The Effect of Complex Word Dictation in Junior High School: From the Perspective of English Vocabulary Acquisition

Xiadong Wang[1,a,*]

[1]*School of Foreign Languages, Southwest Jiaotong University, Xi'an Road, Xipu District, China*
a. *15020240137@xs.hnit.edu.cn*
corresponding author

Abstract: The impact of students' English word memory is strongly related to their learning of the language, specifically in hearing, reading, writing, and other areas. In the wake of learning English, word dictation is a useful tool for encouraging word memorizing in students and measuring its impact. Teachers in junior middle schools frequently employ this method of instruction, and it is extensively employed in China when teaching a foreign language. The effects of different dictation techniques vary on pupils' English learning and word retention. Traditional word dictation solely considers a word's form, leaving out its semantic, morphological, syntactic, regular, and pragmatic components. Therefore, this essay collects seven-day dictation statistics by students in junior II with descriptive statistics and ANOVA, aiming to examine the impact of a complicated word dictation task that is driven by multidimensional vocabulary knowledge output on junior high school student's vocabulary acquisition. The finding indicates that in the complex word dictation task, the learning of learners at the preliminary level is marked by "twists and turns, but overall development," and that both high- and low-level learners exhibit a trend of advancement, albeit one with a modest rise. Although it may take longer for learners to increase their vocabulary level, the outcomes are positive in the long term.

Keywords: Complex Word Dictation, English Vocabulary Acquisition, Junior High School

1. Introduction

Vocabulary acquisition is the foundation for mastering a language. And teaching vocabulary is an essential component of teaching a foreign language. Traditional word dictation is a typical vocabulary task that integrates pronunciation and spelling. During the dictation, students are expected to recognize the target word, quickly determine its form, and accurately spell it after hearing the teacher read the words aloud. According to the "Level-of-Processing Theory" developed by Craik and Lockhart [1], this traditional dictation pattern is shallow processing, which concentrates on the surface characteristics of words, such as sound and spelling, whereas deep processing--- complex word dictation as the representative--- concentrates on meaning. When performing a complex word dictation exercise, students must interpret the target words in several ways--- spelling, Chinese equivalent, synonym, antonym, paraphrasing, and sentence making--- which demands additional focus and cognitive input. Additionally, it must go deeply into usage and meaning rather than stopping

at the surface. This not only aids in lexical form mastery but also strengthens the link between lexical forms and usage and meaning.

In terms of complex word dictation, previous research attaches little importance to it. The majority of studies on the acquisition of vocabulary in second languages concentrate on the external influences on vocabulary learning [2]. What these studies have in common is to explore the effects of different variables on vocabulary acquisition, including the input mode of the target vocabulary [3-5], the presentation form of vocabulary annotation [6,7], the learners' learning mode [8], and vocabulary task mode [9,10]. Some research indicates that there is a positive correlation between task complexity and vocabulary learning [3,11], and complex vocabulary tasks are beneficial to vocabulary memorizing [3,12,13]. Accordingly, there is still a lack of research on complex word dictation. Moreover, among the research, most of the participants are middle and high-level learners, which means there is little research related to low-level learners.

Aiming to better analyze complex word dictation, this paper adopts "The Revised Hierarchical Model by Kroll and Stewart" as the theoretical framework [14]. When using traditional word dictation, students hear the target word's pronunciation, which helps them remember its morphology. Learners create a network of connections between sounds and words during this process, but the semantic connection still needs to be strengthened. The conceptual level is involved in semantic linkage. It can be seen in Figure 1 The Revised Hierarchical Model how the mother tongue's (L1) language representation can freely express concepts (meaning). However, "concepts" are required as a mediator between language output from the original language (L1) and the target language (L2). Traditional word dictation cannot directly access the conceptual level, but it can create lexical linkages between the mother tongue and the target language. The free use of a second language can only be encouraged by making learners establish the link between the target language and concept. Complex dictation tasks can assist students in this process of vocabulary memory, interpretation, and application by helping them build a network of word pronunciation, form, and meaning in addition to a network of concepts and second language.
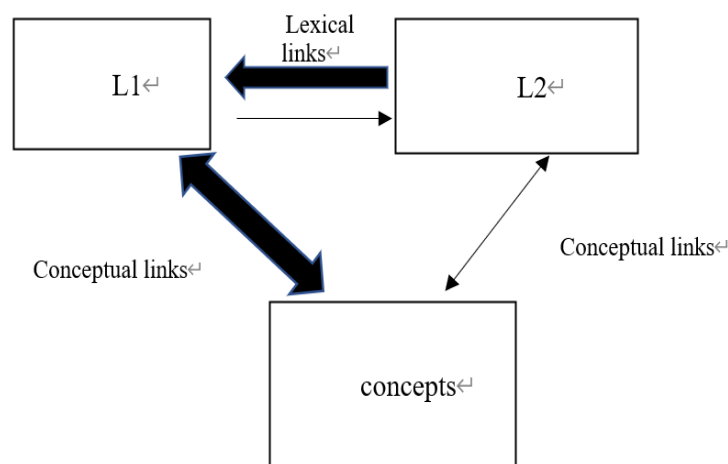

Figure 1: The Revised Hierarchical Model

Based on the above discussion, it can be seen that previous studies generally lack theoretical guidance and focus on a relatively limited number of people. Therefore, this paper takes "The Revised Hierarchical Model" as the guidance and conducts a seven-day dictation experiment on 30 students in Junior II to further analyze this issue.

Three research questions are delivered throughout this paper:

（1）　Does complex word dictation have a positive effect on English beginners (in junior high

school)?

(2)　　Is the influence of complex word dictation on English beginners at high-level and low-level the same?

(3)　　Can complex word dictation be applied in junior high school English education?

2.　Methodology

2.1.　Participants in Research

The subjects are 30 students in junior two, whose average age is 13 years old, 15 females and 15 males, from Liangyi Middle School in County Zhuanglang, City Pingliang, Gansu Province. To analyze the differences between students of different levels in the complex word dictation task, the author sorts the English test scores according to their English final test scores in the second semester of junior two and classifies the top 15 students as a high-level group (90-150 points), and the bottom 15 students as a low-level group (40-89 points).

2.2.　Research Design and Evaluation

Through the use of micro-change analysis, this research investigates the impact of a complex word dictation task on students' acquisition of English vocabulary in junior high school. The term "micro-change research method" describes the process of subjects acquiring and mastering a certain concept, knowledge point, or micro-skill over time, which is observed frequently and meticulously documented point by point. Changes within the organization or individuals themselves and their change trajectories are identified through thorough investigation [15].

In the task, in addition to the regular grading of word spelling (one point for right, no point for wrong), students are required to interpret the word, and different forms of interpretation get different scores: one point for the Chinese equivalent; 3 for synonyms and antonyms; and 5 for paraphrasing and sentence construction. The following criteria are used to determine a student's score: to some extent, the ability to correctly match Chinese words with their English equivalents shows that students have essentially established the relationship between the words' pronunciation, form, and meaning, which is a component of memorization; Writing synonyms and antonyms for the target word demonstrates that students have a firm knowledge of the term's semantic information and have reached the level of "understanding". If students can correctly understand or put together English phrases, it shows that they have not only mastered a rich vocabulary, but also the capacity to put those words to use to accomplish the goal of "application"[13]. Additionally, each dictation is worth a total of 300 points.

2.3.　Procedure

The dictation exam was recorded for 7 days, and the experiment was run from July 16 to July 22, 2022. The author chose 20 words during the Tencent conference to practice dictation once a day. The terms were all taken from the People's Education Press English textbook for Grade 9. The author would underline and explain 40 words in the vocabulary one day before each dictation. Word frequency and repetition frequency were taken into account when selecting dictation vocabulary. In the dictation test, students spelled and defined the word under the sound of the word they heard. The author would mark and record after the dictation was finished. To understand how the students retained the meaning of words on the first day of the experiment, the author chose not to disclose to the students the differences in scores between various paraphrase forms. The following day, the author made it clear how words were interpreted was linked to the scores and advised students to

engage in in-depth processing when learning and memorizing English words. Attention should be paid to the meaning and usage of words as well as their spelling and pronunciation.

2.4. Statistics Analysis

After each dictation test, the author would assign points based on the set scoring standards, compile statistics on the frequency of right interpretation, and enter the data into Excel for analysis. SPSS was conducted to analyze the data. For the seven dictation scores of 30 students and the high-and low-level groups respectively, descriptive statistics and one-way within-subject ANOVA were conducted.

3. Results and Discussion

Figure 2 displays the changing trend of the average score of the 30 auditions through one-way within-subject ANOVA. According to the ANOVA results, there is a significant difference in scores between the first and seventh days of the experiment ($F= 72.8243$, $P < 0.05$). Language proficiency among students is generally rising. However, several descending nodes are present during the ascent (third day, fifth day, and seventh day). The difficulty of the vocabulary on the third day, particularly a large number of abstract nouns, and the subjects' inability to produce more precise synonyms and antonyms are the main causes of the decline in scores. The fourth day sees a score increase, which may have been caused by the dictation, which increases vocabulary repetition rates by 35%. Additionally, students perform well due to their expert vocabulary knowledge, which partially explains the positive delay effect. The findings of the repeated comparison, however, show that there is no significant regression because there is no difference between the results from the fourth to the sixth day ($P > 0.05$). The subjects' scores significantly increase from the first day to the fourth day, and then slightly fluctuate but remain stable, showing that the subjects gradually accept the thinking logic of complex dictation tasks during the dictation process and pay more attention and cognitive input to process information in the subsequent dictation.
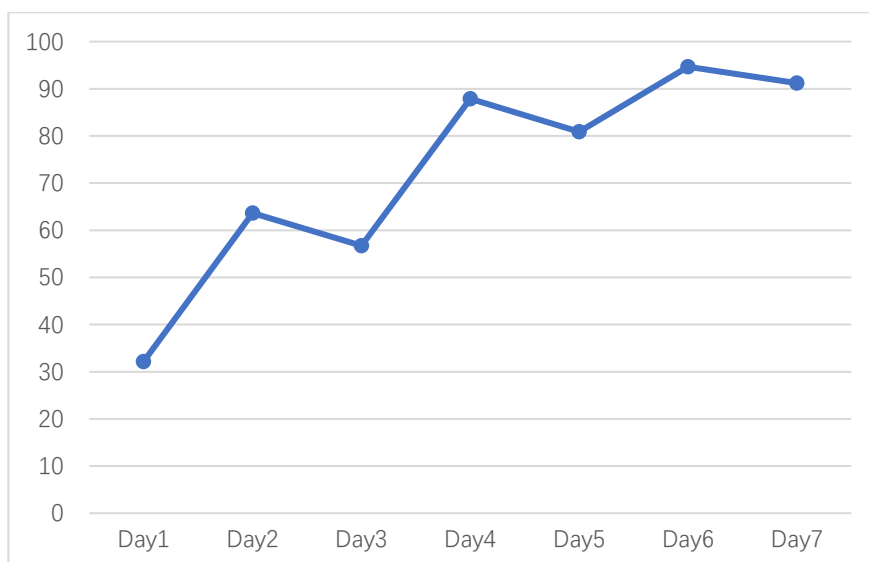

Figure 2 Trend Chart of Average Scores

In terms of the ascent of average scores, complex word dictation allows students in junior high school to concentrate on tasks that are within their capabilities and master them quickly, gradually promoting students' abilities. This would control the task elements that are beyond their capabilities. At the same time, this exercise forces students to pay closer attention and contribute more cognitively

to the information processing process, which includes both deep and shallow processing that involves meaning. There are some prerequisites and foundations that must be met for the deep processing of meaning to occur. Three important conditions--- "noticing", "retrieval," and "creative or generative use" were listed by Nation [16]. Students should focus on the target vocabulary at first, regularly extract it to improve the link between form and meaning, and then use it to promote access to conceptual representation and the mastery of collocation and infections. Through three levels of in-depth processing, the complex dictation task combines the three phases of "attention," "extraction," and "creation" and embeds the target vocabulary into the learner's language system. However, as for the descent of average scores, the process of learning a language is intricate and influenced by a wide range of circumstances. Language learners go through a phase of modest growth—or even what they believe to be no progress, which is called Plateau Period. Language proficiency continues to increase by perseverance at the bottom of the U-shaped stage because language learning is not a simple up or down process [17]. As a result, rather than showing a linear development, the impact of complex word dictation on learners' vocabulary acquisition exhibits a repetitive, and gradually ascending pattern with twists and turns.

To further study the distinctions between subjects of various levels in the complex word dictation task (group A is the high-level group, and group B is the low-level group), the author uses one-way within-subject ANOVA on the 7 days of dictation scores of the high- and low-level groups. It can be summarized in Figure 3 that the ANOVA results illustrate the high-level group's scores vary considerably from the low group's scores from the first to the seventh day (F=14.2925, P<0.05). However, the scores of the low-level group do not differ substantially (p>0.05). Despite the fact that both groups' overall vocabulary levels have increased, the rate of improvement of groups A is more comparable. It is important to note that each of the two groups has distinct characteristics. The scores of the high-level group fluctuate but ascend eventually, with day 1 to day 4 seeing significant development and day 3 only a tiny loss. Day 4 to day 7 sees a leveling out, with two minor drops in between (day 5 and day 7). Although low-level group scores reveal a pattern of ongoing and consistent development, the effect is not evident, which may need more time for observation.
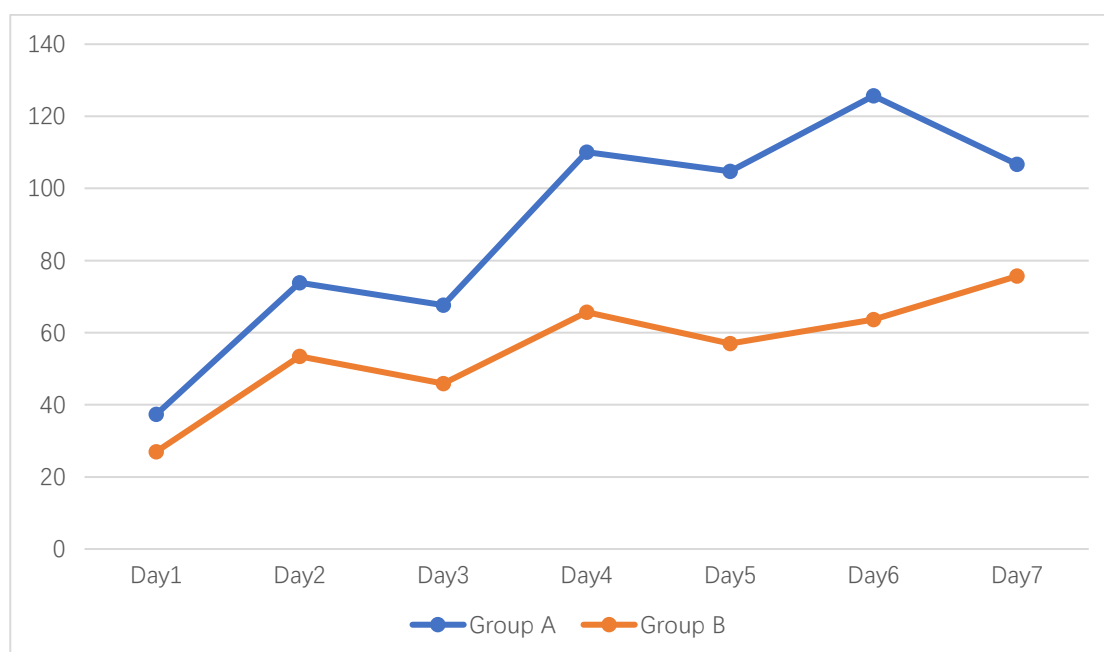

Figure 3 Trend Chart of Average Score in Group A and B

To explain the difference between the scores of Group A and Group B, the mode of operation of complex word dictation must be understood. Complex dictation, in contrast to traditional word dictation, compels students to think thoroughly about the target words, enhancing their ability to recall them, and raising their vocabulary level. However, as language processing depth increases, the learner must deal with more intrusive information, which makes learning more challenging. The cognitive load is too heavy, especially for low-level learners, which frequently prevents students from successfully processing and using all of the language input they are exposed to. The memory effect is also worse when there is more information input but less time for information processing. Because of this, the complex dictation exercise does not significantly affect low-level beginners. The complex word dictation task will not be rejected by a high-level group of beginners because they have a strong interest in learning English and a solid foundation in the language. Following this as their guide, they will gradually adapt to this type of language processing in order to improve their vocabulary proficiency. However, on the ground of the early English learning stage's limitations, it is challenging for students to achieve high scores in the experimental stage, and the majority of them are only able to finish a portion of the dictation. According to the research, learners are more likely to choose Chinese equivalent and sentence making, especially simple sentences such as subject-link verb-predicative structure. Only a few choose paraphrasing, synonym, and antonym. Their scores have been consistent and stable over the past three days of dictation, and it is challenging to raise them, which is not quite appropriate for complex dictation. In conclusion, complex word dictation has a negligible promoting effect on low-level learners. It takes time to develop vocabulary levels for high-level learners, but the overall outcome is positive in the long term.

The author did not set any standards or guidelines regarding the format of interpretation on the first day of the experiment. The outcomes can be seen in Table 1 that every participant (100%) chose their Chinese equivalents. The cause can be that when learning and memorizing words, students in junior high school frequently consult both English and Chinese glossaries. However, in addition to spelling, pronunciation, part of speech, and definition, students should also be familiar with information such as example sentences, collocation, structure, and meaning in order to truly master a word.

Furthermore, according to Figure 4, more than half of the students continue to use their Chinese equivalents on the second day of the trial, despite a shift in the percentage of definitions. On the one hand, the author's suggestions (and perhaps the impact of grades) are crucial to how English learners at the preliminary level learn. On the other hand, changing behaviors takes time. However, the percentage of sentence making is even higher than the percentage of Chinese equivalent, showing that subjects have become accustomed to and adopted the learning strategy of sentence making to grasp and master words from the beginning of learning. With time passing by and the author's instructions, students' score rates for various dictation definition types are experiencing a progressive change. From the second to the seventh day, as shown in Figure 4, the proportion of sentence making has remained constant at 30%, which is highly consistent and demonstrates an overall rising tendency. The fourth day sees it surpass all previous definitions. Even while the scoring rate for synonyms and antonyms considerably reduces on the third day, it is still climbing overall and stays consistent until the fourth day, when it reaches roughly 20%. In all interpretation types, the scoring rate for English interpretation is consistently the lowest. It slightly rises over the first five days until stabilizing at 10% on the sixth. In contrast, after the first week, the scoring rate of the Chinese Equivalent continues to drop, and the drop was substantial.

Table 1: Score Rate of Types of Word Interpretation

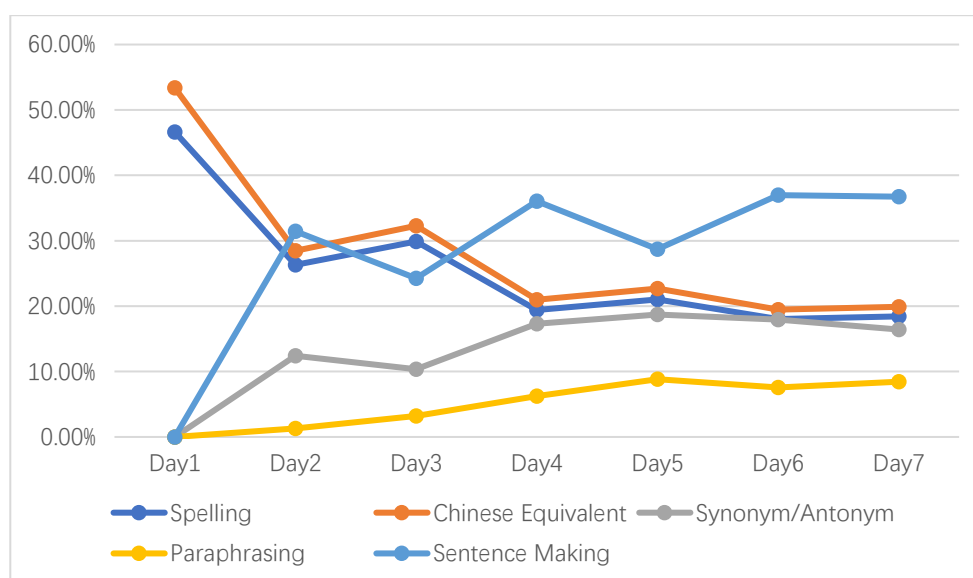| Time	Spelling	Chinese Equivalent	Synonym/ Antonym	Paraphrasing	Sentence Making
Day1	46.63%	53.37%	0%	0%	0%
Day2	26.32%	28.47%	12.43%	1.31%	31.46%
Day3	29.91%	32.30%	10.34%	3.21%	24.24%
Day4	19.42%	20.98%	17.30%	6.26%	36.04%
Day5	21.02%	22.70%	18.72%	8.83%	28.74%
Day6	18.03%	19.47%	17.96%	7.57%	36.97%
Day7	18.44%	19.92%	16.43%	8.47%	36.74%

Figure 1 The Chart of the Scoring Rate of Word Dictation Interpretation Types

Complex word dictation increases the difficulty of attention and output on the basis of traditional word dictation, prompting students to adjust their learning habits and put in more time and attention. Long stated that this is the case, saying that "Learners' linguistic output can encourage the acquisition, not because of output itself, but rather because of input changed under meaning negotiation [18]." By acting as a link between intake and output, this negotiation enables students to absorb information and create as much as they can. In this task, the participants heard the target word's pronunciation, extracted it from their mental thesaurus, created the term's written spelling and semantics, or utilized the word appropriately. This process serves as a link between receptive and productive vocabulary knowledge and aids students in turning receptive vocabulary knowledge into productive knowledge. No matter high or low-level group, it is more difficult for primary English learners. After a week of training, students are still habituated to employing Chinese equivalents as well as sentence making, despite the fact that most of them are short, straightforward sentences like the simple subject-verb-object structure. Similar to the English paraphrase, which only a few individuals attempt to employ. From the perspective of the high-level group, complex word dictation causes students to enhance their language input and output, which significantly improves their capacity for lexical awareness.

On the other hand, it connects receptive and productive vocabulary knowledge and encourages language output and use. Although it has some effects, the language production ability has been significantly constrained as compared to middle and advanced learners because of its inadequate foundation. However, for low-level beginners, the majority of the vocabulary is on the receptive level, and there isn't a clear indication that they can produce words on their own.

4. Conclusions

In summary, this paper explores the feasibility of complex word dictation tasks in English teaching in junior middle school. In this study, 30 students in Junior two were selected as subjects to conduct a seven-day word dictation experiment. In general, the results show that complex word dictation controls the elements of the task that are beyond the students' ability to focus on what they can do, requiring them to pay more attention and cognitive input when processing information, and finally obtain access to conceptual representation and gradual increase of language capacity. But, the effect of complex word dictation on primal learners' vocabulary acquisition does not show a completely developing trend, but shows a repeated and slowly rising one. Specifically, it has a positive effect on beginners with a good foundation, enabling them to increase their language input and improve their ability to produce vocabulary freely, but it needs to take time. However, for beginners with a relatively weak foundation, this task is not effective. Because with the deepening of language processing, there are more interference information that needs to be processed and heavier cognitive load, which often leads to their inability to successfully process and use all the language inputs they come in contact with. In the same period, with more information input and less time to process them, the memory effect is getting worse.

In summary, due to the limitation of the early stage of English learners, it is difficult for them to get high scores in the experimental stage, and most of them can only complete part of the dictation. In the last few days of dictation, the score has been stable and it is difficult to increase. Therefore, complex word dictation is not suitable for large-scale application in junior high school education but more applicable in higher education. In addition, this study bridges the gap of complex word dictation in the primary education, which is conducive to more experiments in related aspects to measure the feasibility and significance of complex word dictation in different levels of education. However, due to time limitations, this study was only conducted for seven days and seven experiments were performed, whereas the interval time was too short. And the test only incorporates 30 participants, namely, the number is small. Further research could adopt a larger time interval, such as once a week in a semester, and a larger sample to test the universality and practicality of the results of this study.

References

[1] Craik, F. I., & Lockhart, R. S. (1972). Levels of Processing: A Framework for Memory Research. Journal of Verbal Learning and Verbal Behavior, 11(6), 671-684.

[2] Zhao, L., Chen, Y., & Lu, W. (2014). A Comparative Study on Second Language Vocabulary Acquisition between Chinese and Foreign Languages in Recent Ten Rears: A Comparative Analysis Based on 14 Language Journals (2004 -- 2013). Foreign Language Circles, 4, 39-46.

[3] Golonka, E., Bowles, A., Silbert, N., Kramasz, D., Blake, C., & Buckwalter, T. (2015). The Role of Context and Cognitive Effort in Vocabulary Learning: A Study of Intermediate-level Learners of Arabic. The Modern Language Journal, 99(1), 19-39.

[4] Vidal, K. (2011). A Comparison of the Effects of Reading and Listening on Incidental Vocabulary Acquisition. Language Learning, 61(1), 219-258.

[5] Liu, L., & Qin, X. (2014). An Empirical Study on the Influence of Lexical Presentation on English Vocabulary Learning. Foreign Language Studies, 2, 67-75.

[6] Boers, F., Warren, P., He, L., & Deconinck, J. (2017). Does Adding Pictures to Glosses Enhance Vocabulary Uptake from Reading. System, 66, 113-129.

[7] Sommers, M. S., & Barcroft, J. (2013). Effects of Referent Token Variability on L2 Vocabulary Learning. Language

Learning, 63(2), 186-210.

[8] *Khezrlou, S., Ellis, R., & Sadeghi, K. (2017). Effects of Computer-assisted Glosses on EFL Learners' Vocabulary Acquisition and Reading Comprehension in Three Learning Conditions. System, 65, 104-116.*

[9] *Wang, X., Kong, W., &Wang, Y. (2017). The Influence of Output Driven on Multidimensional Lexical Knowledge Acquisition. Foreign Language and Foreign Language Teaching, 1, 86-94.*

[10] *Bao, G. (2015). Task Type Effects on English as a Foreign Language Learners' Acquisition of Receptive and Productive Vocabulary Knowledge. System, 53, 84-95.*

[11] *Wu, X., Lowyck, J., Sercu, L., & Elen, J. (2013). Task Complexity, Student Perceptions of Vocabulary Learning in EFL, and Task Performance. The British Journal of Educational Psychology, 83, 160–181.*

[12] *Folse, K. S. (2006). The Effect of Type of Written Exercise on L2 Vocabulary Retention. TESOL quarterly, 40(2), 273-293.*

[13] *Chen, H., & Wang, Q. (2021). The Effect of Complex Word Dictation Task on College English Vocabulary Acquisition. Foreign Language Teaching Theory and Practice 2, 64-75.*

[14] *Kroll, J. F., & Stewart, E. (1994). Category Interference in Translation and Picture Naming: Evidence for Asymmetric Connections between Bilingual Memory Representations. Journal of Memory and Language, 33(2), 149-174.*

[15] *Wen, Q. (2003). Micro-change Approach and Second Language Acquisition Research, Modern Foreign Language. 3, 311-317.*

[16] *Nation, I. S. P. (2001). Learning Vocabulary in Another Language (Vol. 10). Cambridge: Cambridge University Press.*

[17] *Ellis, R., Tanaka, Y., & Yamazaki, A. (1994). Classroom Interaction, Comprehension, and the Acquisition of L2 Word Meanings. Language Learning, 44(3), 449-491.*

[18] *Long, M. H. (1983). Native Speaker/Non-native Speaker Conversation and the Negotiation of Comprehensible Input. Applied Linguistics, 4(2), 126-141.*