

The Impact of Lexical Attrition on the English Reading Ability of Junior High School Students

Luyi Dai

School of Foreign Languages and Literatures, Chongqing Normal University, Chongqing, China

Abstract: *This paper explores the impact of lexical attrition on the English reading ability of junior high school students. It analyzes the cognitive development characteristics of junior high school students and the factors affecting lexical attrition. The study finds that lexical attrition has a significant impact on junior high school students' English reading ability, including reduced vocabulary size, lexical semantic vagueness, and memory decline. To address these issues, the paper proposes several strategies, such as optimizing vocabulary teaching methods, strengthening the combination of reading training and vocabulary consolidation, creating a favorable English learning environment, and developing students' self-directed learning abilities. The paper concludes that effective vocabulary instruction and strategies are essential to prevent or minimize lexical attrition and improve students' English reading skills.*

Keywords: Lexical attrition; Junior high school students; English reading ability; Teaching strategies.

1. Introduction

1.1 Research Background

Vocabulary learning is a crucial component of language acquisition. It is the foundation upon which learners build their understanding of the language, enabling them to communicate effectively and comprehend written or spoken texts. A robust vocabulary allows for nuanced expression and deeper comprehension of linguistic subtleties. However, lexical attrition, the gradual loss or forgetting of once-learned vocabulary, is a common occurrence in the language learning process. This phenomenon can be influenced by various factors such as lack of use, interference from the first language, and insufficient practice. The universality of lexical attrition highlights the need for ongoing review and reinforcement strategies in language education. The potential impacts of lexical attrition extend to all areas of language proficiency, including reading ability. For junior high school students who are at a critical stage in developing their English skills, lexical attrition can hinder their progress in understanding English texts and limit their academic performance and future language use.

Even though, in existing research at home, lexical attrition has been extensively studied in adults, as evidenced by the numerous articles available on databases such as CNKI (139 papers), WanFang Data (209 papers), and Wipro (87 papers). These studies primarily investigate language and vocabulary erosion in adults. However, there is a notable scarcity of literature addressing this phenomenon in middle school students. Consequently, this study focuses on junior high school students. It considers their unique physical and mental development stages, learning characteristics, and aligns with the compulsory English curriculum framework and graded reading standards for primary and secondary education. This paper delves into the effects of lexical attrition on the English reading abilities of junior high school students and suggests corresponding teaching strategies. The ultimate objective is to offer scientifically grounded and practical recommendations for English teachers, aiming to foster significant advancement

in students' language learning.

1.2 Research Purpose and Significance

The primary objectives of this research are to investigate the extent of lexical attrition among junior high school students and its correlation with their English reading abilities. Additionally, the study aims to identify effective strategies that can mitigate lexical attrition and enhance vocabulary retention, subsequently improving reading comprehension.

Academically, this study contributes to the field of second language acquisition by analyzing the effects of lexical attrition on reading ability among junior high school students. Practically, the findings will offer insights for educators to develop evidence-based teaching methodologies that address vocabulary loss and promote long-term vocabulary retention.

2. Literature Review

2.1 Definition of Lexical Attrition

Language attrition, the opposite of language acquisition, refers to the gradual decline in a bilingual or multilingual speaker's ability to use a particular language (e.g., a foreign language) due to reduced or ceased usage [1]. The phenomenon in question results in a decrease or even disappearance of learners' educational outcomes [5]. According to an extensive amount of both domestic and international survey data accumulated in recent years, the factors that influence the erosion of English vocabulary include the duration of erosion, the level of English proficiency prior to erosion, age, vocabulary storage capacity, gender, focus on foreign language learning, emotional factors, and strategies for learning English [4].

2.2 Definition of English Reading Ability

According to Weaver, reading is a comprehensive process of recognizing and learning language [3]. It involves actively acquiring information from reading materials, connecting it

with personal knowledge and experience, and reinterpreting the text through comprehension to reconstruct its meaning. This process is both psycholinguistic, as the reader processes and interacts with the text, and sociolinguistic, influenced by various social factors. Building on this, Wang Qiang and Chen Zehang suggest that English reading ability for Chinese primary and secondary school students comprises four aspects: decoding ability, language knowledge, reading comprehension, and cultural knowledge [2].

2.3 The Relationship between Lexical Attrition and English Reading Ability

After conducting a comprehensive literature search on platforms such as CNKI, WanFang Data, and Wipro, it was discovered that the majority of research on vocabulary erosion concentrates on the topic itself, incorporating some pedagogical recommendations and vocabulary acquisition techniques. Nevertheless, there is a scarcity of articles that integrate lexical attrition with other English language skills. Here are still some references that do touch upon the relationship between vocabulary and reading ability, albeit not specifically focusing on lexical attrition. For example, the seminal work by Stanovich discusses the "Matthew effect" in reading, suggesting that individuals with better reading skills tend to read more [14], thereby increasing their vocabulary and comprehension abilities. Meara also pointed out that loss of vocabulary—could similarly be influenced by reduced input and lack of reinforcement through reading and other means [15]. And according to Barcroft, J., lexical attrition might negatively impact reading comprehension [16]. Liu, J., & Zhang, J., the findings of their research proved that there is some effect of extensive reading on English vocabulary learning, which means that there is clear correlation between vocabulary learning and reading comprehension [17].

3. Junior High School Students' Cognitive Development Characteristics

3.1 Piaget's Cognitive-developmental Theory

According to Piaget's Cognitive-developmental Theory, middle school students are in the early stages of formal operational thought, characterized by the development of abstract logical thinking and the enhancement of hypothetico-deductive reasoning abilities. This means they begin to process more complex concepts and propositions. However, vocabulary is fundamental for constructing these intricate thoughts. Consequently, lexical attrition may hinder students when dealing with abstract concepts and engaging in higher-order thinking, particularly when encountering texts rich in abstract terminology, thereby increasing the complexity of text comprehension and adversely affecting their reasoning and problem-solving skills.

3.2 Gagne's Information Processing Model

Gagne's Information Processing Model elucidates how students receive, process, store, and retrieve information during learning. When students encounter numerous unknown or forgotten words while reading, their focus shifts from analyzing and understanding the text to recalling vocabulary. This shift impedes their ability to deeply process the reading

material and retrieve information from long-term memory to aid comprehension, ultimately impacting the coherence and efficiency of reading.

Specifically, when students encounter unfamiliar vocabulary during reading, they must allocate additional cognitive resources to comprehend and memorize these words. This reallocation detracts from the cognitive resources that would otherwise be dedicated to understanding the text's deeper meaning. Consequently, this diversion can impair students' comprehension during reading as they are unable to sufficiently focus on grasping the main ideas and details of the text. Furthermore, lexical attrition may impact students' memory encoding and storage processes. When attempting to understand a text laden with unfamiliar vocabulary, students might need to frequently consult a dictionary or seek assistance, leading to disruptions in reading coherence and diminished efficiency in information encoding. Additionally, if the meanings of vocabulary words are not effectively understood and retained, accurate storage in long-term memory becomes challenging, thereby affecting information retrieval and application. Vocabulary erosion can also be detrimental in peer learning and classroom interactions. Students who struggle to articulate their thoughts due to limited vocabulary during discussions or collaborative learning might experience frustration and feelings of inferiority, potentially undermining their motivation and self-confidence. Moreover, such communication barriers can restrict students' opportunities to acquire new knowledge through social interaction.

4. Analysis of Factors Affecting Lexical Attrition in Junior High School Students

4.1 Time Factors

The temporal dimension of vocabulary acquisition plays a pivotal role in lexical retention. Ebbinghaus' forgetting curve elucidates the gradual decay of memory without reinforcement [19]. Research substantiates that absence of adequate repetition and review results in incremental word forgetting. The "spacing effect" underscores that learning sessions distributed over time are more efficacious for long-term retention than massed sessions [7]. For junior high school students, this implies that structured, spaced interactions with new vocabulary are essential to counteract attrition.

4.2 Learning and Practice Frequency Factors

The frequency of information encounter significantly impacts memory consolidation [8]. In vocabulary acquisition, daily practice exhibits superior retention compared to weekly or monthly reviews. Moreover, "retrieval practice"—active recall of information—enhances memory beyond mere re-reading [11]. Junior high schools ought to incorporate frequent retrieval exercises into language learning to mitigate lexical attrition.

4.3 Teaching Methods and Strategies Factors

Varied teaching strategies exert different effects on lexical attrition. For instance, employing imagery, mnemonic devices,

and multisensory instruction aids in forming more robust memory traces [9]. Techniques such as contextualized vocabulary instruction—where words are taught within meaningful contexts—also bolster retention rates [10]. Furthermore, collaborative learning approaches like the "vocabulary-rich environment" foster using new words in dialogue, enhancing retention through social interaction [12].

4.4 Individual Differences Factors

Finally, individual student traits significantly influence lexical attrition. Motivation and interest in learning consistently correlate with greater success in vocabulary acquisition [13]. Students intrinsically motivated by personal interest or relevance to their lives are less prone to experience attrition. Study habits, including consistent daily study periods and active text engagement, also contribute to vocabulary preservation. Cognitive style, reflecting individual differences in information processing, can affect vocabulary learning; some students may benefit from visual aids, while others respond better to auditory or kinesthetic methods.

In summary, lexical attrition in junior high school students is a multifaceted phenomenon influenced by time factors, learning and practice frequencies, teaching methods, and individual differences among students. Addressing these factors through evidence-based instructional design and personalized learning strategies can effectively mitigate lexical attrition and promote robust vocabulary development.

5. Specific Aspects of the Impact of Lexical Attrition on Junior High School Students' English Reading Ability

5.1 Impact of Reduced Vocabulary Size on Reading Comprehension

The size of one's vocabulary significantly influences reading comprehension. A restricted vocabulary can pose challenges in understanding the meaning of words, phrases, and sentences. For instance, a student with a limited vocabulary may struggle to comprehend complex texts containing unfamiliar words. This may lead to misinterpretation of the text, thereby affecting their ability to grasp the main idea or theme of the text. Additionally, students with a limited vocabulary may face difficulties in identifying relationships between words and concepts, further impeding their comprehension of the text. Therefore, it is crucial for junior high school students to possess a broad vocabulary to enhance their reading comprehension skills.

5.2 Impact of Lexical Semantic Vagueness on Reading Accuracy

Semantic vagueness refers to the lack of clarity or precision in word meanings. When students encounter words with unclear or ambiguous meanings, they may struggle to accurately interpret the text. This can result in confusion and misunderstandings about the content of the text. For example, a student who reads a sentence containing the word "bank" may not know whether it refers to a financial institution or the side of a river. Such ambiguity can affect their ability to understand the text accurately. Therefore, it is important for

junior high school students to develop their ability to identify and clarify the meanings of words to improve their reading accuracy.

5.3 Impact of Memory Decline on Reading Speed and Fluency

Memory decline can have a significant impact on reading speed and reading fluency. Students with memory issues may find it challenging to remember the meanings of words or retain information from the text. This can slow down their reading process as they need to pause frequently to recall the meanings of words or refer back to previous sections of the text. Furthermore, memory decline can also affect their ability to connect ideas and concepts within the text, which can further reduce their reading speed. Therefore, it is important for junior high school students to develop strategies to improve their memory and retention skills to enhance their reading speed so as to elevate their reading fluency.

6. Strategies to Address Lexical Attrition and Enhance Reading Ability

6.1 Optimizing Vocabulary Teaching Methods

To optimize vocabulary teaching methods, teachers can employ various techniques such as contextual teaching and associative teaching. Contextual teaching involves presenting new words in a meaningful context that helps students understand their meanings and usage. For example, instead of simply providing a list of words, teachers can create sentences or short paragraphs that incorporate the target vocabulary. This approach not only aids in memorization but also demonstrates how the words are used in actual communication. Associative teaching, on the other hand, encourages students to make connections between new words and their existing knowledge. This can be achieved through word association activities, where students are asked to think of related words or concepts that share similar characteristics with the target word. For instance, if the word "joy" is being taught, students might associate it with synonyms like "happiness" or antonyms like "sadness." Such associations help reinforce the meaning of the word and facilitate its retention.

6.2 Strengthening the Combination of Reading Training and Vocabulary Consolidation

Reading training and vocabulary consolidation should go hand in hand to ensure effective learning. To strengthen this combination, teachers can provide specific training methods and integration approaches. One way is by incorporating reading comprehension exercises that focus on the target vocabulary. These exercises should challenge students to not only identify but also understand the meaning and usage of the words within the context of the reading material.

Another approach is through the use of vocabulary-rich texts that cater to the students' interests and reading levels. By exposing students to a variety of texts, they have the opportunity to encounter new words repeatedly, which aids in long-term retention. Additionally, teachers can assign tasks such as creating flashcards or word maps to help students

organize and review the vocabulary they have learned from their readings.

6.3 Creating a Favorable English Learning Environment

A conducive learning environment plays a crucial role in enhancing language acquisition. In the classroom, teachers can establish an atmosphere that promotes active participation and engagement among students. This can be achieved by encouraging open discussions, group work, and interactive activities that allow students to practice using the target vocabulary in different contexts. Moreover, creating a stimulating extracurricular setting is equally important. Schools can organize events such as English clubs, debate competitions, or theater performances that require students to use English extensively. These activities not only provide ample opportunities for vocabulary practice but also expose students to various aspects of English culture, further enriching their understanding and appreciation of the language.

6.4 Developing Students' Self-Directed Learning Abilities

Fostering self-directed learning abilities in students is essential for sustainable language development. Teachers can guide students in independent vocabulary learning by introducing them to effective study strategies such as using flashcards, keeping a personal dictionary, or utilizing online resources like language learning apps and websites. Encouraging regular self-assessment through quizzes or reflective journaling can also help students track their progress and identify areas for improvement. For reading improvement, teachers can recommend appropriate reading materials based on students' interests and reading levels. Teachers can also teach critical reading strategies such as making inferences, identifying main ideas, and summarizing information. By empowering students to take charge of their own learning, they become more motivated and invested in their language growth, ultimately leading to greater success in both vocabulary acquisition and reading comprehension.

7. Conclusion and Prospects

7.1 Research Conclusions

After conducting a comprehensive review of literature from both domestic and international sources, it was observed that there is a consensus among researchers regarding the adverse effects of vocabulary erosion on the enhancement of students' English reading skills. In simpler terms, students who exhibit lower levels of lexical attrition tend to demonstrate superior performance in understanding English reading materials. This trend underscores the significance of vocabulary mastery in English reading comprehension and highlights that lexical attrition can impede students' ability to interpret and understand English texts effectively. Secondly, there is a positive correlation between students' vocabulary size and their English reading ability. Students with larger vocabulary sizes tend to have better reading comprehension skills than those with smaller vocabulary sizes. This highlights the importance of developing and maintaining a strong vocabulary base for improving English reading ability. Thirdly, the study identified several factors that contribute to

lexical attrition among junior high school students. These include lack of exposure to English language input, insufficient practice in using English vocabulary, limited opportunities for engaging in meaningful communication in English and some other aspects vary from individuals. Addressing these factors can help reduce lexical attrition and enhance students' English reading ability. In conclusion, The findings emphasize the need for effective vocabulary instruction and strategies to prevent or minimize lexical attrition in order to improve students' English reading skills.

7.2 Limitations of the Study

Despite the valuable findings, there are some limitations in this study that should be acknowledged. First, the study provides theoretical insights by summarizing prior research. However, it lacks empirical support to explore the relationship between lexical attrition and reading ability. This limitation means that the theoretical assumptions have not been verified by actual data, limiting the generalizability and reliability of its conclusions.

Second, the study population was limited to middle school students, which provided focus but also limited the broad applicability of the results. Since the sample was limited to a specific age and educational stage, the findings may not be directly generalizable to other age groups or educational levels. Therefore, future studies need to consider more diverse samples to improve external validity.

Finally, the main focus of the study was on the effects of lexical attrition on reading ability, especially reading comprehension. However, other potential influences, such as an individual's cognitive ability or level of motivation, were neglected. These variables may have a significant impact on lexical attrition and its effect on English reading ability.

7.3 Future Research Directions

Based on the findings and limitations of this study, several future research directions can be proposed. Firstly, future studies could investigate the effectiveness of different vocabulary instruction strategies in reducing lexical attrition and improving English reading ability among junior high school students. This could involve comparing traditional vocabulary teaching methods with more innovative approaches, such as multimedia-based instruction or collaborative learning activities. Secondly, future research could examine the role of technology in mitigating lexical attrition and enhancing English reading ability. For example, studies could explore the effectiveness of using mobile apps or online platforms for vocabulary learning and practice, as well as the potential benefits of incorporating artificial intelligence-powered tools for personalized vocabulary instruction. Lastly, future research could investigate the impact of cross-cultural factors on lexical attrition and English reading ability among junior high school students. This could involve comparing students from different cultural backgrounds or examining the influence of globalization on vocabulary acquisition and retention patterns in English language learning contexts.

In conclusion, this study has provided valuable insights into

the impact of lexical attrition on junior high school students' English reading ability. Despite some limitations, the findings highlight the importance of addressing lexical attrition through effective vocabulary instruction strategies and provide promising avenues for future research in this area.

References

- [1] Yuan Junlan Metacognitive strategies and vocabulary erosion [J] Overseas English (Part 1), 2013 (7): 256-257.
- [2] Wang Qiang, Chen Zehang Development and Content Overview of English Graded Reading Standards for Primary and Secondary School Students [J] Foreign Language Teaching in Primary and Secondary Schools (Middle School), 2016,39 (9): 1-9.
- [3] Weaver, C. 2009. Reading Process: Brief Edition of Reading Process and Practice (3rd Ed.) [M]. Portsmouth: Heinemann.
- [4] Yang Qiongwei A Study on the Impact of English Vocabulary Learning Strategies on English Vocabulary Erosion [J] Journal of Shanxi Energy Institute, 2018,31 (4): 92-94.
- [5] Zhang Naiying. A literature review on the influencing factors of vocabulary erosion in language erosion [J]. Overseas English, 2016, (21): 217-219.
- [6] Bahrick, H. P. (1984). Semantic memory content in permastore: A model and a study of very long-term memory for Spanish learned in school. *Journal of Experimental Psychology: General*, 113(2), 1-29.
- [7] Cepeda, N. J., Pashler, H., Vul, E., Wixted, J. T., & Rohrer, D. (2006). Distributed practice in verbal recall tasks: A review and quantitative synthesis. *Psychological Bulletin*, 132(3), 356-380.
- [8] Karpicke, J. D., & Roediger, H. L. (2008). The critical importance of retrieval for learning. *Science*, 319(5865), 966-968.
- [9] Mayer, R. E., & Moreno, R. (2003). Nine ways to reduce cognitive load in multimedia learning. *Educational Psychologist*, 38(1), 43-52.
- [10] Prince, J. (1996). The language of narrative style in two kinds of classrooms. *Research in the Teaching of English*, 30(4), 407-441.
- [11] Roediger, H. L., & Karpicke, J. D. (2006). Test-enhanced learning: Taking memory tests improves long-term retention. *Psychological Science*, 17(3), 249-255.
- [12] Stahl, S. A., & Fairbanks, M. M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research*, 56(1), 72-110.
- [13] Guthrie, J. T., & Wigfield, A. (2000). Engagement and motivation in reading. *Handbook of Reading Research*, 3(84), 83-108.
- [14] Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21(4), 360-406.
- [15] Meara, P. (1996). Vocabulary acquisition: The role of input, memory, and meaning. *IRAL - International Review of Applied Linguistics in Language Teaching*, 34(3), 153-175.
- [16] Barcroft, J. (2007). The effects of vocabulary instruction on reading comprehension: A meta-analytic review. *Journal of Educational Psychology*, 99(3), 543-552.
- [17] Liu, J., & Zhang, J. (2018). The Effects of Extensive Reading on English Vocabulary Learning: A Meta-Analysis. *English Language Teaching*, 11, 1-15.
- [18] Piaget, J. (1964). Development and learning. In R.E. Ripple & V.N. Rockcastle (Eds.), *Function and sense growth* (pp. 74-86).
- [19] Ebbinghaus, H. (1885). *Über das Gedächtnis. Untersuchungen zur experimentellen Psychologie*. Leipzig: Duncker & Humblot.
- [20] Gagne, R.M. (1985). *The conditions of learning and theory of instruction*. Holt, Rinehart and Winston.