	Identifying main idea	1, 6, 11, 20, 26	5
2	Finding specific information / details	2, 7, 12, 16, 21, 22, 27, 29	8
3	Making inferences	3, 8, 13, 17, 23, 28, 30	7
4	Understanding vocabulary in context	4, 9, 14, 18, 24	5
5	Identifying reference	5, 10, 15, 19, 25	5
	TOTAL		30 items

Validity and Reliability of the Instrument

Before collecting the data from the actual sample, the researcher conducted a try out of the instruments. The try out was administered to students who were not part of the sample but shared

similar characteristics. The results of the try out were analyzed using IBM SPSS Statistics version 26 to measure the validity and reliability of the instruments. Validity refers to the extent to which an instrument measures what it is intended to measure. In this study, to ensure the instruments were valid, the researcher used construct validity. This validity was tested empirically by conducting a try out on students outside the sample. The data from the try out were analyzed using IBM SPSS Statistics version 26. The researcher employed the Pearson Product Moment correlation test to determine the validity of each item. This test correlated the score of each item with the total score. An item was considered valid if the calculated corrected item-total correlation value (r-count) exceeded the r-table value. With a try-out sample of 30 students and a significance level of 0.05, the r-table value was 0.361. Items with an r-count greater than 0.361 were declared valid, while those falling below this threshold were considered invalid and were removed or revised. Using the significance criterion, items were valid if the two-tailed p-value was lower than 0.05. Reliability refers to the consistency of the measuring instrument. To measure the reliability of the questionnaire and the reading test, the researcher performed a reliability analysis using the Cronbach Alpha method in SPSS. In social science research, an instrument is generally considered to have an acceptable level of internal consistency if the Cronbach Alpha coefficient is greater than 0.60. This threshold was established by Nunnally (1967) and has been widely adopted in educational and psychological research as the minimum acceptable standard for exploratory studies. If the coefficient fell below this threshold, the items were reviewed or revised to ensure consistency.

Technique of Data Collection

In collecting the data, the researcher followed a systematic procedure to ensure the data was accurate and relevant to the study. The data collection process was conducted at a vocational high school in East Jakarta. The steps were as follows: Preparation and Try Out. Before collecting the actual data, the researcher prepared the research instruments and sought permission from the school principal and the English teacher. Once permitted, the researcher conducted a try out of the instruments in a class that was not part of the sample, for example, another Grade 11 class. The purpose of this step was to test the validity and reliability of the questionnaire and the reading test items before they were used for the actual sample. Distributing the Questionnaire for Variable X. After the instruments were declared valid and reliable, the data collection began with the distribution of the reading environment questionnaire to the sample students. The researcher first explained the purpose of the study and provided clear instructions on how to complete the questionnaire properly. Students were asked to respond to the statements based on their honest experiences regarding their classroom, digital habits, and community reading environments. Since the instrument used a Likert scale, the students were required to select the option that best reflected their actual condition, ranging from strongly agree to strongly disagree. Administering the Reading Comprehension Test for Variable Y. Immediately following the completion of the questionnaire, the researcher administered the reading comprehension test to the same group of students. This test was designed to measure the students reading proficiency through a series of multiple choice questions. A specific time limit was allocated for students to complete the test. The results of this test served as the primary data for the dependent variable, representing the students reading comprehension. Data Tabulation. After all data were collected, the researcher gathered the students answer sheets and questionnaires. The data were then tabulated and scored to be analyzed using the SPSS statistical software.

Technique of Data Analysis

The data analysis technique in this study employed quantitative methods using IBM SPSS Statistics version 26. The analysis was divided into three stages: Descriptive statistics were used to provide a general overview of the data collected from the field. In this stage, the researcher calculated

the mean, median, mode, standard deviation, and the range of scores including the minimum and maximum for both the reading environment and reading comprehension variables. These calculations were essential to determine the distribution of the data and to categorize the students levels into high, moderate, or low categories. Before testing the hypothesis, the data had to fulfill specific statistical assumptions. The researcher performed two prerequisite tests: the Normality Test and the Linearity Test. The Normality Test used the Kolmogorov-Smirnov method to ensure the data was normally distributed, indicated by a significance value greater than 0.05. Meanwhile, the Linearity Test checked whether the relationship between the variables formed a straight linear line, which was confirmed if the deviation from linearity significance was also greater than 0.05. To determine the relationship between the variables, the researcher employed the Pearson Product Moment Correlation test. The hypothesis decision was based on the significance value (Sig. 2-tailed). If the significance value was less than 0.05, the Null Hypothesis (H0) was rejected, meaning there was a significant relationship between the students' reading environment and their reading comprehension. Conversely, if the value was greater than 0.05, no significant relationship existed. The strength of the correlation was further interpreted using the correlation coefficient (r-value).

3. RESULTS AND DISCUSSION

RESULTS

3.1 Data Description

This section presents the descriptive statistics of the data collected from the respondents, encompassing both the independent variable (Reading Environment) and the dependent variable (Reading Comprehension). The summary of the data distribution, including the minimum scores, maximum scores, mean, and standard deviation, is presented in Table 3 below.

Table 3 Descriptive Statistics of the Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Environment	90	36	171	105.00	38.094
Comprehension	90	2	29	15.64	7.563
Valid N (listwise)	90				

To provide a deeper understanding of the students' conditions, the scores from both variables were classified into three categories: High, Moderate, and Low. This classification relies on the ideal mean and standard deviation formula (Mean $\pm$ SD). The frequency distribution for both the reading environment and reading comprehension levels is outlined in Table 4.

Table 4 Frequency Distribution of the Variables

Variable	Category	Score Range	Frequency (f)	Percentage (%)
Reading Environment (X)	High	> 143	18	20.00%
	Moderate	67 - 143	57	63.33%
	Low	< 67	15	16.67%
	Total		90	100%
Reading Comprehension (Y)	High	> 23	16	17.78%
	Moderate	9 - 23	54	60.00%
	Low	< 9	20	22.22%

	Total		90	100%

Based on the data presented in Table 4, the majority of the students possess a Moderate reading environment, accounting for 57 students (63.33%), while 18 students (20.00%) are in the High category and 15 students (16.67%) are in the Low category. This distribution suggests that most students experience a partially supportive reading environment, but considerable room for improvement remains. Similarly, the majority of students achieve a Moderate level of reading comprehension, represented by 54 students (60.00%), with 16 students (17.78%) in the High category and 20 students (22.22%) in the Low category. The relatively high proportion of Low-category comprehension scorers (22.22%) is noteworthy and aligns with the preliminary observation that the school's physical and community reading environment conditions have not been optimally conducive for literacy development. Overall, these distributional patterns are consistent with the study's research premise and support the need for targeted environmental improvements across all three dimensions physical, digital, and ecological to elevate student reading outcomes.

3.2 Instrument Quality Testing

Before conducting the hypothesis testing, the researcher performed instrument quality tests to ensure that the data collected were accurate and consistent. This stage involved two primary tests: the Validity Test and the Reliability Test.

3.2.1 Validity Test

The validity test was conducted to measure whether each item in the instrument was capable of measuring the intended variables. The researcher used the Pearson Product Moment Correlation method, where an item is considered valid if the significance value (Sig. 2-tailed) is lower than 0.05. Based on the statistical analysis of the 35 questionnaire items for Reading Environment (Variable X) and the 30 test items for Reading Comprehension (Variable Y), the results showed that all items for both variables yielded a significance value of Sig. < 0.05. Therefore, it can be concluded that all 65 items in the research instruments were declared valid and were eligible for further analysis.

3.2.2 Reliability Test

The reliability test was performed to determine the internal consistency of the instruments. An instrument is considered reliable if it produces stable and consistent results when used repeatedly. The researcher used the Cronbach's Alpha formula, with the criteria that the Alpha value must be higher than 0.60. The summary of the reliability test results for both variables is presented in Table 5 below:

Table 5 Reliability Test Results

Variable	Cronbach's Alpha	N of Items	Status
Reading Environment (X)	0.979	35	Very Highly Reliable
Reading Comprehension (Y)	0.899	30	Highly Reliable

As shown in Table 4.3, the Cronbach's Alpha value for the Reading Environment variable is 0.979, and for the Reading Comprehension variable, it is 0.899. Since both values are significantly higher than the threshold of 0.60, it can be concluded that the instruments used in this study possess high internal consistency and are reliable for research purposes.

3.3 Prerequisite Analysis

To draw a valid conclusion from the parametric statistical methods (Pearson Product-Moment Correlation and Linear Regression Analysis), the research data must fulfill specific prerequisite assumptions. Therefore, a normality test and a linearity test were conducted on the data.

3.3.1 Normality Test

The normality test aims to determine whether the residual values in the regression model are normally distributed. A good regression model should have a normal or near-normal data distribution. In this study, the researcher utilized the One-Sample Kolmogorov-Smirnov test administered through SPSS software. The decision-making criterion is that the data is normally distributed if the asymptotic significance value (Asymp. Sig. 2-tailed) is higher than 0.05.

Table 6 One-Sample Kolmogorov-Smirnov Normality Test

One-Sample Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			90
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		5.92017065
Most Extreme Differences	Absolute		.091
	Positive		.083
	Negative		-.091
Test Statistic			.091
Asymp. Sig. (2-tailed)[c]			.061
Monte Carlo Sig. (2-tailed)[d]	Sig.		.063
	99% Confidence Interval	Lower Bound	.057
		Upper Bound	.069
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 299883525.			

Based on Table 6, the asymptotic significance value (Asymp. Sig. 2-tailed) for the unstandardized residual is 0.061. Since the significance value is higher than the alpha level of 0.05 (0.061 > 0.05), the null hypothesis is accepted. This statistically proves that the residual data in this study are normally distributed, thereby satisfying the assumption of normality.

3.3.2 Linearity Test

The linearity test is conducted to verify whether the relationship between the independent variable (Reading Environment) and the dependent variable (Reading Comprehension) is linear or forms a straight line. The linearity of the data is determined by looking at the *Deviation from Linearity* row within the ANOVA table. The two variables are considered to have a linear relationship if the significance value (Sig.) of the *Deviation from Linearity* is greater than 0.05.

Table 7 Linearity Test Results (ANOVA Table)

Comprehension * Environment	Between Groups	(Combined)	.010
		Linearity	.000
		Deviation from Linearity	.152
		Within Groups	
		Total	

The statistical result reveals that the significance value for the *Deviation from Linearity* between Reading Environment and Reading Comprehension is 0.152. Because this significance value is strictly greater than 0.05 (0.152 > 0.05), it implies that there is a significantly linear relationship between the two variables. Consequently, the prerequisite assumption of linearity is successfully met.

3.3.3 Hypothesis Testing

This section is designated to answer the primary research question regarding the relationship and the influence of the Reading Environment (Variable X) on Reading Comprehension (Variable Y). To test the hypothesis, the researcher employed the Pearson Product-Moment Correlation and calculated the Coefficient of Determination.

3.4 Pearson Correlation Test

The Pearson Product-Moment Correlation was conducted to determine the strength and direction of the relationship between the independent variable and the dependent variable. The statistical testing was performed using SPSS, and the results are presented in the following table:

Table 8 Pearson Correlations Test Results

		Environment	Comprehension
Environment	Pearson Correlation	1	.622**
	Sig. (2-tailed)		.000
	N	90	90
COMPREHENSION	Pearson Correlation	.622**	1
	Sig. (2-tailed)	.000	
	N	90	90

Based on the statistical output, the correlation coefficient (r-count) is 0.622. According to the standard interpretation of correlation coefficients, this value falls into the "strong" category (ranging from 0.60 to 0.799). Furthermore, the significance value (Sig. 2-tailed) is 0.000, which is strictly lower than the alpha level of 0.05. Since the significance value is less than 0.05, the alternative hypothesis (Ha) is accepted, and the null hypothesis (H0) is rejected. This indicates a significant and positive relationship, meaning that a more supportive reading environment is strongly associated with higher reading comprehension among the students.

3.5 Coefficient of Determination

While the Pearson correlation shows the strength of the relationship, the coefficient of determination (R Square) is calculated to determine the exact percentage of the influence or contribution that the Reading Environment has on Reading Comprehension.

Table 8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622[a]	.387	.380	5.957

As shown in the Model Summary table, the R Square value is 0.387. This implies that the Reading Environment contributes 38.7% to the variation in the students' Reading Comprehension. The remaining 61.3% (100% - 38.7%) is influenced by other variables or factors not examined in this current study.

DISCUSSIONS

This section interprets the statistical findings presented in Chapter IV and discusses them in light of the existing literature. The discussion is structured to directly address the primary research question formulated in Chapter I regarding the extent to which the overall reading environment correlates with students reading comprehension.

The Relationship between Reading Environment and Reading Comprehension

The statistical analysis in this study revealed a significant and strong positive relationship between the students' reading environment and their reading comprehension, with a correlation coefficient of 0.622 ($p = 0.000$). This finding confirms that the reading environment is not merely a passive backdrop but an active catalyst in developing EFL students' comprehension skills. From a cognitive perspective, a supportive reading environment reduces extraneous cognitive load by minimizing environmental distractions (such as noise from surrounding roads and crowded spaces), thereby freeing up cognitive resources for deeper text processing. From a linguistic perspective, a print-rich physical environment provides students with continuous, incidental exposure to English vocabulary and syntactic structures, which is particularly vital for EFL learners who have limited access to authentic English input outside school. From a social perspective, a conducive classroom atmosphere encourages collaborative meaning-making and peer-assisted comprehension processes that are central to constructivist theories of literacy learning. In the specific context of vocational high school (SMK) students in Indonesia, these environmental supports are even more critical because these learners must develop English literacy proficiency that is directly applicable to their vocational fields, while simultaneously navigating limited out-of-school English exposure compared to their general high school (SMA) counterparts. This strong relationship strongly reinforces the ecological perspective of literacy development outlined by Westerveld et al. (2020). They stated that a student's reading comprehension depends heavily on the quality of their surrounding learning environment. A well constructed reading environment provides students with continuous exposure to print rich resources and comfortable modern settings, which lowers their reading anxiety and builds familiarity with target language structures.

More specifically, the critical role of the immediate classroom setting in this study strongly echoes the foundational research by Taylor et al. (2020). They highlighted that a well managed and print rich classroom based reading environment significantly fosters students reading growth and text interaction. In an EFL context, where students have limited English exposure outside school, the classroom serves as the primary sanctuary for language acquisition. When teachers optimize the physical classroom arrangement and ensure the availability of diverse reading materials, it directly stimulates the students text processing capabilities. Furthermore, the significant relationship found in this study can be explained through the lens of student engagement within this optimized literacy environment, as investigated by Tong & Singh (2025). A supportive reading environment, whether rich in physical classroom libraries or facilitated by accessible digital reading platforms, subtly shapes how students interact with texts. According to their framework, positive environmental adjustments directly foster higher learning engagement, which in turn acts as a bridge to higher academic achievement. When high school EFL students perceive their classroom or digital reading spaces as accessible, stimulating, and organized, they are more likely to spend time navigating texts, applying reading strategies, and ultimately achieving a deeper level of text comprehension.

The Contribution of Reading Environment to Reading Comprehension

The Coefficient of Determination ($R^2 = 0.387$) indicates that the reading environment accounts for 38.7% of the variance in students' reading comprehension. This substantial contribution emphasizes that nearly 40% of a student's success in understanding English texts can be directly managed and improved through optimizing external environmental factors. In practical terms for

Indonesian SMK schools, this means that actionable interventions such as establishing a classroom library corner, integrating digital reading platforms, and strengthening community literacy programs can meaningfully and measurably improve student comprehension outcomes. The physical dimension's contribution is particularly relevant given the challenging environmental conditions observed at the research site, where proximity to a busy road created persistent acoustic interference. Addressing this single physical factor alone could produce measurable gains in the students' reading engagement and comprehension. This finding is highly consistent with the empirical work of van Rijk, Volman, et al. (2017), who demonstrated that structured educational environments designed for meaningful reading activities have a profound impact on reading comprehension. When the environment explicitly encourages reading for meaning rather than mechanical decoding, it actively stimulates the students text processing capacity. Therefore, the 38.7% contribution found in this research serves as a strong justification for educational stakeholders to invest effort into reforming traditional learning spaces into interactive and resource abundant literacy environments. Conversely, the remaining 61.3% of the variance indicates that while the external environment is critical, reading comprehension remains a predominantly multi layered and complex phenomenon. As Woolley (2011) critically pointed out, reading comprehension is an intricate cognitive process that involves a dynamic interaction between the text, the readers internal cognitive tools, and the broader context. The remaining 61.3% is highly likely driven by these internal reader variables, such as individual vocabulary mastery, syntax knowledge, intrinsic motivation, and prior background knowledge. Consequently, while a perfect reading environment provides the ideal foundation for text interaction, the final comprehension outcome is still moderated by the internal linguistic and cognitive competence that each student brings to the text.

4. CONCLUSION

This study concludes that there is a significant and strong positive relationship between a comprehensive reading environment and reading comprehension among high school EFL students. Empirical evidence shows that when students are surrounded by a supportive learning ecosystem including text-rich classroom environments, digital literacy tools, and community support their cognitive ability to comprehend foreign-language texts improves significantly. This reading environment accounts for 38.7% of the variance in students' reading comprehension performance, while the remaining 61.3% is influenced by other internal factors that have not yet been studied, such as vocabulary mastery, background knowledge, and intrinsic learning motivation. However, this study has several limitations, including a quantitative correlational design that cannot establish a cause-and-effect relationship, a sample limited to a single institution, meaning the results may not be widely generalizable and an exclusive focus on external environmental factors. Therefore, several recommendations are proposed: teachers are advised to design a rich and engaging classroom environment by providing a variety of physical and digital reading materials; students are encouraged to maximize the use of available reading environments to build consistent reading habits; and future researchers are advised to explore the internal factors that have not yet been examined, as well as consider qualitative approaches or mixed-methods designs for a deeper understanding.

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