

Enhancing Reading Comprehension in Chinese EFL Learners: The Interplay of Vocabulary Size, Discourse Analysis, and Digital Reading Medium

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Abstract

This research aims to examine the correlations among vocabulary size, discourse analysis, digital reading platforms, and reading comprehension in EFL learners within the context of Chinese higher education. The study involved a sample of 84 first-year English majors at Sichuan Minzu College, utilizing correlation and multiple regression analysis to evaluate the predictive impact of these parameters on students' reading comprehension. Research instruments included standardized tests for vocabulary size, discourse analysis assessments, and questionnaires for evaluating digital reading platform engagement. Data collection was conducted through pretests and posttests over a 10-week period, followed by thorough statistical analysis.

The research results found that a substantial positive association exists between learners' vocabulary size and their reading comprehension abilities, highlighting the critical role of vocabulary knowledge. Additionally, discourse analysis emerged as a vital component that enhances comprehension by focusing on linguistic structures and coherence. The incorporation of digital reading platforms, particularly Superstar E-learning, demonstrated beneficial impacts on comprehension through increased flexibility and engagement. Furthermore, a significant correlation between effective vocabulary learning strategies and vocabulary size was observed, emphasizing the importance of strategic vocabulary acquisition for improving reading comprehension. These findings underscore the necessity for a comprehensive teaching strategy that integrates vocabulary enhancement, discourse analysis, and the use of digital resources to foster better reading comprehension in EFL contexts.

Keywords: relationship; vocabulary size; discourse analysis; digital reading medium; reading comprehension; EFL

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Introduction

Reading comprehension is one of the four essential skills in learning English for EFL (English as a Foreign Language) learners, alongside listening, speaking, and writing. Despite its significance, EFL learners' reading comprehension remains a pressing issue, with many students struggling to achieve proficiency. Various factors influence reading comprehension efficacy, ranging from individual vocabulary size to the choice of reading mediums. Understanding the interplay among these factors is crucial for educators and learners who seek to enhance reading comprehension outcomes. Therefore, this research study investigates the relationships among vocabulary size, discourse analysis, digital reading mediums, and reading comprehension.

Chinese EFL learners often encounter great challenges in reading comprehension, mainly due to limited vocabulary, which is also reflected in the students of Sichuan Minzu college. The problems currently faced by English learners highlight the importance of this research. Studies indicate that many learners possess a relatively small vocabulary size, which hinders their ability to understand new words within texts and affects their performance on reading comprehension exercises (Gu, 2017). Moreover, discourse analysis emerges as a critical factor that enables learners to interpret texts at a deeper level, beyond mere surface comprehension. According to Li and Sun (2023), the instructional approach in English reading classes often focuses excessively on the literal meanings of words, sentences, and grammatical structures. Consequently, students may grasp the basic meanings but struggle to comprehend more nuanced or implied meanings during reading comprehension exercises.

Furthermore, the choice of reading medium is increasingly important in today's digital landscape. While digital tools have the potential to enrich English reading instruction, their integration into the curriculum at Chinese universities remains insufficiently explored. This study specifically examines EFL learners at Sichuan Minzu College to investigate the relationships among vocabulary size, discourse analysis, digital reading mediums, and reading comprehension. To achieve this, correlation analysis and multiple linear regression analysis will be conducted to clarify these relationships and identify the predictive power of the variables involved. By addressing these current challenges, this research aims to provide valuable insights for improving the reading comprehension skills of EFL learners.

Research Objectives

1. To investigate the relationships among vocabulary size, discourse analysis, the use of digital reading mediums, and reading comprehension among EFL learners.
2. To determine the predictive power of discourse analysis, reading medium, and vocabulary size on reading comprehension through multiple linear regression analysis..

Literature Review

1. The Impact of Vocabulary Size on EFL Reading Comprehension

Anderson and Freebody (1981) proposed that the language learners' ability to comprehend text was critically dependent upon learners' vocabulary-related knowledge in that reading comprehension. A great number of research studies have demonstrated a strong relationship between vocabulary size or depth and reading comprehension, emphasizing the necessities and significance of a large vocabulary size for successful reading comprehension competence (Laufer, 1997; Nation, 2006).

Grabe (2009) proposed that reading comprehension required many skills, such as the knowledge of vocabulary enrichment, the understanding of sentence structures and the understanding of discoursal organization. A lot more researchers have found out that the learners' difficulties in reading comprehension come from insufficient vocabulary size and depth (Kheirzadeh & Tavakoli, 2012). According to Ibrahim, Sarudin and Muhamad (2016), vocabulary size has been one of the most critical affecting factors in the ESL context among many factors contributing to the learners' effective reading comprehension. Therefore, reading comprehension, which is challenging but necessary and important for EFL learners and teachers, has concentrated on vocabulary enrichment (Nikoopour & Kazemi, 2014).

EFL learners in China have the same problems. Many Chinese EFL learners usually feel frustrated at remembering and enriching English words, and they have inadequate vocabulary learning strategies, hence their vocabulary size and vocabulary depth are extremely small. Chinese EFL learners are still in the challenge of improving their vocabulary size. Many more studies have already found out that Chinese EFL learners have relatively limited vocabulary size, which have affected their ability to understand unfamiliar words in a text while doing the reading comprehension exercises (Gu, 2017).

2. The Role of Discourse Analysis in EFL Reading Comprehension

The notion of 'discourse' is subject to variation according to the discourse analysis methodology employed. Cook (2018) conceived discourse as the interplay between text and context perceived as meaningful and cohesive by participants. Bourdieu (1997) viewed discourse as communication within institutional contexts, highlighting its effectiveness in relation to institutional frameworks.

The inception of 'discourse analysis' could be attributed to Zellig Harris (1952a), who introduced it to the scientific dimension through a seminal article in a journal. Harris characterized discourse analysis as a way of doing the analysis of connected spoken or written that transcended boundaries of individual sentences and integrated cultural aspects with language. Although Harris's discourse analysis was not explicitly aimed at language teaching, it offered insights applicable to language education. Despite Harris's early insights into forthcoming trends in language learning and teaching, it took approximately twenty-five years for discourse analysis to gain recognition in education.

In 1978, Amy Lezberg and Ann Hilferty published an essay in TESOL Quarterly titled *Discourse Analysis in the Reading Class*, marking a significant step forward. They viewed discourse analysis as guiding students to consider various aspects such as topic introduction and closure, topic development, etc. Their aim was to equip students with specific reading strategies constituting discourse analysis rather than merely enhancing reading skills. Therefore, while reading texts, focusing on the vocabulary and grammar is not enough, instead, in order to understand the texts in a very complete way, highlighting the understanding on the discourse level should be taken into consideration.

According to Li and Sun (2023), in English reading class for Chinese EFL learners, teachers and students put too much focus on the explanation and comprehension of words, sentences and grammatical rules, hence students had the problem that they could understand the literal meaning, but couldn't comprehend the deeper or implied meaning of the texts better. While the newly revised Guidelines for Teaching English in Universities (2020 edition) in China emphasized that learners should be able to understand reading materials in discoursal level under different situations, make reasonable judgments and identify the main ideas and be

able to deeply understand and discuss topics related to hot issues in real society (He, 2020). Therefore, it is important to improve students' ability to analyze the discourse to improve their reading comprehension ability.

3. The Influence of Digital Reading Medium

Recently there has been a huge increase in the amount of study done on the effects of reading medium on EFL reading comprehension. Researchers have looked at how digital texts differ from traditional print due to the widespread use of e-readers, tablets. And research studies have indicated that digital texts have provided ease of use and accessibility for language learners. Especially after the outbreak of COVID-19, digital reading and online education have gained its popularity. Rapid technological advancement has impacted significantly on education, including language learning.

Digital learning has been regarded as a new reading medium of modern education which has changed the traditional way into innovative ones (Dwiastuty & Sulhan, 2018). Digital learning can support initiative and active learning with time and space convenience which has changed the collaboration and interaction among teachers and students, therefore, it has broken the limitations of the traditional reading medium and has helped to have access to various learning materials (Ergun & Adibatmaz, 2020). As for Higher Education in China, digital learning has dramatically increased in Chinese universities, not only because of the rapid development of technology, but because of the outbreak of COVID-19. Because of that, Superstar E – learning, as a digital platform, has become one of the most popular innovative digital learning platforms, accepted and recommended by the National Ministry of Education in China, whose goal is to supply EFL learners with a personalized, students-centered, open, enjoyable, convenient and interactive learning environment since December, 2019. With this online platform, teachers can establish an online course by posting all the resources needed and delivering the consolidating exercises online as well. Therefore, students can break the barrier of the time and space and do the exercises at any time they want. They can repeat doing it if they want to. For the teachers, they can supervise their students' learning through this online platform.

With the growing popularity and importance of digital learning in education, more and more researchers have conducted corresponding research studies to look into the affecting factors of it. Some investigations have found that learner characteristics, technology design, and instructional design are among the factors that can impact the success of digital learning (Kirkwood & Price, 2014). Examining methods to enhance digital learning is crucial given the prominence and significance of digital learning in language acquisition and reading comprehension. Offering possibilities for contact and collaborative learning through online chats, discussions, and collaborative activities is a way that may be used (Garrison & Kanuka, 2004). Furthermore, a number of tactics can be employed to enhance digital learning, based upon the results of relevant studies. Designing dynamic, engaging multi-media teaching resources that satisfy the needs of learners is one way to enhance e-learning (Mayer, 2017).

Research Methodology

1. Population and Sample

The study involved 84 first-year English major students at Sichuan Minzu College during the 2023 academic year. Initially, 112 students were selected through simple random sampling; however, due to incomplete data, a total of 81 students participated fully in both pretest and posttest assessments. This sample size was determined to ensure statistical

significance and representativeness for the analysis of relationships among the targeted variables.

2. Research Tools

Six instruments were utilized for data collection in this study: (1) Vocabulary Size Test: A standardized assessment to evaluate the vocabulary size of participants. (2) Questionnaire for Vocabulary Learning Strategies: A ready-made questionnaire aimed at understanding participants' experiences and strategies in vocabulary learning. (3) Discourse Analysis Questionnaire and Task: This tool assessed participants' skills in discourse analysis within the context of EFL reading comprehension. (4) Reading Medium Questionnaire: Designed to gauge participants' perceptions of both printed and digital reading mediums. (5) Superstar E-learning Questionnaire: A questionnaire tailored to gather feedback on participants' experiences with the Superstar E-learning platform. (6) Reading Comprehension Test: Developed to measure participants' understanding of various texts, focusing on both literal comprehension and deeper inferential understanding, consistent with the objectives of the other assessments.

3. Data Collection

Data collection was conducted in three stages. First, participants completed pretests assessing vocabulary size, discourse analysis, engagement with digital reading platforms, and reading comprehension, establishing baseline proficiency levels. The second stage involved an intervention, where participants engaged with digital reading materials via the Superstar E-learning platform over a period of 10 weeks. This included vocabulary enhancement activities, discourse-oriented tasks, and reading exercises aimed at improving both surface-level and deep reading comprehension. Finally, posttests were administered to evaluate changes in vocabulary size, discourse analysis, engagement with digital reading mediums, and reading comprehension, assessing the effectiveness of the strategies employed.

4. Data Analysis

Two primary statistical methods were employed to analyze the collected data:

(1) Correlation Analysis: Pearson correlation coefficients were calculated to determine the relationships among vocabulary size, discourse analysis, engagement with digital reading mediums, and reading comprehension, revealing significant correlations among these variables.

(2) Multiple Linear Regression: This analysis was conducted to evaluate the predictive impact of vocabulary size, discourse analysis, and the use of Superstar E-learning on reading comprehension. It assessed the degree to which these factors influenced variations in students' comprehension scores.

Statistical analyses were performed using SPSS version 26.0, with significance thresholds established at $p < 0.05$ and $p < 0.01$.

Research Conceptual Framework

The conceptual framework for this study explores the interrelationships between vocabulary size, discourse analysis, digital reading mediums, and reading comprehension (Figure 1). It proposes that vocabulary size directly enhances reading comprehension, as a larger vocabulary facilitates better understanding of texts. Discourse analysis skills improve comprehension by enabling learners to interpret deeper meanings and contextual nuances within reading materials. Furthermore, digital reading mediums engage learners and provide diverse resources that positively impact reading comprehension. This framework guides the investigation into how these factors interact and contribute to reading comprehension among EFL learners, informing targeted interventions aimed at enhancing overall learning outcomes.

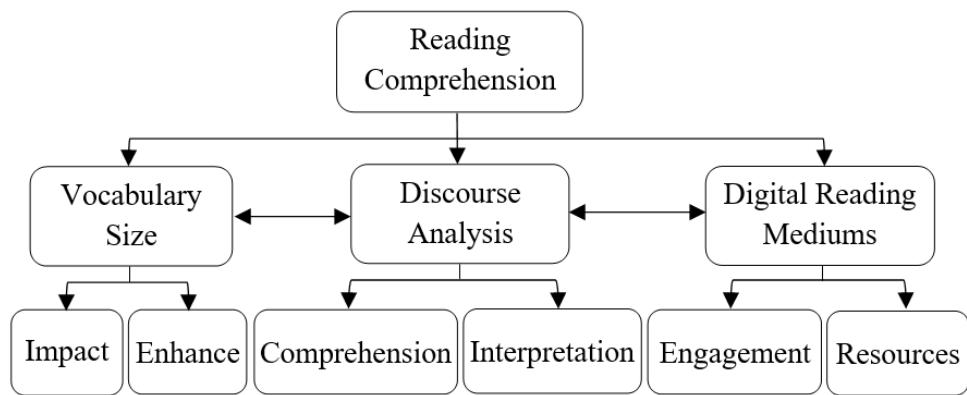


Figure 1 Research Conceptual Framework
(Source: Constructed by the researcher, 2024)

Research Results

1. Correlation Analysis

Correlation analysis is a statistical method employed to quantify and characterize the degree of the relationship between variables in research studies. Correlation analysis shows the intensity of association between two variables, reflecting their degree of interrelation (Cohen, 2013). The correlation coefficient also signifies the direction of the association. A positive correlation indicates that an increase in one variable is connected with an increase in the other one and vice versa (Cohen, 2013). A substantial positive association between digital reading media and reading comprehension may indicate that the integration of digital tools in instruction could be advantageous for EFL learners. This can inform the development of educational interventions and pedagogical practices (Kuhlemeier & Hemker, 2007). This study aims to undertake a correlation analysis to figure out the relationships among vocabulary size, discourse analysis, and the use of digital reading mediums in connection to reading comprehension. Analyzing the relationships among vocabulary size, discourse analysis, digital reading mediums, and reading comprehension reveals the relationship among these elements and reading comprehension (Alderson, 2000). Consequently, it is feasible to analyze the elements influencing reading comprehension among EFL English majors.

1.1 Pretest Correlation Analysis

Correlation analyses were conducted on the pretest scores of subjects' discourse analysis, reading medium, reading comprehension, superstar, vocabulary learning strategies and vocabulary size, and it was found that the pretest discourse analysis scores were significantly and positively correlated with the reading medium scores ($r=0.354$, $p<0.01$), the reading comprehension scores ($r=0.270$, $p<0.05$), and the superstar scores ($r=0.417$, $p<0.01$), Vocabulary Learning Strategies Score ($r=0.392$, $p<0.01$), and Vocabulary Size Score ($r=0.249$, $p<0.05$); and the Reading Medium Score was significantly and positively correlated with the Reading Comprehension Score ($r=0.485$, $p<0.01$), Superstar Score ($r=0.380$, $p<0.01$), Vocabulary Learning Strategies Score ($r=0.365$, $p<0.01$), and vocabulary size score ($r=0.306$, $p<0.01$); reading comprehension scores were significantly and positively correlated with superstar scores ($r=0.352$, $p<0.01$), vocabulary learning strategy scores ($r=0.327$, $p<0.01$), and vocabulary size scores ($r=0.369$, $p<0.01$); Superstar score was significantly and positively correlated with Vocabulary Learning Strategies score ($r=0.307$, $p<0.01$) and Vocabulary Size Score ($r=0.322$, $p<0.01$); and Vocabulary Learning Strategies Score and Vocabulary Score ($r=0.284$, $p<0.01$) were significantly and positively correlated with each other. The findings are displayed in the table 1 below:

Table 1 Correlation Analysis of Pretest Scores for Each Questionnaire and Test

| | T1 Discourse Analysis | T1 Reading Medium | T1 Reading Comprehension | T1 Superstar | T1 Vocabulary Learning Strategies |
|-----------------------------------|-----------------------|-------------------|--------------------------|--------------|-----------------------------------|
| T1 Reading Medium | 0.354** | | | | |
| T1 Reading Comprehension | 0.270* | 0.485** | | | |
| T1 Superstar | 0.417** | 0.380** | 0.352** | | |
| T1 Vocabulary Learning Strategies | 0.392** | 0.365** | 0.327** | 0.307** | |
| T1 Vocabulary Size | 0.249* | 0.306** | 0.369** | 0.322** | 0.284* |

Note: * $p<0.05$, ** $p<0.01$

1.2 Posttest Correlation Analysis

The correlation analysis seeks to understand the relationships among various posttest scores. Examining these factors reveals their interrelations and identifies potential areas for improvement or focus in educational interventions. A correlation analysis of the subjects' posttest scores showed that the posttest discourse analysis score was significantly and positively correlated with the reading medium score ($r=0.345$, $p<0.01$), reading comprehension score ($r=0.415$, $p<0.01$), superstar score ($r=0.280$, $p<0.05$), and vocabulary learning strategy score ($r=0.240$, $p<0.05$), Vocabulary size Score ($r=0.323$, $p<0.01$); Reading Medium Score was significantly and positively correlated with Reading Comprehension Score ($r=0.278$, $p<0.01$), Superstar Score ($r=0.257$, $p<0.05$), Vocabulary Learning Strategies Score ($r=0.343$, $p<0.01$), Vocabulary size Score ($r=0.394$, $p<0.01$); reading comprehension scores were significantly and positively correlated with superstar scores ($r=0.469$, $p<0.01$), vocabulary learning strategy

scores ($r=0.268$, $p<0.05$), and vocabulary size scores ($r=0.479$, $p<0.01$); superstar scores were significantly and positively correlated with vocabulary learning strategy scores ($r=0.387$, $p<0.01$), and vocabulary size score ($r=0.424$, $p<0.01$); and vocabulary learning strategy score and vocabulary size score ($r=0.515$, $p<0.01$) were significantly and positively correlated.

The correlation ($r=0.515$) between Vocabulary Learning Strategy Score and Vocabulary Size Score suggests that enhancements in vocabulary learning strategies are significantly linked to increased vocabulary sizes. A significant positive correlation ($r=0.479$) between Reading Comprehension Score and Vocabulary Size Score indicates that improved reading comprehension is closely associated with an expanded vocabulary. The observed positive correlation ($r=0.469$) between Reading Comprehension Score and Superstar Score indicates that higher reading comprehension is associated with elevated superstar scores. Discourse Analysis Assessment Demonstrates moderate positive correlations with various variables, indicating that enhanced discourse analysis skills are linked to improvements in areas such as reading medium, reading comprehension, and vocabulary size. Enhancing vocabulary learning strategies can significantly influence other areas of learning due to strong correlations with key scores. The positive correlations among various scores underscore the significance of integrated approaches in educational interventions, indicating that enhancement of one skill can facilitate improvements in other related skills. The correlation analysis indicates significant positive relationships among various posttest scores, implying that advancements in one domain are likely correlated with improvements in others. These insights can guide the development of targeted educational strategies and interventions to enhance overall outcomes. The findings are presented in the table 2 below:

Table 2 Correlation Analysis of Posttest Scores for Each Questionnaire and Task

| | T2 Discourse Analysis | T2 Reading Medium | T2 Reading Comprehension | T2 Superstar | T2 Vocabulary Learning Strategies |
|-----------------------------------|-----------------------|-------------------|--------------------------|--------------|-----------------------------------|
| T2 Reading Medium | 0.345** | | | | |
| T2 Reading Comprehension | 0.415** | 0.278** | | | |
| T2 Superstar | 0.280* | 0.257* | 0.469** | | |
| T2 Vocabulary Learning Strategies | 0.240* | 0.343** | 0.268* | 0.387** | |
| T2 Vocabulary Size | 0.323** | 0.394** | 0.479** | 0.424** | 0.515** |

Note: * $p<0.05$ Statistically significant, ** $p<0.01$ Highly significant

Correlation analysis is essential in research as it identifies and elucidates the relationships between factors influencing the reading comprehension of EFL learners. Correlation analysis provides a basis for advanced statistical methods, including regression analysis, which can investigate causal relationships among variables, Shrestha (2020).

2. Multiple Linear Regression Analysis

2.1 Multiple Linear Regression Analysis of Pretest Results

Five factors were employed as independent variables: discourse analysis, reading medium, superstar, vocabulary learning strategies, and vocabulary size, with reading comprehension serving as the dependent variable. These were analyzed through multiple linear regression using SPSS 26.0.

The Durbin-Watson coefficient was determined to be 1.276, indicating an average level of sample independence. The VIF values for the factors were 1.373, 1.333, 1.369, 1.310, and 1.199, all of which were below 10, indicating the absence of multicollinearity. The statistical criteria for multiple linear regression are satisfied, allowing for subsequent analysis. The information is presented in the table 3 below:

Table 3 Multiple Linear Regression

| dependent variable | independent variable | B | Beta | t | R ² | ΔR ² | F |
|-----------------------|--------------------------------|--------|-------|---------|----------------|-----------------|-------|
| Reading comprehension | discourse analysis | 0.049 | 0.009 | 0.081 | 0.316 | 0.27 | 6.924 |
| | reading medium | 1.61 | 0.336 | 3.047** | | | |
| | superstar | 0.585 | 0.125 | 1.122 | | | |
| | Vocabulary learning strategies | 0.531 | 0.107 | 0.983 | | | |
| | Vocabulary size | 0.069 | 0.193 | 1.845 | | | |
| | a constant (math.) | -4.612 | - | -2.011* | | | |

Note: **p<0.01

The regression analysis presented in the table indicates that the five independent variables related to reading comprehension demonstrate a satisfactory fit, with a R² value of 0.316. One of the factor coefficients for reading medium was significant in the equation: reading comprehension = -4.612 + 0.336 * reading medium. The reading medium is a positive predictor of reading comprehension.

2.2 Multiple Linear Regression Analyses of Posttest Results

Five factors were identified as independent variables: discourse analysis, reading medium, superstar, vocabulary learning strategies, and vocabulary size. Reading comprehension served as the dependent variable. These variables were analyzed through multiple linear regression using SPSS 26.0.

The Durbin-Watson coefficient was analyzed and determined to be 1.842, indicating satisfactory sample independence. The VIF values for the factors were 1.218, 1.300, 1.311, 1.465, and 1.602, all of which were below 10, indicating the absence of multicollinearity. The statistical criteria for multiple linear regression are satisfied, allowing for subsequent analysis. The information is presented in the table 4 below:

Table 4 Multiple Linear Regression

| dependent variable | independent variable | B | Beta | t | R² | ΔR² | F |
|---------------------------|-----------------------------|----------|-------------|----------|----------------------|-----------------------|----------|
| Reading comprehension | discourse analysis | 3.168 | 0.244 | 2.418* | 0.372 | 0.33 | 8.881 |
| | reading medium | 0.135 | 0.022 | 0.212 | | | |
| | superstar | 2.797 | 0.293 | 2.799** | | | |
| | vocabulary | -0.517 | -0.067 | -0.608 | | | |
| | learning strategies | 0.086 | 0.302 | 2.608* | | | |
| | Vocabulary size | -15.341 | - | -2.654* | | | |

Note: **p<0.01

The regression analysis presented in the table indicates that the five independent variables related to reading comprehension yield a satisfactory fit, with a R^2 value of 0.372. The coefficients for discourse analysis, superstar, and vocabulary size were significant in the equation: reading comprehension = $-15.341 + 3.168 \times \text{discourse analysis} + 2.797 \times \text{superstar} + 0.086 \times \text{vocabulary}$. Discourse analysis, superstar status, and vocabulary size all positively correlated with reading comprehension.

The multiple linear regression analysis of the posttest results showed that, among the five factors of discourse analysis, reading medium, Superstar E-learning, vocabulary learning strategies, and vocabulary size, students' scores in discourse analysis, Superstar E-learning, and vocabulary size serve as predictors for their reading comprehension scores.

Discussion

This study's findings offer important insights into the relationship between vocabulary size, discourse analysis skills, digital reading mediums (specifically Superstar E-learning), and reading comprehension among Chinese EFL learners.

1. Research Objectives

The primary objective of this research was to explore the relationships among vocabulary size, discourse analysis skills, the use of digital reading mediums, and reading comprehension. By investigating these connections, the study aimed to provide a clearer understanding of how these factors influence EFL learners' comprehension abilities.

2. Research Results

The results indicated that vocabulary size is a significant predictor of reading comprehension. This finding supports Nation's (2006) claim that a larger vocabulary enhances text comprehension, highlighting the importance of vocabulary acquisition in EFL contexts. The size of vocabulary demonstrated a significant positive correlation with reading comprehension, consistent with earlier research (Laufer, 1997; Ibrahim et al., 2016). Regression analysis confirmed that vocabulary size significantly predicted reading comprehension in both pretest and posttest results. This aligns with the lexical quality hypothesis (Perfetti & Hart, 2002), which notes that individuals with more advanced vocabulary knowledge are likely to process texts more effectively, resulting in enhanced comprehension outcomes.

Discourse analysis plays a vital role in enhancing deep comprehension. The findings support the idea that EFL learners frequently encounter difficulties in understanding implied meanings that extend beyond surface-level interpretations of words and sentences (Li & Sun, 2023). Integrating discourse analysis techniques into reading instruction can assist educators in bridging gaps, facilitating inferences, and enhancing comprehension of complex texts.

Moreover, the research emphasized the increasing significance of digital reading platforms in language education. Superstar E-learning, a digital platform gaining traction in Chinese universities, demonstrated a beneficial effect on reading comprehension. The correlation analysis indicated a significant relationship between the utilization of digital reading tools and enhanced comprehension, corroborating Kirkwood and Price's (2014) findings regarding technology-enhanced learning environments. This finding highlights the importance of integrating digital platforms into EFL instruction, especially in the context of a post-COVID-19 environment where online education has gained prominence.

Lastly, the study revealed a strong positive correlation between vocabulary learning strategies and vocabulary size. This relationship indicates that students employing effective vocabulary learning strategies are more likely to expand their vocabulary size, subsequently improving their reading comprehension. This echoes the research conducted by Nikoopour & Kazemi (2014), which posits that intentional and strategic vocabulary acquisition significantly influences language proficiency.

3. Reflection

These findings underscore the necessity of extensive vocabulary acquisition for effective reading comprehension. EFL learners must possess not only a wide range of vocabulary but also the skills to analyze discourse and utilize digital tools effectively to facilitate learning. This holistic approach can significantly enhance their overall reading skills and academic success.

4. Consistent/Inconsistent

The results are consistent with existing literature, reinforcing the notion that vocabulary knowledge is essential for reading comprehension (Nation, 2006). The positive correlation between discourse analysis and reading comprehension supports previous claims about the significance of deeper understanding in textual interpretation. However, the integration of digital reading mediums into EFL instruction is relatively underexplored, suggesting a need for further investigation into how technology can enhance language learning.

5. Conclusion

In conclusion, this study provides critical insights into the relationships among vocabulary size, discourse analysis, digital reading mediums, and reading comprehension in Chinese EFL learners. The results highlight the significance of vocabulary size and discourse analysis in promoting a deeper understanding of texts. Furthermore, the findings emphasize the importance of integrating digital platforms, like Superstar E-learning, into EFL instruction to enhance student engagement and comprehension. A comprehensive educational strategy that incorporates vocabulary development, discourse analysis improvement, and effective digital learning tool management is essential for fostering better reading comprehension skills among EFL learners.

Recommendations

1. Theoretical Recommendations

To enhance the theoretical understanding of the relationships among vocabulary size, discourse analysis, and reading comprehension, future research should integrate interdisciplinary perspectives. Incorporating insights from cognitive psychology, linguistics, and educational technology could provide a more comprehensive framework for understanding how these factors interact. Additionally, further exploration of the lexical quality hypothesis and its implications for EFL contexts can deepen our theoretical foundation.

2. Policy Recommendations

Educational institutions should prioritize vocabulary acquisition and discourse analysis in their curricula. Policymakers should support the development and implementation of training programs for EFL educators that focus on effective vocabulary teaching strategies and discourse analysis techniques. Moreover, integrating digital reading platforms into the curriculum should be mandated to enhance engagement and comprehension skills, particularly in light of the growing importance of technology in education.

3. Further Research Recommendations

Future studies should explore the long-term effects of integrating digital reading tools like Superstar E-learning on reading comprehension across different learner populations. Comparative studies involving various EFL contexts, such as urban versus rural schools, can provide insights into the effectiveness of these tools in diverse educational settings. Additionally, investigating the specific vocabulary learning strategies that most effectively correlate with improved reading comprehension would be beneficial. Longitudinal studies could also track the development of discourse analysis skills over time and their impact on reading comprehension outcomes.

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