

The Impact of Vocabulary Clustering on Facilitating Vocabulary Development Among Saudi EFL Learners

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Abstract—The current study sought to investigate how organizing new vocabulary through semantic, thematic, or unrelated sets could affect the learning process among Saudi EFL learners. The majority of EFL teachers and materials writers seem to introduce and cluster new words according to a particular type of semantic relationship (e.g., vegetables, body organs, car parts, or house parts) or a thematic relationship (e.g., a hotel room reservation, visiting a doctor's clinic, going to the post office, or at the train station). Participants in the current research were 149 EFL students from the Preparatory Year Program (PYP) at Al-Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh, Saudi Arabia. The design of this study was a pretest-treatment and posttest-delayed post-test. Two types of clustering of new vocabulary were explored: semantically related sets and semantically unrelated sets, which were constructed to identify how organizing new vocabulary could affect the learning process among Saudi EFL learners. The findings of the study showed that both semantically related (SR) and semantically unrelated (SU) sets seemed to help in learning new words. Nonetheless, those new words behaved differently one week after the treatment. Moreover, the SR group scored significantly better on both delayed tests than their counterparts. Furthermore, the study's outcomes failed to indicate any interfering effect of teaching and studying semantically relevant terms simultaneously in an actual classroom setting. This study concluded with recommendations for teaching and learning programs to develop students' conceptual understanding of organizing new vocabulary that affects the learning process among Saudi EFL learner's context.

Index Terms—vocabulary clustering, lexical sets, semantically-related words, vocabulary knowledge

I. INTRODUCTION

Developing an acceptable English vocabulary and proficiency in the second language has long been a struggle for international students (Schmitt et al., 2021). Moreover, vocabulary is essential to any spoken or written utterance and is essential at every level of second language learning (Peters, 2018). Vocabulary is one of the most crucial abilities for teaching and studying a foreign language, especially in academic settings (Masrai & Milton, 2021). It is the foundation for all other skills such as understanding texts, ability to listen, speaking, writing, spelling words, and pronunciation. Students' primary tool for efficiently using English is their vocabulary. Students will constantly need to operate with words, whether presented with a native English speaker when watching a movie, listening to a favorite song, reading a text, or writing a message to a friend. Vocabulary learning, whether a second or foreign language, is prevalent in language acquisition and is critical to the learner's total language acquisition (Masrai & Milton, 2021). One of the primary reasons for this belief is that many unfamiliar words encountered by learners during reading may be needed to help digesting the text. Three major types of lexical sets related to the topic of the current study merge from research: *semantically related word sets*, *thematically related word sets*, and *unrelated word sets*. Thus, this study looks at the possibility of how organizing new vocabulary according to semantic, thematic, or unrelated sets could affect the learning process among Saudi EFL learners.

The Statement of the Problem

Significant advances in vocabulary research have occurred over the preceding decades (Schmitt, 2022), however, EFL/ESL learners still find vocabulary to be one of the most problematic aspects in English (Schmitt et al., 2021). Teaching vocabulary skills is a process that includes attending to, hearing, assessing, and answering spoken language by those speakers and determining the weakness of the learner's capability, especially in vocabulary skills. However, vocabulary problems must be examined. With some initial observation, the researcher assumed that most still have poor vocabulary skills because of their semantic relationships or features. Classifying the difficulties students face and ways to solve them is essential. The issues that students encounter most frequently in vocabulary skills are learners' attitudes, which play an indispensable role in learning vocabulary skills in English. Knowing students' outlooks and the difficulties they face in acquiring vocabulary skills may help instructors develop operational plans for their learners to improve their skills. The researcher finds it significant to discover the problems that are encountered by university students while teaching vocabulary skills related to semantic, thematic, and unrelated sets. Therefore, the current study seeks to answer the following research questions:

1. What are the impacts of delivering new foreign language words in semantically related or unrelated word sets on the vocabulary items of EFL learners?
2. What type of semantically related or unrelated sets is better for retaining newly learned words?

II. LITERATURE REVIEW

One of the most difficult challenges for teachers has always been teaching vocabulary items. Teaching English at the university level differs markedly from teaching it at the secondary and tertiary levels. Because of the many complexities involved in vocabulary learning, teaching it may not often be successful, no matter how much effort exerted. The literature reveals that several scientific studies have investigated the properties of semantically related word sets in introducing new words.

Several researchers oppose the notion of presenting new vocabulary in semantic sets and believe that this could negatively affect vocabulary learning, leading to what is called a 'cross-association' problem (Nation, 2000, 2001; Nation & Webb, 2011; Schmitt, 2000), or the 'interference' phenomenon (Tinkham, 1997; Wilcox & Medina, 2013). It is believed that when close vocabulary items are presented together, learners confuse words. For example, Schmitt (2000) trained his Japanese learners of English on using the closely related two words (*right* and *left*) through different drills. He asked them to close their eyes and respond to his requests when the drills were over.

Tinkham (1997) conducted two experiments on 48 native English speakers. The first experiment was tried with two modalities: spoken and written. Fifty percent of the participants partook in the spoken modality, while the rest participated in the written modality. Tinkham had four conditions: 1. Linguistically related semantic sets that were co-ordinates of a superordinate concept; 2. Linguistically unrelated sets that shared the same form-class but were not co-ordinates of a particular superordinate concept; 3. Cognitively associated semantic sets from different form classes sharing a thematic concept, and 4. Cognitively unassociated sets that shared no common thematic concept. Pseudo-words were used as target new words in the two experiments, and immediate and delayed post-tests were employed. The significant findings (Tinkham, 1997) were as follows: 1. Semantic sets seemed to be an impairment of vocabulary learning, while thematic sets seemed to facilitate learning; and 2. Unrelated sets were less challenging to learn than semantic, and thematic sets were more accessible than unassociated sets.

Papathanasiou (2009) revealed that presenting new words in unrelated sets seemed to assist in learning more than semantically related words. In a robust and well-controlled study, Erten and Tekin (2008) investigated the issue of semantically related versus semantically unrelated sets among 54 fourth-grade EFL Turkish participants. The study lasted for three weeks, where the participants pre-tested, immediately post-tested and post-tested again using the same tests as delayed tests. The target words (80 words) were carefully selected through rigid procedures like the number of letters, number of syllables, and their semantic relations. The words that were semantically related (40 words) were chosen from two main semantic fields: food and animals. In comparison, the unrelated two sets of words (40 words) were randomly selected, with the above selection procedures taken into consideration. All words were concrete in order to be accompanied quickly with pictures. Erten and Tekin (2008) found that about 55% of the semantically unrelated words were recalled on the immediate post-test, while around 44% of the semantically related words were known, and this difference was statistically significant, favoring semantically unrelated words. Erten and Tekin (2008) pointed out that there was a difference between the type of clustering on the delayed post-test for the set of *animal* words. However, it was not statistically significant, while it was significant for the set of *food* words against unrelated words. Unfortunately, Erten and Tekin (2008) did not explain this significant difference between the two sets of semantically related words (i.e., animals and food).

Furthermore, Erten and Tekin (2008) found that the manner of word presentation affected the participants' task completion time; semantically related words required longer time to be matched with pictures in the tests. Again, no results were provided to determine whether this was significant.

Al-Jabri (2005) words are organized according to the standard features or meanings they have in between, e.g., body organs, days of the week, emotions, and house items. Moreover, words in one set of this type share semantic features and, therefore, fall under a covering concept. (Waring, 1997; Erten & Tekin, 2008). The majority of ESL/EFL textbooks are based on this classification, and presenting new words in ESL/EFL textbooks is to organize words into groups that share some semantic relationships. Moreover (Al-Jabri, 2005; Alshaihi, 2011; Gholami & Khezrlou, 2014; Tinkham, 1993, 1997; Waring, 1997) agree that different terms have been given to describe lexical sets, e.g., lexical clustering, semantic clustering, lexical grouping, and semantic sets.

Furthermore, Nation (2000) and Papathanasiou (2009) indicate that advocates of semantically related sets of words are driven by one or more of the following justifications:

1. Such sets consume less effort on the teacher's and the learner's sides.
2. Research supports the usability and effectiveness of this way.
3. This way meets L2 learners' communicative needs for daily life English.
4. Retrieving related words from memory is easier.
5. This way helps learners see how language is organized.
6. This way is a reflection of how information is stored in the mind.
7. This way helps learners see the nuanced differences between words, and this should help them use them properly.

Moreover, Alshaikhi (2011), Hashemi and Gowdasiaei (2005), Lewis (1997), Rogers (1996) believe that this way facilitates learning and helps L2 learners to create certain connections between the presented vocabulary items, which, in turn, expedites learning and enhances retention of vocabulary. Strangely enough, most support given to presenting new vocabulary to learners is based on theoretical background.

III. METHODOLOGY

This section outlines the research approach used in the study and explains how the research was carried out. In addition, it briefly explores the theory underlying the use of quantitative data and the data analysis technique.

A. Participants

The participants of the current study were all studying their second semester at the Deanship of Preparatory Programs (DPP) at Al-Imam Mohammad Ibn Saud Islamic University (IMISIU), Riyadh, Saudi Arabia. They were mainly from the humanity and administrative tracks of the DPP, as their English level was the lowest compared to other students of other tracks like health sciences, applied sciences, and languages and translation. All participants speak Arabic as their mother tongue, and their ages ranged between 18 and 23. The total number of participants was 149 (73 males and 76 females). The participants were placed in two (humanity and administrative) tracks because they had scored low secondary school GPAs and on a national standardized test.

B. Materials

The current study used two sets of words chosen randomly (for the two groups). Each group received 3 sets of words, and each set had 7 words, totaling 21 words for each group. Groups A and B received the same sets of words but in different ways of presentation. Group A received word sets classified as related items, i.e., vegetables, emotions, and animals, respectively (7 words for each). Group B received the same sets but were presented unrelatedly, though it was systematic, i.e., each set had two vegetables, two emotions, and two animals. The seventh word was the 3 words left from the three sets in group A and was distributed randomly over the three sets. No attention was given to the length of words, how many syllables they had, or how regular/irregular their plural form was. However, all the words in one set belonged to one part of speech. Two sets of these words were nouns (i.e., vegetables and animals), while the third set was adjectives (i.e., emotions). Each set had 7 words that were either nouns or adjectives as Tinkham (1997) believes that words that belong to one part of speech qualify as being related semantically, not thematically, while having more than one part of speech in one set qualifies the words to be thematically-related, not semantically. Again, no attention was given to the words' regularity/irregularity, length, or number of syllables. However, all sets had two nouns, verbs, and adjectives. The seventh word was chosen irrespective of its part of speech as long as it was one of the three parts of speech and the participants did not know it.

C. The Tests

The current study used An L2-L1 translation test and an MCQ format test. As elaborated earlier, the design of the study was T1-treatment-T2-T3. So, the study was conducted over three phases: 1. pre-testing, 2. Introducing new word sets and immediate post-testing, and 3. Delayed post-testing. For the pre-test, only the MCQ test was used to determine whether the participants were familiar with the target words. All 21 words selected as the study's target words were used as test items. Each item was followed by five options (A, B, C, D, and 'I do not know'). The test was built using Google Drive Forms, in which the participants were also requested to provide some biodata, e.g., name, gender, age, and their DPP track. As for the second phase, an immediate test of an L2-L1 translation task and an MCQ test were used. The MCQ was identical to the pre-test. The instructions for the translation test were simple: Provide an Arabic translation of each listed word. No dictionaries were allowed to be consulted, and lecturers were prompted to stop the participants from using online dictionaries. The fifth option that followed each item was utilized to minimize guessing work on the participants' side. The participants were encouraged to choose 'I do not know' if they did not know the meaning of a particular word. They were also told this was a research study, not a course quiz or test. In the translation task, any Arabic spelling was accepted, even if it was wrong according to Arabic spelling conventions, as long as the meaning of the translated word was clear. In the third phase, a delayed test was given to the participants one week after phase two, i.e., the immediate post-test. The same test battery of the immediate post-test was used. Finally, the biodata section was available in all three test phases in order to match each student's results in the three test phases.

D. Procedures

The tests were designed using Google Drive forms to save time, effort, and the environment. Two words were familiar to some participants in the pilot sample. Therefore, they were replaced by two other ones that were less frequent, i.e., *furious* was replaced by *livid*, and a *doe* replaced *moose*.

After the piloting stage, the DPP was approached and requested to conduct the study, and consent was offered to carry out the study on both male and female students in the applied sciences and administrative tracks. Liaison with coordinators of male and female sections was made, and 12 male and female lecturers were chosen to have the study conducted during their lecture times. The lecturers were then divided into two groups (i.e., Group A and Group B, according to the participants' groupings). Three female lecturers were assigned to Group A, and three other female lecturers were also

assigned to Group B. The same thing was done in the male section, i.e., three lecturers for Group A and three for Group B.

For the learners' groups (A and B), each group had three links that their lecturer handed out to them, each at a different time. First, the pre-test link was sent out to the participants' WhatsApp group, and they shared it with their teachers in each group (i.e., A and B). The participants did the test and submitted the forms. This took about 2-3 minutes for all groups. Second, the teachers sent the word list to the WhatsApp groups to study the new target words. Third, the teachers were informed to allow their students to study the target words within 40 minutes. As detailed earlier, each group received three sets of new words, each with 7 words. Each English word in the sets was accompanied by its Arabic translation. Fourth, when the time limit was over, the teachers requested their students to submit the forms, although no responses were expected, to ensure that all participants had the same exposure time to the target words. Fifth, the teachers sent out the third link, the immediate post-test. This test had two tasks: L2-L1 translation and MCQs, respectively. The MCQ task was given after the translation task to ensure there was no leading exposure effect on the participants. Finally, after one week, the teachers sent out the same post-tests to gauge the retention effect on the participants.

E. Marking the Tests

Marking the tests was straightforward. For the pre-test, which was MCQs, the right option was marked 1, and any other options, including 'I do not know,' were marked 0. The same marking system was followed in the subsequent two MCQ post-tests. For the translation post-tests, any acceptable translation that gave the right Arabic meaning of the target word was considered correct and, therefore, was marked as 1, regardless of the misspellings a translation may have. If the meaning was irrelevant, even if it was a correct translation of the target word in another context, only the meaning of the word the participants were exposed to was accepted. Hence, any translation that did not match the meaning of the word given to participants in the MCQ pre-test was marked as a 0. This was followed because after receiving the results of the three phases, any participant who scored between 1 and 21 in any set was excluded from the study. The original number of participants in the current study was 385 males and females. However, due to the possibility that they had consulted their online dictionaries, they were excluded from the study even though some knew only one word in the three sets. Hence, only those who did not know any word in the pre-test were included in the study. All the 149 participants discussed earlier scored 0 in the pre-test, and hence, they had no prior knowledge of any word of the target words. If any participant provided an acceptable translation of the target word for the translation post-tests, the answer was correct and marked as 1. If the translation was incorrect or the 'I do not know' option was chosen, it was marked as a 0.

IV. RESULTS AND DISCUSSION

To answer the research questions, t-tests were run on the data. The first question was: *Which type of clustering (i.e., semantically related or unrelated sets) is better for facilitating the learning of new vocabulary?* This question looked at the results of the immediate effects of learning new vocabulary using both L2-L1 translation and MCQ tests. Group A ($n=86$) was given three sets of semantically related words (SR), while Group B ($n=63$) was given three sets of Semantically-Unrelated words (SU). The descriptive statistics in Table (1) showed that learners in Group A could translate 14.67 words on average, with a standard deviation of 7.085 on the *immediate* L2-L1 translation test. In comparison, those in Group B could translate 12.10 words on average, with a standard deviation of 6.359. Furthermore, the independent sample t-test showed a statistical difference between the two groups, where $p = .023$. This difference was in favor of Group A (SR), who received words that were organized in semantically related sets.

TABLE 1
SCORES OF IMMEDIATE L2-L1 TRANSLATION TEST FOR GROUPS A AND B

Groups	N	Mean ^a	Std. Deviation	t	Sig
A-SR	86	14.67	7.085	2.291	.023
B-UR	63	12.10	6.359		

Notes: ^a maximum score = 21

Table 2 for the MCQ test showed that the difference between the two groups was insignificant, where $p = .391$. The means and standard deviations were 15.85 and 7.53 for Group A and 14.90 and 5.866 for Group B. Nonetheless, it can be clearly seen that both types of presentation facilitated vocabulary learning.

TABLE 2
SCORES OF IMMEDIATE MCQ TEST FOR GROUPS A AND B

Groups	N	Means	Std. Deviation	T	Sig
A-SR	86	15.85	7.533	.860	.391
B-UR	63	14.90	5.866		

Notes: ^a maximum score = 21

The above results concerned the effects of the type of clustering on learners. In this section, however, the results answered the second research question: *Which type of clustering (i.e., semantically related or unrelated sets) is better for*

retaining newly learned words? Table 3 showed that both groups could retain words on the L2-L1 translation test after one week of exposure to the new words. Nonetheless, Group A (SR) was significantly better at retaining words than Group B (UR), as $p = .007$.

TABLE 3
SCORES OF DELAYED L2-L1 TRANSLATION TEST FOR GROUPS A AND B

Groups	N	Means	Std. Deviation	T	Sig
A-SR	86	8.70	7.419	2.761	.007
B-UR	63	5.97	4.611		

Notes: ^a maximum score = 21

On the MCQ test, Group A outperformed their counterparts in Group B as $p = .011$, as seen in Table 4.

TABLE 4
SCORES OF DELAYED MCQ TEST FOR GROUPS A AND B

Groups	N	Meana	Std. Deviation	t	Sig
A-SR	86	13.16	7.695	2.566	.011
B-UR	63	10.25	6.130		

Notes: ^a maximum score = 21

The immediate L2-L1 translation test revealed better significant results favoring Group A, where the words were semantically related. Thus, the current results echo other studies (e.g., Hashemi & Gowdasiaei, 2005; Jang, 2014) where semantically related words seemed to assist vocabulary learning and comprehension. Nevertheless, this contradicts the results found in most of the previous research (e.g., Tinkham, 1997; Waring, 1997; Finkbeiner & Nicol, 2003; Al-Jabri, 2005; Papathanasiou, 2009; Sarioğlu & Yıldırım, 2018). For the MCQ test, however, no significant results were found, and this could be due to the nature of the test, where help was provided to the participants immediately after the treatment. Although the correct answer was mixed with three other distractors to divert the test-taker's attention from the correct answer, it still served as a reminder of what the test-takers had studied prior to the test.

The delayed post-test revealed even more stimulating results. Group A of SR words scored significantly better than Group B of SU words on both types of tests (i.e., translation and MCQ). Although the SU group in Alshaikhi (2011) scored higher than their counterpart SR group in the translation post-test, the difference between the two groups was not of statistical significance. Therefore, the results of the two studies do not match.

As discussed earlier, the issue of learning new vocabulary in semantically related sets, whether presented in a curriculum, taught by teachers, or studied by the learners themselves, still needs to be conclusive. Despite that, few empirical studies have used robust methodologies for gauging the participants' vocabulary learning of target words. Furthermore, most of the studies, including the current one, were conducted in unnatural settings that do not resemble classroom situations. Of course, there are some exceptions to this, e.g., Erten and Tekin (2008), Hoshino (2010), and Nation (2015). On the other hand, this should be distinct from the importance of learning new vocabulary from lists or flashcards, as advised by many vocabulary researchers (e.g., Milton, 2009; Nation, 2001; Nation & Webb, 2011; Schmitt, 2000). The issue is that introducing new words to learners for research purposes needs to include the motivational aspect present in learning words by learners for personal benefit and interest.

Furthermore, some oft-cited studies were unnatural as they used pseudo words that may have affected the results in one way or another (e.g., Tinkham, 1993, 1997; Waring, 1997). Nation and Webb (2011) believe that although Tinkham (1997), for example, used clear criteria for making up nonsense words, the selection of these criteria was not justified. In addition, Schmitt et al. (2019, p. 11) believe that "many vocabulary tests have been launched with little evidence of how the tests would behave once out in the world." As a result, most, if not all, tests used in previous studies tackling semantically related words, including the current one, are prone to this problem. Therefore, the results of such studies should be taken with caution, especially those that need to report more information about the validity and reliability criteria employed. Furthermore, Coxhead et al. (2018) believe that the type of test administration (i.e., group vs. individual) may lead to significant misrepresentation of test-takers knowledge.

Moreover, the small number of participants in oft-cited studies raises severe issues regarding the generalizability of the results. Most of the published studies reported small number of participants ranging between 20-64 (in some studies, this total number of participants was further divided into smaller numbers for control and experimental groups) (e.g. Erten & Tekin, 2008 (n= 60 participants); Tinkham, 1997 (n= 48); Waring, 1997 (n= 20); Schneider et al., 2002 (n= 64); Hashemi & Gowdasiaei, 2005 (n= 60); Wilcox & Medina, 2013 (n= 38); Papathanasiou, 2009 (n= 32). Conversely, some were able to implement their studies on relatively more significant numbers of participants (e.g., Hoshion, 2010 (n= 119); Jang, 2014 (n= 174); Al-Jabri, 2005 (n= 160)).

Finally, the term *thematically-related sets* have yet to be defined clearly by Tinkham (1997). The only dimension Tinkham mentioned to differentiate between semantically- and thematically-related sets was the cognitive, not linguistic, associations that certain words have in between. However, this distinction needs to be clarified, and it could apply to semantically related words. Waring (1997) believes that some sets that are believed to be related semantically can be

easily given a plausible scenario to associate them cognitively. Therefore, Waring (1997, p. 269) asserts that "there is a need for clear definitions of terms before research is commenced".

V. CONCLUSION

To wrap up, the doors are still wide open for further research to be conducted on the issue of presenting new words semantically, thematically, or unrelated sets, as previous research has yielded some contradictory results. All results suggest that certain beliefs on both sides (i.e., advocates and opponents of semantic word clustering) must be revisited. Therefore, it seems reasonable to argue that future research should consider serious issues that could lead to better and more rigorous results (e.g., the number of participants, the number of target words, and the naturalness of the study setting). As Schmitt et al. (2019) stated, it is not easy or straightforward to design a vocabulary test that will render results as expected. Hence, piloting tests at different times and on different test-takers should be a cornerstone of future research. Moreover, there needs to be some replication studies that either confirm or negate the results of oft-cited studies to understand this topic better.

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REFERENCES

- [1] Al-Jabri, S. (2005). *The effects of semantic and thematic clustering on learning English vocabulary by Saudi students*. Unpublished doctoral dissertation. Indiana University of Pennsylvania, Pennsylvania.
- [2] Alshaikhi, A. (2011). *The effects of semantic and thematic categorization of vocabulary on Arabic-speaking EFL learners*. Unpublished doctoral dissertation. Colorado State University.
- [3] Coxhead, A. Nation, P., Woods, L. & Sim, D. (2018). Group vs. individual: How administration procedure can affect vocabulary test scores. *New Zealand Studies in Applied Linguistics*, 24(2), 24-41.
- [4] Erten, I. H., & Tekin, M. (2008). Effects on vocabulary acquisition of presenting new words in semantic sets versus semantically unrelated sets. *System*, 36(3), 407-422. doi:10.1016/j.system.2008.02.005.
- [5] Finkbeiner, M. & Nicol, J. (2003). Semantic category effects in second language word learning. *Applied Psycholinguistics*, 24(3), 369-383.
- [6] Gholami, J. & Khezrlou, S. (2014). Semantic and thematic list learning of second language vocabulary. *CATESOL Journal*, 25(1), 151-162.
- [7] Hashemi, M. R., & Gowdasiaei, F. (2005). An attribute-treatment interaction study: Lexical-set versus semantically-unrelated vocabulary instruction. *RELC Journal*, 36(3), 341-361.
- [8] Hoshino, Y. (2010). The categorical facilitation effects on L2 vocabulary learning in a classroom setting. *RELC Journal*, 41(3), 301-312.
- [9] Jang, H. (2014). The effects of semantic clustering on EFL young learners' vocabulary learning. *English Teaching*, 69(3), 25-42.
- [10] Lewis, M. (1997). *Implementing the lexical approach: Putting theory into practice*. Language Teaching Publications, London.
- [11] Masrai, A. & Milton, J. (2021). Vocabulary knowledge and academic achievement revisited: General and academic vocabulary as determinant factors. *Southern African Linguistics and Applied Language Studies*, 39(3), 282-294.
- [12] Milton, J. (2009). *Measuring second language vocabulary acquisition*. Clevedon, UK: Multilingual Matters.
- [13] Nation, I. S. P. (2000). Learning vocabulary in lexical sets: Dangers and guidelines. *ELT Journal*, 9(2), 6-10.
- [14] Nation, I.S.P., & Webb, S. (2011). *Researching and analyzing vocabulary*. Boston, MA: Heinle.
- [15] Nation, P. (2015). Changing my mind about the role of the teacher in language teaching. *TESL*, 41(3), 36-37.
- [16] Papathanasiou, E. (2009). An investigation of two ways of presenting vocabulary. *ELT Journal*, 63(4), 313-322. doi:10.1093/elt/ccp014.
- [17] Peters, E. (2018). The effect of out-of-class exposure to English language media on learners' vocabulary knowledge. *ITL - International Journal of Applied Linguistics*, 169(1), 142-168. DOI: <https://doi.org/10.1075/itl.00010.pet>
- [18] Rogers, M.A. (1996). Beyond the dictionary: the translator, the L2 learner, and the computer words word words. In: Anderman, G.M., Rogers, M.A. (Eds.). *Words words words: The translator and the language learner*. Multilingual Matters, UK, pp. 69-95.
- [19] Sarioğlu, M. & Yıldırım, Ö. (2018). The effects of clustering new words in semantic, thematic, or unrelated sets in teaching vocabulary to EFL learners. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 18(2), 1064-1085.
- [20] Schmitt, N. (2000). *Vocabulary in Language Teaching*. Cambridge University Press, Cambridge.
- [21] Schmitt, N. (2010). *Researching vocabulary: A vocabulary research manual*. New York: Palgrave Macmillan.
- [22] Schmitt, N. (2019). Understanding vocabulary acquisition, instruction, and assessment: A research agenda. *Language Teaching*, 52(2), 261-274.
- [23] Schmitt, N. (2022). Norbert Schmitt's essential bookshelf: Formulaic language. *Language Teaching*, 56(3), 1-12.
- [24] Schmitt, N., Nation, P. & Kremmel, B. (2020). Moving the field of vocabulary assessment forward: The need for more rigorous test development and validation. *Language Teaching*, 53(1), 109-120.
- [25] Tinkham, T. (1993). The effect of semantic clustering on the learning of second language vocabulary. *System*, 21(3), 371-380. doi:10.1016/0346-251X(93)90027-E
- [26] Tinkham, T. (1997). The effects of semantic and thematic clustering on the learning of second language vocabulary. *Second Language Research*, 13(2), 138 -163. doi:10.1191/026765897672376469

- [27] Tinkham, T. N. (1994). *The effects of semantic and thematic clustering on the learning of second language vocabulary*. Unpublished doctoral dissertation. University of Illinois at Urbana-Champaign, United States, Illinois.
- [28] Waring, R. (1997). The negative effects of learning words in semantic sets: A replication. *System*, 25(2), 261-274. doi:10.1016/S0346-251X(97)00013-4
- [29] Wilcox, A. & Medina, A. (2013). Effects of semantic and phonological clustering on L2 vocabulary acquisition among novice learners. *System*, 41(4), 1056–1069.

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